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## **TOWARDS DESIGNING AN OXFORD EXPERIENCE IN AN ONLINE DISTANCE PROGRAM**

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### **Summary**

This paper describes the methodology and findings of a project to design and develop an online distance program at the University of Oxford (UK). The program is one of the first to be offered almost entirely at a distance, for a core qualification at the University, as opposed to professional development courses. The aim of the project was to investigate how to design an online, distance learner experience that mirrors the Oxford face-to-face experience as closely as possible, for the newly launched Oxford Online Programme in Sleep Medicine (OPSM). The main challenge was for this research-intensive, face-to-face university to adopt flexible and distance learning methods, with little prior experience in doing so. The programme will launch in September 2016 with 20 to 30 students. Ongoing evaluation of the programme will reveal whether or not the team has been successful in its aim.

### **Introduction**

Until recently, the world-renowned and traditional Oxford University in the UK had offered very few fully distance courses, and then mostly short courses located in the Department for Continuing Education (ContEd). Although the Continuing Professional Development section of ContEd offers an MSc in Evidence-Based Health Care, a Diploma in Infectious Diseases and other professional development courses at a distance, these usually require a significant amount of face-to-face contact time, in the form of *Oxford weeks*. The University's centralised learning management system (LMS) (branded *WebLearn*) is used to support blended learning in the traditional face-to-face model.

Oxford University launched a Digital Education Strategy in 2016 (University of Oxford, 2016) which aims to enable the University to realise “expressed aspirations for a more technology-enhanced approach to teaching” (p.2). The University already “makes accessible a huge range of open education resources (OERs) in the form of audio and video recordings and teaching resources for schools” (p.15). For the time being, Oxford University is not offering Massive Open Online Courses (MOOCs), although the Digital Education Strategy group gave particular attention to this possibility. There are many factors behind this decision, not least the desire to see how MOOCs evolve, in the light of their evident low student completion rates (Harvard University, 2014). Alternative activities, such as offering online distance courses for

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registered Oxford students using our existing LMS, are being pursued in order to broaden access and expand our face-to-face provision (University of Oxford, 2016).

This paper presents work done between learning technologists in the central Technology-Enhanced Learning (TEL) group, a lead technologist in the Medical Sciences Learning Technologies group, and an academic department in introducing a new online distance programme in Sleep Medicine as from the 2016/17 academic year (Nuffield Department of Clinical Neurosciences, 2016).

### **Context – Oxford teaching and learning model**

As is well-known, the teaching and learning model at Oxford University is traditional and extremely individualized, due to manageable student numbers. Undergraduate students are under the care and mentorship of a tutor throughout their degree. A *tutor* at Oxford is usually a professor and a respected scholar in their field. The tutor provides weekly support and consultation to their mentees, in small groups. All Oxford students are expected to be independent, self-directed learners and to take responsibility for their own studies. During term time, series of lectures are presented, but attendance is optional; hence the phrase *reading for your degree* – students need to take advantage of all opportunities, advice and materials available to them, and craft their own pathway through their studies.

There are two technology-enhanced learning teams to support the use of digital technologies for teaching and learning in the University – one in the central Technology-Enhanced Learning team and one in the Medical Sciences division. The latter team worked very closely with the departmental course team throughout the process of planning the program, writing the business plan, gaining central University approval, and suggesting technologies such as the institutional LMS and Webex. They were also able to assure the department that they will continue to provide long-term support as the program rolls out and continues to evolve. Both teams of learning technologists continually make efforts to engage academics in using technology tools effectively, and optimising use of the LMS to provide learning pathways besides being a content repository (Laurent et al., 2016).

### **Aims**

The aim of this project was to investigate how to design an online, distance learner experience that mirrors the Oxford face-to-face experience as closely as possible, for the newly launched Oxford Online Programme in Sleep Medicine (OPSM).

An internally-funded project, the *WISE project* (WebLearn Improved Student Experience) enabled the learning technologists to work closely with the academic department to design and develop the first online distance programme offered by the central University.

## **Rationale for distance learning: Oxford online programme in sleep medicine**

According to Roe (2010), “New technologies especially in rich multimedia and asynchronous communication methods allow for increased learning opportunities” (p.70). This is particularly true for busy adult learners studying at a distance, who can make use of learning management systems, social media and online resources at a time and place that suits their work, home and family commitments.

For most professionals and lifelong learners, the principal obstacles to continuing education are constraints of time and location. An online programme permits flexibility to set aside time for personal study when it suits them. Likewise, synchronous seminar groups can be arranged to match particular time zones, enabling participants to join these from home or work. This kind of flexibility assists students to find a pattern that works for them. There is also flexibility in the new programme in other ways. The modular approach allows students to take a Diploma (8 modules), or an MSc (10 modules plus dissertation) (Figure 1). Indeed, it is also likely that there will be demand from some professionals to take only one or two modules for purposes of continuing professional development (CPD).

