

MOOCs - perspectives for CS

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The premise: a *not-so* hypothetical future email

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Subj: MOOCs strategy

Dear All:

[[
... Central administration ... MOOCs strategy ...
]]

Background

Things one can learn online today

- **Traditional**: how to use a camera or a piece of software
- **Artsy**: how to play a musical instrument or dance, including personal feedback(!)
- **Science** :-)

Online/distance education as a precursor to MOOCs?

- What is different about MOOCs then?

I believe that the motion picture is destined to revolutionize our educational system and that in a few years it will supplant largely, if not entirely, the use of textbooks. I should say that on the average we get about two percent efficiency out of schoolbooks as they are written today. The education of the future, as I see it, will be conducted through the medium of the motion picture ... where it should be possible to obtain one hundred percent efficiency.

-- Thomas Edison, 1922

v. prior distance learning

- low-latency in interaction
- timeliness
 - FB generation

MOOCs characteristics (1/2)

Exponential participation drop curve

- 3000 people sign up/watch the first lecture
- 300 people watch all the lectures
- 30 people do the assignments

MOOCs characteristics (1/2)

Poor/unclear monetization

- even by big-name for-profit institutions
- not that different from many modern social networking startups
 - e.g., Twitter did not make money until recently
- some literature *defines* MOOCs to be at **at little or no cost**

MOOCs beyond the hype

It's 2015, the hype is over; good time to discuss this.

Game-changer vs evolution-of-a-textbook?

- Traditional university model is based on **scarcity** of resources:
(professors, libraries, laboratories, classrooms, peers)
- Transitions from scarcity to **abundance** are known to disturb industries
 - music industry, academic publishing, ...

Global playground

- Everybody's affected, whether they do something or not
- All big schools are involved by now
 - if not openly active, they must have their strategies, technologies in works...
- Emerging consortia: edX, Coursera, etc.

MOOCs-specific issues (1/2)

- Different student experience: unclear if better/worse
 - e.g., some students find lecture videos more convenient
- **Substantial** increase in instructor workload
- Attestation
 - Quality grading is a natural bottleneck (peer review is popular)
 - Yet, many people take a MOOC not for the grades

MOOCs-specific issues (2/2)

- Need for updated metrics
 - traditional enrollment/participation/completion are either too coarse-grained or don't apply in the new context.
- Different ways to designing the curriculum
 - allow individual paths to follow a course
- Privacy
 - Every single click(!) is logged

What can we do as a CS department (1/2)

- As a CS department, we live and breathe technology (or at least the online aspects of technology).
 - We understand technology better than many other departments, if not better than all of them.
- Our material is more amenable to teaching online.
 - could be good and bad

What can we do as a CS department (2/2)

2 ways to look at the situation

1. Geez, we're doomed. What are we going to do now!?
2. Can we use this as an opportunity to aim for higher levels of learning?
 - This is a hypothesis; can it be tested, e.g., by running a pilot course?
 - What types of learning activities are difficult for MOOCs?
 - e.g., intensive group projects?

What can we do as a CS dept at AU (1/4)

Increase visibility/brand recognition

Can we open our small research-oriented courses?

- Think of local specialized advanced courses (15-20 pp) that may attract 10-20 external pp.
- No major production
 - "Small shop" course that is "run on Twitter, produced on iPhone, and advertised via Facebook" :-)

What can we do as a CS dept at AU (2/4)

Increase visibility/brand recognition

External participants would come for *specialized* knowledge

- Access to external phd/postdoc candidate pool
- Minor increase in workload (one can cap #participants; limit grading)
- Logistical mess-ups may be forgivable

Possibly something one can do right away?

What can we do as a CS dept at AU (3/4)

Intro-level classes?

- Completely different ball game (because of the global playground)
 - Need slick platforms (web, mobile, etc)
 - Well-prepared lecture modules
 - "Rockstar" instructors

What can we do as a CS dept at AU (4/4)

Intro-level classes?

What can we do as a Danish university?

- More diverse crowd (gender balance; better students)?
- Attract high-school kids
 - would supporting peer-review/feedback in Danish help?
 - is anyone else in Denmark doing this already?

Is this something we'd be interested in exploring?

Strategic issues

- How to play with existing consortia?
 - Mutual accreditation?
- Need a policy on how many MOOCs an AU student can take a semester/year/total?