MOOCs

Technology has always been intimately linked to new educational methods. This has included distance learning, learning through multimedia and finally computer-based learning. Massive Open Online Courses (MOOCs) are so called because they can be taken by an unlimited number of people (massive); they are open, as they have no student selection criteria and no fees are charged to take the courses; they are entirely online and usually require a reasonable (broadband) internet connection as many involve videos and online assessments. This digital review focuses on a number of the most popular MOOC platforms.

Although MOOCs have existed since 2007 with platforms such as ALISON, they were popularised following an experiment by Sebastian Thrun and Peter Norvig. The experiment was to offer three Stanford University courses, including the entire three-month 'introduction to artificial intelligence', online to an open audience. The experiment was a phenomenal success with 160,000 people from 190 countries signing up to take the course. Twenty thousand people finished the course, and when the assessments were analysed, none of the top 400 students taking the course were from Stanford. Sebastian Thrun realised the potential of online learning and founded Udacity in 2012.

Subsequently, Thrun's colleagues from Stanford University, Andrew Ng and Daphne Koller, started Coursera as a rival MOOC platform. The early success of these two MOOC platforms was the catalyst to many further MOOCs (see below), as universities were keen to exploit potential new revenue streams.

MOOCs deliver courses through online educational videos. MOOCs differ from instructional videos as they have a form of assessment. The assessment method is typically a quiz and is carried out at the end of modules to assess understanding. Typically a university accredits most MOOCs, although there are also MOOCs for pre-university subjects including Khan Academy **(www.khanacademy.org)**.

On searching through the various

MOOC platforms, I found an introduction to urology course which seems suitable for medical students or junior doctors **(www.edx.org/course/introduction-urology-kix-kiurologyx)**. At present, very few MOOCs have content that is directly related to urology or surgery. However, there are a wide variety of courses available from hundreds of institutions worldwide. A selection of courses that are relevant include medical teaching courses, the use of technology in medicine, medical statistics, programming for app or web design, research assessment methods, leadership and management courses.

Building a course can be more onerous than producing a traditional course at a university and typically requires videographers, IT specialists and platform design specialists. However, there are an increasing number of free tools available to assist with MOOC course creation including:

- edX **(www.edx.org)**
- moodle **(www.moodle.org)**
- coursesites **(www.coursesites.com)**
- udemy **(www.udemy.com)**
- versal **(www.versal.com)**

These are still early days for MOOCs and we have yet to utilise the full potential of online learning. In the not too distant future, all of our postgraduate learning and continuing medical education may be delivered through a version of MOOCs. Until then, it's always useful to learn something new.

MOOC platforms

ALISON (Advance Learning Interactive System) was founded in 2007 and can claim to be the first MOOC. The majority of ALISON's learners are in the developing world countries. It has five million learners in over 200 countries and offers up to 600 free online courses. **(www.alison.com)**

Coursera is a for-profit educational technology company founded by Andrew Ng and Daphne Koller from Stanford University. In April 2015, Coursera offers more than 1000 courses, from more than 100 institutions, to over 190 countries and has more than 12 million users. All of the courses on Coursera are accessible for free, or chargeable should you wish for a verified certificate from the institution offering the course (starting at $49). Coursera has come under scrutiny for not offering its course materials under the creative commons licence and therefore not being fully open. **(www.coursera.org)**

edX.org was originally started by the Massachusetts Institute of Technology and Harvard University in May 2012. Subsequently, they have been joined by more than 60 schools from around the world. They offer more than 300 courses in a variety of disciplines and have more than three million users. **(www.edx.org)**

Udacity was originally founded by Sebastian Thrun, in 2011. Udacity

is partnered by many Silicon Valley companies (Google, Facebook, AT&T) and offers courses on modern programming, software development, data science, product design, and entrepreneurship. **(www.udacity.com)**

Future Learn is a private British company developed with backing from the Open University. In May 2015, they have grown to over a 1.5 million registered learners. Future Learn courses on offer include everything from succeeding at interviews to a course about the discovery of the Higgs Boson. As Futurelearn is a privately funded company it receives its income from learners signing up to receive either a statement of participation £29 (for completing a course) or a statement of attainment £119 (via a test at a specified test centre). **(www.futurelearn.com)**

MITOpenCourseware makes the materials used in teaching of MIT's subjects available on the web. Courses can be accessed by topic, course number or department. There is a wide range and the course materials are available for free. **(www.ocw.mit.edu)**

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