Responding to the changing landscape:
The Innovative Learning Institute

Jeremy Haefner, Provost
August 2012
Online Degree Program Lets Students Test Already Know
By Angela Chen

The University of Wisconsin plans to start a “flexible degree program,” allowing undergraduates to test out of material they have mastered.

Massive Courses, Sans Stanford
January 24, 2012 - 3:00am

UVa Board Members' E-Mails Reflect Worry About Online Education
By Steve Kolowich

Advancing the Open Front
December 20, 2011 - 3:00am
By Steve Kolowich

MIT's new open course initiative may shake the foundations of the higher ed credentialing system.

Gates Foundation Gives $9-Million in Grants to Support ‘Breakthrough’ Education Models
By Jeffrey R

Department of Energy Creates Online-Learning Platform for Technical Training
By Angela Chen
The massive online movement
Systemic course transformation
The new (non-traditional) student

THREE CHALLENGES
FROM THE CHANGING LANDSCAPE
Massive open online course movement

MOOCs
Opening the Floodgates
Sebastian Thrun’s Massive Open Online Course (MOOC) Goes Viral

Two Fashionable Brands
- Celebrity Faculty
  Dr. Sebastian Thrun
  Stanford Professor
- Cutting-Edge Corporation
  Google

One Hot Global Topic
- Introduction to Artificial Intelligence
- Topics Covered
  - Knowledge Representation
  - Inference
  - Machine Learning
  - Planning and Game Playing
  - Information Retrieval
  - Computer Vision
  - Robotics

Truly Amazing Uptake
- 160,000 Enrolled Students
- 190 Countries
- From Announcement to Launch: 2 months

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A Tipping Point?
Six Elite Universities Join the MOOC Movement in Less Than a Year

July 2011
Thrun and Norvig announce that their Stanford AI course will be open to anyone

January 2012
Two Stanford professors found Coursera; Venture capital firms invest $16 M

May 2012
MIT and Harvard announce “edX” – free online courses and certificates

March 2011
Thrun sees Salman Khan speak at TED

December 2011
MIT announces “MITx”
Thrun gets venture capital to create Udacity

April 2012
Coursera announces partnerships with Princeton, U Penn, and U Michigan; Plans to offer 30 courses by summer (including humanities)

No Going Back for Thrun

“Having done this, I can’t teach at Stanford again. It’s impossible. There’s a red pill and a blue pill and you can take the blue pill and go back to your classroom and lecture your 20 students. But I’ve taken the red pill and seen Wonderland.”

Sebastian Thrun

...Or for Higher Education?

“In 50 years, there will be only 10 institutions in the world delivering higher education and Udacity has a shot at being one of them.”

Sebastian Thrun
What You Need to Know About MOOC's

Call it the year of the mega-class.

Colleges and universities have rushed to try a new form of online teaching known as MOOC's—short for "massive open online courses." The courses raise questions about the future of teaching, the value of a degree, and the effect technology will have on how colleges operate. Struggling to make sense of it all? On this page you'll find highlights from The Chronicle's coverage of MOOC's.

What are MOOC's?

MOOC's are classes that are taught online to large numbers of students with minimal interaction by professors. Typically, students watch short video lectures and complete assignments that are graded either by machine or by other students. That way, a few professors can support a class with hundreds of thousands of participants.

Why all the hype?

Advocates of MOOC's have big ambitions, and that makes some college leaders anxious. That's in
Substantial course transformation

Engagement
Inactive Learning, in Person and Online

Few Benefits from Static Content Delivery

“Sage on the Stage”

- 1-2 hours of lecture
- No way to “rewind”
- Physical constraints of classroom
- Students play passive role

Less Engaging

Lecture

Group Discussion

Practice / Projects

Teaching Others

More Engaging

Generic Online Course

- Readings and homework posted online
- No forum for interaction
- Email correspondence
- No additional value from technology
Winning on All Fronts with Course Redesign

Alternative Model Expands Capacity, Improves Quality, and Costs Less

**Faculty**
- Pre-Reading
- Pre-Quiz
- Lecture
- Practices
- Problem Solving
- Homework

**TAs and Peer Mentors**
- Pre-Lecture Prep
- Embedded Videos
- e-Tutor
- Mini-Tests
- e-Tutor

12% Reduction in DFW rate
45% Increase in enrollment cap
31% Cost savings per student
Few Excuses Left
Course Redesign Gaining Traction Across Institutional Types and Disciplines

“"I always thought I was a pretty good lecturer, but ... I had come to a realization that even my most successful students weren’t retaining a lot of the material I’d covered from one course to the next.”

