My MOOC Experience:
Teaching Game Theory to the World...

...and thoughts about how information professionals might fit in to this “brave MOOC world” 😊

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Game Theory

• A branch of math that describes what happens when strategic interests collide
  • Widely used in economics, computer science, many other fields
  • A somewhat esoteric, albeit trendy, topic
• Yoav Shoham (Stanford) and I wrote two books on the subject
• Yoav and Matt Jackson (also Stanford) co-taught a MOOC on GT in 2012
• They invited me to join them in a major course redesign
  • All-new videos
  • New assignments, etc.
  • Launched in January 2013
• UBC’s first MOOC
• Coursera’s first multi-university MOOC, and second-largest MOOC to date
Game Theory I: Course Elements

• Video lectures
  • 7 weeks
  • about 7 videos/week
  • most videos 5-10 mins

• Assessments:
  • Quizzes
  • Problem Sets
  • Exam

• Enrichment resources
  • Intro video
  • “Taste” videos
  • Discussion boards
  • Weekly Google+ hangouts
  • Interactive games
Interactive Games

- Custom-built game-playing software
  - Students can play against the recorded play of others
  - They can chat with others in real time
  - Hundreds of students playing at once
  - We gather a dataset on human play of these games (with permission)
Where Were Participants From?

United States 29%
India 10%
Brazil 4%
United Kingdom 4%
Canada 3%
Australia 2%
Germany 3%
Spain 3%
Russia 3%

(146) Other Countries 12%

Fun Facts:
- 183 (of 193 = 95%) countries
- >100 from 65 countries
- More from Iceland (#102); Kyrgyzstan (#93); Palestinian Territories (#107) than study game theory with me at UBC
- 4× as many Canadians as I've taught over my whole career
  - 973 from Ontario (55%)
  - 394 from BC (22%)
  - 232 from Quebec (11%)
  - 161 from Alberta (7%)
How should we measure attrition?

- exams / final registrations (7%)
- exams / first video watched (14%)
- exams / video 2-1 watched (32%)
- exams / last video watched (80%)
- exams / did any homework (46%)
- last video / first video (17%)
- video 2-1 / last video (41%)
Attrition Redux

• Our course ended at the beginning of March, 2013
• Here’s the Coursera dashboard from September, 2013

<table>
<thead>
<tr>
<th>Students</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Total Students</td>
<td>192756</td>
</tr>
<tr>
<td>Total Active Students</td>
<td>87843</td>
</tr>
<tr>
<td>Active Students Last Week</td>
<td>1611</td>
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</table>

<table>
<thead>
<tr>
<th>Video Lectures</th>
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<tbody>
<tr>
<td>Total Streaming Views</td>
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<tr>
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<tr>
<td>Number of Participants</td>
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</tbody>
</table>

(that’s 66,818 more)

(that’s 30,429 more)

September 17, 2013

• Another offering October, 2013; 71,275 students and counting
Game Theory II

• An advanced, 4-week course on game theory, continuing where the first course left off

• Started small, targeting only active participants of the first class
  • 11,149 registered
  • 1,556 submitted any assignment
  • 551 completed the final

• Experimented with new platforms: Google CourseBuilder; Piazza

• Offered it again Jan 2014, Coursera
  • 33,084 registered and counting
Youtube

- We launched a Youtube page for the course, alongside Coursera
- Lessons from analytics
  - Seems to serve a different audience
  - Certain videos getting lots of views: people not taking the whole course
  - Over a third of views coming from youtube search, recommendations
- Disaggregation: individual videos can be useful resources for students in other classes
  - BUT: hard to find these videos
  - Our videos seem to more visible in Youtube search than Google search
Flipping my Classroom

• I used Game Theory I + II as the core content for my UBC graduate class CPSC 532L

• Before Tuesday class:
  • Watch videos
  • Hand in weekly assignment

• Tuesday class:
  • Quiz to test comprehension
  • Peer grading; serves as the basis for in-class discussion
  • In-class activities

• Thursday class:
  • Student project presentations on enrichment topics
  • Help with next week’s assg
Four Roles for Librarians

1. Learner
   • After all, a large fraction of our students seem to be taking MOOCs as part of their own professional education
   • An excellent way to stay current, particularly for specialized librarians who are subject-matter experts
   • Understand the student perspective, to be better able to support students who are taking MOOCs
Four Roles for Librarians

2. Student Support
   a) Support of flipped classroom courses
      • MOOCs are the textbooks of the 21st century
      • Students will need help managing these resources too
   b) Connecting students with MOOC resources
      • Helping them to find appropriate MOOCs
      • Helping them to find individual videos on topics of interest
      • This might now seem easy with a thousand or so MOOCs in the world, but soon tens or hundreds of thousands
         • Information literacy skills will be key, as always
   c) Libraries as learning centers
      • Advertise, host student study groups around MOOCs
      • The main drawback of MOOCs is the lack of meaningful social interaction; libraries are well positioned to fill this gap
Four Roles for Librarians

3. Instructor Support
   a) Support the use of MOOC resources made by others
      • Not part of instructors’ core skillsets
      • Help communicate best practices for flipped classroom teaching
   b) Support the creation of MOOCs
      • Planning the creation of a MOOC
      • Help with copyright, permissions, etc.
      • Video assistance: studio space; filming; editing
   c) Participate as a resource person in a MOOC offering
      • Facilitate discussion in message boards
      • Help students to manage information from multiple sources having different levels of trustworthiness

Instructors are massively overcommitted; the key to effective support is to make it very easy for them to access
Four Roles for Librarians

4. Be a MOOC instructor
   a) Carry out the library’s fundamental educational mission
      • Train students about university resources, information literacy, accessing journals from home, ...
   b) Help to train the next generation of librarians
      • MOOCs work here for the same reasons they work in any other discipline
      • Plus, the next generation will need to be MOOC-savvy

The more skilled librarians become in the first three roles, the more natural it will be for them to create their own MOOCs
MOOCs: don’t do it for the money 😊

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**MOOC Royalty payment**

Lisa Chau <lisa.chau@ubc.ca>  
To: “kevinlb@cs.ubc.ca” <kevinlb@cs.ubc.ca>  
Mon, Aug 19, 2013 at 3:22 PM

Dear Dr. Kevin Leyton Brown,

I am pleased to inform you that we are currently processing royalty distribution in recognition of your MOOC contribution, Game Theory.

**Royalties: $1.41**

Since this is the first time our office is processing a distribution payable to you, please complete and return the attached contact form for us to expedite the payment process. We have also attached a memo summarizing the tax treatment of royalties for your information.

I look forward to hearing from you soon.

Warm Regards,

Lisa Chau  
Manager | Continuing Studies | Central Accounting  
The University of British Columbia | Vancouver Campus
Brave MOOC World

• I’ve suggested four roles for librarians
  • Learner
  • Student support
  • Instructor support
  • MOOC author

• Am I missing core ways librarians can help all of us navigate the brave MOOC world?

• Can you think of ways that librarians could have helped me or my students to have a better MOOC experience?

• Other thoughts or discussion?