### **Oxford online programme in Sleep Medicine (OPSM)**

In 2014 Oxford University approved a brand new postgraduate programme in Sleep Medicine. The two-year Online Programme in Sleep Medicine (OPSM) leads to a Postgraduate diploma (PGDip) or a Masters degree (MSc). The programme is hosted by the Sleep and Circadian Neuroscience Institute (SCNi), at the University of Oxford which “brings together world leading expertise in basic and human sleep and circadian research and in the evaluation and management of sleep disorders” (Nuffield Department of Clinical Neurosciences, 2016).

Course Modules	
Year 1	Module 1: The Physiological Basis of Sleep Module 2: Introduction to Sleep Medicine and Methodological Approaches Module 3: Circadian Rhythm Disruption and Sleep Module 4: Insomnia
	For the MSc: Research Methods 1
Year 2	Module 5: Sleep-disordered Breathing and Sleep-related Movement Disorders Module 6: Hypersomnias and Parasomnias Module 7: Sleep in Specialist Populations Module 8: Sleep and Society
	Research Methods 2

Figure 1. Structure of the Oxford OPSM (from Nuffield Department of Clinical Neurosciences, 2016)

The course is almost entirely online, although students are expected to attend a one-week summer school during their two-year period of study. Besides written learning materials and online discussion groups, students will have access to pre-recorded video lectures presented

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by a group of specialist academics from Oxford, as well as contributions from international experts. Each of the 8 course modules will include synchronous webinars which will be scheduled to accommodate the different time zones of students on the course. The learning model for the OPSM includes the following methods and media:

- Course websites in the LMS;
- Reading materials;
- Pre-recorded lectures;
- Weekly live webinars;
- Weekly online discussions;
- Online quizzes;
- Assessment: eight extended essays;
- 1-week summer school;
- Dissertation (MSc).

Learning technologists are involved in building the portal and online courses on the institutional LMS; at a later stage they will also be involved in designing and developing interactive simulations and animations which the subject matter lends itself to. The development team has tried hard to design a program that comes close to imitating the personalized Oxford learning experience. This will be achieved through small student groups, moderated online discussions, live webinars and collaboration with subject specialists to reflect the most recent research findings. A challenge was to organize the logistics of the program without prior experience in offering online distance learning courses. For example, time and effort were required to identify the best technologies and skills required to conduct synchronous sessions for students in extreme time zones.

### **Methodology – the WISE project**

Central funding for the WebLearn Improved Student Experience (WISE) project enabled the appointment of two additional learning technologists to provide close support to a limited number of academic departments in rethinking and redesigning their course materials in the LMS. The Oxford OPSM was one of the programmes identified to benefit from this dedicated support.

The WISE project uses a design and development methodology consisting of 5 stages: Gathering requirements, Prototyping, Building, Launching and Evaluating (Figure 2).

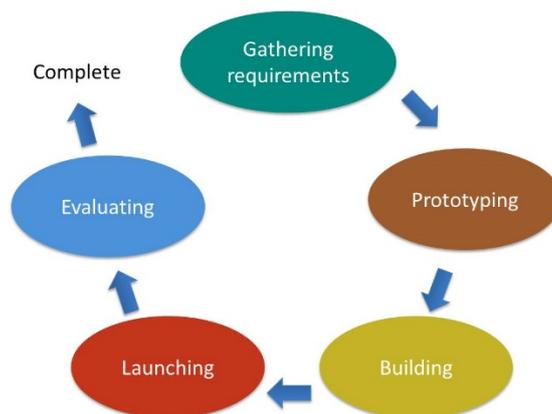


Figure 2. WISE project methodology

Time is spent with the academic department to identify their needs and requirements, after which the central team builds one or more prototype course areas in the LMS. Roles and responsibilities are clearly defined, including the need for the department to build their own content into their prototype areas and launch them prior to the start of term. The *Evaluating* stage refers to usability evaluations conducted with students – either one-on-one observations or focus group sessions – which produce suggestions for usability improvements.

The OPSM is currently in the *Building* phase, to be ready in time to launch in September 2016.

## Findings

1. The design team for the OPSM was particularly keen to employ aspects of *personalization*, e.g. showing students only material that is relevant to them, at the appropriate time (depending on current module, week etc.). This goal was in keeping with our attempt to imitate the *Oxford experience* as closely as possible. Not surprisingly, we found that the institutional LMS is not designed as an environment to present fully online, personalized, adaptive content. According to the Horizon Report (2016), adaptive learning is expected to be adopted by higher education institutions in the near future – as evidence of the trend in the increasing use of blended learning designs. In our project, additional programming expertise was required to present the online course in a more sophisticated, responsive *front end* (Figure 3).