Elizabeth Alexander
Texas Wesleyan History Professor

Physics
- Clickers and frequent feedback opportunities keep students on track
- Students grouped based on answers to questions

English
- From 3 hours to 1 hour in class per week
- Additional time spent in one-on-one sessions, peer tutoring, and multimedia lessons

History
- Historical Methods class won “Radically Flexible Classroom” award
- Movable furniture and tech-enabled classrooms facilitate group work

Math
- Emporium model: 1 hour in class, 2 hours in large computer lab
- Significantly improved completion and retention rates
- 19% instructional cost savings

“Do our students actually learn during class, or do they simply feverishly scribble down everything we say, hoping somehow to understand the material later?”

Eric Mazur
Harvard Physics Professor
New (non-traditional) student
The Non-Traditional Majority
Full-Time Residential 18- to 22-Year-Olds a Declining Share

Significant Percentage of Undergraduates Now Non-Traditional

- 46% Enrolled Part Time
- 36% Age 25 or Older
- 32% Employed Full Time
- 23% Are Parents

Hispanic Population and Enrollment Growing Rapidly

- 43% Hispanic
- 43% Enrolled Part Time
- 24% Employed Full Time
- 23% Age 25 or Older
- 9% Are Parents

- White: 1%
- Native American: 5%
- Black: 9%
- Asian: 3%
- Hispanic: 11%

US Population Growth Rate, 2000-2010
Projected College Enrollment Growth Rate, 2011-2019
Targeting the Non-Consumers
For-Profit Universities Serve Traditionally Non-College-Going Populations

Attracting More Diverse Students
Race/Ethnicity of Student Population

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>For-Profit Four Year</th>
<th>Public Two-Year</th>
<th>Public Four-Year</th>
<th>Private Four-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>61%</td>
<td>54%</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>Non-White</td>
<td>60%</td>
<td>39%</td>
<td>36%</td>
<td>39%</td>
</tr>
<tr>
<td>Multi-Race, Unknown, Non-Resident Alien</td>
<td>23%</td>
<td>23%</td>
<td>23%</td>
<td>23%</td>
</tr>
</tbody>
</table>

Serving Families with Lower Incomes
Family Income for Dependent Students

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Private</th>
<th>Public</th>
<th>For-Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $20K</td>
<td>24%</td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td>$20K - $39K</td>
<td>30%</td>
<td>17%</td>
<td>12%</td>
</tr>
<tr>
<td>$40K - $59K</td>
<td>17%</td>
<td>18%</td>
<td>14%</td>
</tr>
<tr>
<td>$100K and Above</td>
<td>26%</td>
<td>26%</td>
<td>39%</td>
</tr>
</tbody>
</table>
A Governor’s Dream
Competency-Based Alternative Helps Meet Completion Goals


A Radically New Instructional Model
- No “courses” or “credits,” just competency exams
- No traditional instructors; 800+ faculty a mix of assessment designers, subject matter experts, and student mentors
- 32,000 students nationwide
  - Average age = 36
  - 70% work full time
  - 30% annual growth

An Appealing Alternative to For-Profits
- Founded by 19 governors in 1997
- Tuition: $5,780 per year; hasn’t been increased since 2007
- Online, self-paced instruction expands access to non-traditional students
- New subsidiaries in Indiana, Washington, and Texas

“Indiana’s 8th State University”
- Governor Mitch Daniels commissioned Western Governors University – Indiana in 2010
- No state allocation; initial funding from Gates & Lumina Foundations
- WGU students are eligible for state aid
- Critical in meeting completion goals

Western Governors University
Employers Embrace Competency-Based Curriculum

Employer-Defined Credentials Facilitate “Mixed Sourcing” of Higher Education

1. Industry-Defined Competencies
   - Certified Manufacturing Engineer
     - Entry-Level Technical
       - Safety
       - Machine Operation
     - Management
       - Leadership
       - Team Management
     - Core Academics
       - Science
       - Analytical Thinking
     - Advanced Technical
       - Lean Principles
       - Global Sourcing
   - 30+ competencies defined

