What's Right and What's Wrong about Coursera-Style MOOCs

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Editor's Note

This was originally posted to [Tony Bates's blog](#) on August 5, 2012.

[Watch on YouTube https://edtechbooks.org/-PdI](#)

Daphne Koller, one of the two founders of Coursera, describes some of the key features of the Coursera MOOCs, and the lessons she has learned to date about teaching and learning from these courses. The video is well worth watching, just for this.

However I'm probably going to suffer the same kind of fate of the Russian female punk band, [Pussy Riot](#), by spitting on the altar of MOOCs, but this TED talk captures for me all that is both right and wrong about the MOOCs being promoted by the elite US universities.

Let me start by saying that I actually applaud Daphne Koller and her colleagues for developing

massive open online MOOCs. Any attempt to make the knowledge of some of the world's leading experts available to anyone free of charge is an excellent endeavour. If only it stopped there.

What I object to is the hubris and misleading claims that are evident in this TED video. As someone once said about one of Sigmund Freud's lectures, what is new is not true, and what is true is not new.

Myth 1: MOOCs increase access to higher education in developing countries

She starts by using the example of students being trampled to death trying to get into the line for the very few places left open by the campus-based University of Johannesburg in South Africa. This is a particularly maladroit example. Yes, there is a desperate shortage of conventional university places in South Africa. But South Africa has probably the oldest distance and open teaching university in the world, UNISA, currently with over 160,000 students. Just providing not for credit open online learning from the USA will not solve South Africa's access problems (especially as most of those seeking university places do not have home Internet access). Indeed, to suggest that Coursera is an alternative to conventional university education takes the pressure off governments such as South Africa's to find their own, indigenous solutions to access to higher education.

If Stanford or MIT gave credit for these courses to students from South Africa who succeeded in the exams, and then awarded them full degrees, then that might be different. But these elite universities continue to treat MOOCs as a philanthropic form of continuing education, and until these institutions are willing to award credit and degrees for this type of program, we have to believe that they think that this is a second class form of education suitable only for the unwashed masses.

Myth 2: new pedagogy

Second, the teaching methods used by most of the Coursera courses so far are based on a very old and outdated behaviourist pedagogy, relying primarily on information transmission, computer marked assignments and peer assessment. Behaviourist pedagogy has its value, especially where there are right and wrong answers, facts or procedures that must be learned, or students lack higher level cognitive processing skills. In other words it works reasonably well for certain levels of training. But it is extremely difficult if not impossible to teach higher order skills of critical thinking, creative thinking, and original thinking using behaviourist pedagogy, the very skills that are needed in a knowledge-based society. (It should be noted that the 'Canadian' MOOCs of Stephen Downes, George Siemens and Dave Cormier do not suffer from this fault).

Third, and this is the most enraging part of the presentation for me, Daphne Koller talks as if she invented online learning, and that nothing was known beforehand about works and doesn't work in online learning. So she has discovered that students learn better if they are active, so there are lots of tests and activities in the courses. It is better to break up monolithic one hour lectures into smaller, more digestible chunks. Both these strategies in fact date back to the UK Open University print packages forty years ago and it has been standard practice to incorporate such strategies in most online learning since it began on a serious scale 20 years ago.

Her comparisons are all with the weaknesses of lecture-based teaching. For this we should perhaps be thankful but again this is not new – online educators have been making this point again for over 20

years. And now Coursera is creating local or online study groups: again standard practice in other forms of online learning.

Myth 3: big data will improve teaching

One example used in the video was how computer-tracking of student activities can identify weaknesses in the teaching. The example was over 2,000 students giving the same wrong answer to a multiple choice question. In other words, Coursera is using trial and error as a form of teaching: try something, and if it doesn't work, correct it the next time round. However, if they followed good design principles from the outset – for instance working with an instructional designer who could spot such errors or pre-testing material before it goes out to hundreds of thousands of guinea pig students – many of these 'errors' in teaching would be avoided in the first place. It is far, far better to avoid errors in teaching than to try to correct them afterwards: unlearning is much harder. With massive numbers of online students, the negative impact is equally massive.

Myth 4: Computers personalize learning

No, they don't. They allow students alternative routes through material and they allow automated feedback but they do not provide a sense of being treated as an individual. This can be done in online learning, but it needs online intervention and presence in the form of discussion, encouragement, and an understanding of an individual student's needs. The TED lecture omitted any discussion of completion rates. Again, this should not be the measure of MOOCs, but if you are going to argue that this form of teaching is superior to other forms of online learning, then discussion of completion rates becomes valid.

Daphne Koller's final comment is telling:

> 'We should spend less time at universities filling our students' minds with content by lecturing at them, and more time igniting their creativity … by actually talking with them.'

However, that requires the presence of a teacher, either in the class or online.

Conclusion

I am sad having to write this. Daphne Koller gave a good lecture. Even these MOOCs are valuable, because, coming from elite universities, they have woken up the media in particular, and brought online learning to the attention of the public. I believe MOOCs have great potential for higher education: but not these MOOCs. And please, is it too much to ask for a little humility? (Probably, from so-called elite institutions).

Lastly, be careful what you wish for. Underlying all this is a fundamental question: is online learning best left to computer scientists or to teachers (or even students)? I know where I stand on this. What about you?
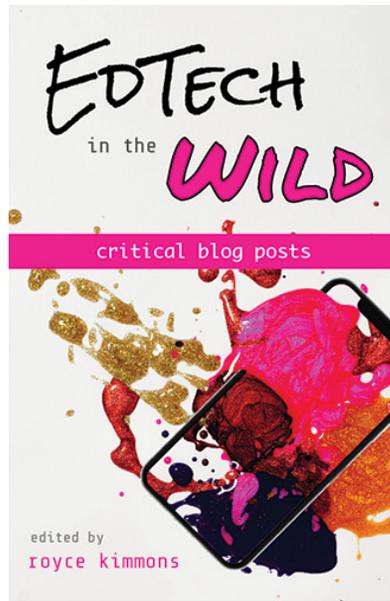
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