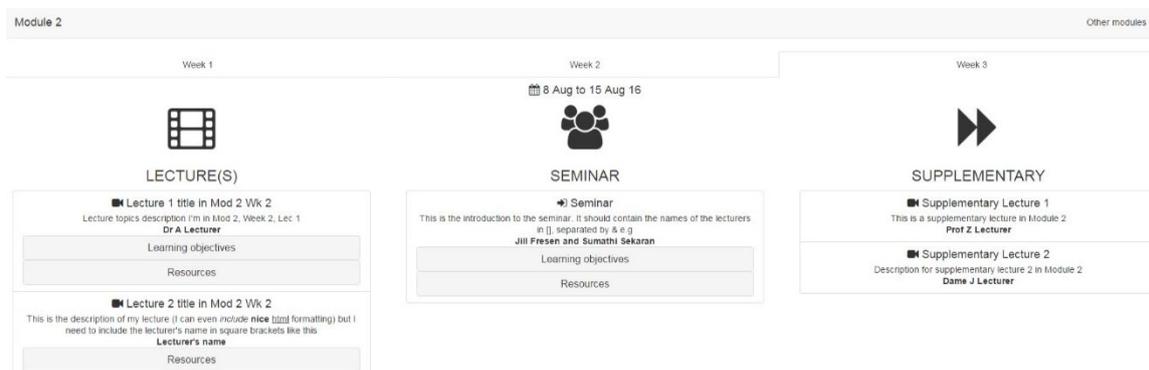


Figure 3. Screenshot of the modified LMS interface to enable personalization. It was designed with the Angular 2 framework to surface content from the Oxford LMS

2. In the structure of the online modules, we use the *Lessons tool* which offers the pedagogical advantage of tailoring a learning pathway for the students, with integrated content, relevant activities and assessment opportunities (Laurent et al., 2016). However, we found that the link to the interactive version of a particular recorded lecture can only be embedded within Lessons pages if the recording is public (but that has licence and cost implications). This is due to the current integration between the LMS and the lecture capture software used by the University being “light” LTI (learning tools interoperability) integration, as opposed to a “deep integration”. Thus, at the current time, only the exported .mp4 versions of recorded lectures can be embedded within learning pathways. The alternative of providing a link to a folder of all the recorded lectures would deviate from the preferred pedagogical learning pathway.
3. It was not surprising to find that academics who are used to presenting traditional face-to-face lectures are hesitant to change their thinking and adapt to online distance learning techniques. The literature shows that the optimum length for recorded lectures in an online course is 3 to 6 minutes (Guo et al., 2014). However, lecturers on the OPSM have decided that they prefer to record a 1-hour lecture, and if they want the students to pause it and participate in an activity, they will say within the lecture: “Now pause the recording and do an activity, then return here later”. One newly-appointed academic who will teach the research methods modules is interested in exploring more interactive ways of teaching, e.g. peer assessment, using social media, student-generated content (student pages), and interactive simulations.

### Implications

One of the factors that previously hindered the development of distance courses at the University of Oxford is that the assessment model is still largely paper-based. Students either write formal examinations under examination conditions, or are required to submit paper-based summative essays in person at what is called the Examinations Schools, located on the High Street in the city of Oxford. Although the Medical School runs over 50 formal University exams online every year, the central academic boards were not happy to do so at a distance, for reasons of information and identity security.

Thus any online assessment strategy needs to consider the best way of assessing the breadth and depth of a student’s learning, and enabling the online submission of summative work. The OPSM has elected to offer eight ‘extended essays’ and to require the students to present themselves for one-week of contact time during the two-year program.

During the course of the WISE project, additional design and support resources were available. However, the department and the local learning technology group in Medical Sciences need to consider the resource requirements to build further online content and maintain the course sites once they are live. Other departments wishing to follow a similar approach may consider employing a part-time learning technologist for this purpose. However, a candidate would need to have the right balance of skills, including writing code for online simulations and maintaining the code for the personalized skin.

## Conclusion

Collaborative work between learning technologists in the central University Technology-Enhanced Learning group, a lead technologist in the Medical Sciences Learning Technologies group, and the program team in the academic department has been effective in designing and developing an (almost) fully online distance programme at the traditional, research-intensive Oxford University. With the aim of providing an experience that emulates the traditional face-to-face model of support and interaction, the team faced challenges relating to time zones, and institutional systems that are not necessarily designed to be responsive and adaptive. The OPSM will launch in September 2016 with 20 to 30 students. Ongoing evaluation of the programme will reveal whether or not the team has been successful in its aim.

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