



Online learning

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I just failed a course. It seemed a good idea to enrol in a Massive Open Online Course (MOOC) on healthy food and nutrition. The course started in the Easter week. I was busy at my paid employment, and preparing for the long weekend. After Easter, there were more work and social commitments. Suddenly, I had missed more than half the course and was several weeks behind schedule. It was all too hard to catch up; I failed. When I enrolled, my expectation was that it should be easy to find time to fit study around my other activities. My reality was that I lacked a commitment to studying this course and continually gave higher priorities to other things.

The above account is true, but it reads like fiction because it closely parallels the story of some of my university students. Fortunately for me, there was no financial cost, and the non-completion will have no detrimental effects on my career prospects. Not so for my students. When they fail to complete a course or unit of study, there are large financial costs and severe consequences. In a 2008 Australian Learning and Teaching Council (ALTC) project, Gosper and co-workers found that a significant number of students do not complete online learning tasks because they do not establish a study routine, which was my recent experience. Conversely, attending face-to-face classes in a regular schedule helps to establish a routine for study.

One Australian university has reported that completion rates for some MOOCs are typically about 2% of enrolments, and half of the enrolled students never even start the course. Much of the enrolment in MOOCs is driven by impulse. I failed the MOOC because the spur-of-the-moment decision to enrol was not associated with an evaluation of how the course would (or wouldn't) fit into my day-to-day routine. This experience is different from enrolment in university or TAFE courses, which usually requires a would-be student to go through a multi-step procedure, usually with some financial cost just for submitting

the application. The proportion of university and TAFE students who enrol but never start a course is much less than in MOOCs.

An overestimation of the time available for study, coupled with an underestimation of the amount of time needed to fulfil non-study commitments is an important factor. Around 70% of Australian youth in tertiary study (aged between 20 and 24) have a part-time or full-time job. For those studying full-time, working has a negative impact on study. For example, working 16–24 hours a week reduces the completion rate by 8%, while more than 24 hours of employment reduces it by 14%. While this problem is not restricted to online learning, the lack of an externally imposed study routine makes this problem more significant in the online context.

Given a choice between online and face-to-face classes, the latter are preferable: students in face-to-face classes report higher student engagement, development of cognitive and social intelligence competencies in class, and cognitive engagement out of class, although these outcomes were not specifically targeted as learning outcomes.

Online learning has several positive aspects. Sometimes there is no other choice. Between 50% and 60% of on-campus university students do not attend at least some of the face-to-face lectures available, and of these students, 75% indicated this was because they 'couldn't attend' class. These statistics are about 10 years old; anecdotal evidence is that the number of on-campus students who do not attend some or all classes has increased over the last 10 years. The flexibility of time and place to study is in the tradition of the Royal Flying Doctor's *School of the Air* in which technology is seen as an opportunity of reaching out to students rather than replacing traditional modes of teaching and learning.

Online learning is also good for revision or for those who want to pause a lesson to clarify a point before continuing. Even for students enrolled in on-campus study, there is a positive relationship between the use of online resources and examination performance. Students who do not use optional online learning because they forgot or ran out of time achieve lower marks than those who do not use optional online learning for other reasons. The availability of online learning is not a remedy for poor study routines or having too many commitments.

Online learning is another mode for learning. Like other learning tools in a broader teaching and learning toolbox, it has advantages and disadvantages, but it is not intrinsically good or bad. Furthermore, teaching science online is more demanding than many other disciplines. Ultimately, the effectiveness of online learning depends on how it is used by both the educator and the learner.



Kieran F. Lim (林百君) FRACI CChem (kieran.lim@deakin.edu.au) is an associate professor in the School of Life and Environmental Sciences at Deakin University. In the past, he has successfully completed online courses of study.