2. Individual Employers’ HR Strategy
   - Recruiting
     - “Preferred” or “required” in job postings
     - Intern recruiting
   - Development
     - Defined career pathways
     - Tuition assistance policies

3. Students Steered to “Configurable” Menu of Educational Options
   - Credit by Examination
     - National testing service firms and industry association exams
   - Online Course Providers
     - Low-cost, self-paced “approved” general education courses
   - Tailored Community College Programs
     - Pilots in OH, NC, TX and WA building
     - Applied associate’s degree around industry competencies for direct hires or transfers to 2+2 programs
   - Applied Bachelor’s Degrees
     - For-profits launching Bachelor of Science with Concentration in Manufacturing
     - Transferable credits from prior certifications
     - Tuition reduction agreements for employer partners

RIT
Rochester Institute of Technology
A Few Examples
Problem(s) facing RIT

- No strategic, intentional thrust for online presence
- No systemic way of infusing new learning techniques into existing programs
- No R&D for academic technology
- No formal collaboration for trans-disciplinary curriculum
- Insufficient culture for experimentation
- Not positioned well to attract non-traditional students
Problem(s) you face

• Helping faculty balance teaching & scholarship
• Conversion
• Need to do more with less
• Increased competition for students
• Shrinking research funds
• Changing student expectations
IN RESPONSE: THE INNOVATIVE LEARNING INSTITUTE
Innovative Learning Institute

- RIT Online
- Collaborative Laboratory
- School for Integrative Learning
Designed to face the challenges

- Massive Online
- Course Redesign
- New Student

Innovative Learning Institute

- RIT Online
- Collaborative Laboratory
- School for Integrative Learning
RIT Online

• Focuses on marketing research and promotion for online programs
• Builds partnerships with other universities and businesses
• Delivers extensive support services to online students

• Funded through shared tuition revenue model
Collaborative Laboratory

• Provides ‘safe’ environment to experiment with new pedagogies and technologies
• Develops new T&L ‘products’
• Provides full service course design and development support for all faculty

• Offers single-point-of-service for all academic technology support
• Pursues and supports grant funded T&L projects
School for Integrative Learning

- Formerly Center for Multidisciplinary Studies
- Includes Applied Arts and Sciences, and Masters of Professional Studies degrees
- Tenured and ‘visiting’ faculty

- Develops new models for ‘certifying’ learning
- Expands expertise in supporting nontraditional students
ILI

External Advisory Board

Multi-disciplinary Curriculum Committee
Trans-disciplinary collaboration and T&L grant support

Single-point-of-service and enhanced teaching & learning and academic technology support

Enhanced support for online & nontraditional students

Marketing services for online and new partnerships
Key features

- Entrepreneurial model
- Enhanced level of faculty support for T&L
- Not a college or another silo
- Increased support for non-traditional & online students
- Online, outreach & ‘product’ development generates revenue to reinvest
Advantages

• Addresses problems you are facing:
  – Faculty support
  – Student support
  – Marketing and outreach support
  – Increased grant potential
  – Puts the “T” back in RIT
  – Enhances RIT brand
Advantages

• Addresses problems RIT is facing:
  – Systemic dissemination
  – Strategic online presence
  – R&D for experimentation
  – Formal collaboration for integrative learning
  – Offers new ways of including non-traditional students

• Endorsed by key leadership:
  – Supports RIT strategic direction
  – Model recommended by Academic Senate
  – Addresses BOT concerns
  – Incorporates key recommendations from Future Educational Technology Taskforce
Next Steps

**Summer 2012:**
- Presentation to:
  - BOT Strategic Planning Committee
  - Trustees
- Discussions with:
  - Administrative Council
  - Deans
  - Academic Senate EC
  - Affected staff

**Fall 2012-2013:**
- Discussion with Academic Affairs committee
- Presentation to Academic Senate
- Campus-wide conversations
- President approves
QUESTIONS
Discussion

WHAT ONE THING SHOULD ILI FOCUS ON…

WHAT ONE THING SHOULD ILI AVOID…

…TO ENSURE YOU AND YOUR FACULTY NEEDS ARE MET