Academic Excellence in the Post MOOC Era: Lessons Learned on Technology Best Practice

Paul Kim, PhD.
Chief Technology Officer & Assistant Dean
Stanford University
Graduate School of Education
phkim@stanford.edu
Survey on students in 1930-2010

Stanford entrepreneurs created more than 5.4 million jobs in 40,000 companies leading to generate $2.7T annually.

- Sergey Brin and Larry Page, co-founders of Google
- Jerry Yang and David Filo, co-founders of Yahoo
- Reed Hastings, CEO of Netflix
- Reid Hoffman, co-founder of LinkedIn
- Vinod Khosla, a prominent venture capitalist
- Peter Thiel, co-founder of PayPal and a prominent venture capitalist
- Phil Knight - NIKE
• Technology has been a major driver of economic development world-wide.

• A new sector is riding on the technology sector growth.
YTD 2013 – $1B Invested in Education Ventures

More vibrant education entrepreneurship activities than ever...
In 2014, investment in education ventures jumped to $2B.

Pluralsight $135M (techie online training)

Minerva $70M (premium blended education)
REMIND $40M (messaging - $40 million)

65M reminders /mo. sent (10M users)

EDMODO $30M (social learning platform - $30 million)

Assignment, alert, progress bar, badges, etc. (50M users)

What seem popular are solutions around **self-regulatory skills**
What helped develop such investment interests?
Access and learn curated free courses from well-known universities
Forget about universities. I am a freelance professor @ udemy
One of many problems...
If a student has been in a one-way-stream learning environment for **12 years**, don’t expect the student to suddenly become a **self-motivated and self-regulated student** who might take advantage of any alternative education option of any kind.
CS 387
Homework 1

- Regular homework questions
  multiple choice, enter number or string
  programming not submitting code
- Open discussion problems
design, analyzing

Watch videos
“Video lectures alone do not create the best learning opportunities but empathy and guided examples do...”
The World's Largest Online Bootcamp

with programs in Web Development, Mobile Development, and Design

Start Individualized path Completion 96%

Reminding, Coaching, Modeling, Mentoring, Motivating...

BUILD REAL APPLICATIONS

No more video-tutorials. Instead, create and deploy fully-functional apps for your portfolio.

EXPERIENCED MENTORS

Meet weekly, 1-on-1, with an experienced mentor vested in your success.

TAILORED TO YOU

Flexible, full-time or part-time options to accommodate your schedule.
Results of MOOCs and MOOC Variants
After decades of debates, has online education become a legitimate mode of education?
A lot more data generated to do all kinds of analyses...
Team-based Learning
Team Projects
Peer Evaluation as Learning
Active Participation = Higher Reputation = Better Learning Outcomes

Are you with the right crowd?

Forming and working with the right group has become more important than working hard alone...
Is LinkedIn a Global Registrar’s Office?

Skills & Endorsements

Top Skills

99+  E-Learning
88   Educational Technology
66   Higher Education
48   Distance Learning
39   Instructional Design
30   Entrepreneurship
27   Teaching
25   Leadership
24   Information Technology
22   Instructional Technology

badges = visual representations of a skill or achievement
Increasingly Important Net Competencies

- Know how to search intelligently
- Know who knows and can do what
- Know how and when to approach
- Know how to present and persuade
- Leverage networks at the fullest extent
- Delegate, yet make it a win-win for all
- Use the right tools proficiently and timely

Net Competencies + Domain Knowledge = 21st Century Workforce
The more you connect, share, or search, **THEY** may know more about you than you do...
The *Deep Learning* Race in the Industry

e.g., My search result is always different from yours... and my learning path, pace, and partners will be always different than yours...
In the future, when you know so much about what and how I write, discuss, select, speak, present, and evaluate in real-time, will we need standardized tests?
Overall, digital future in higher education is obvious and will be phenomenal.
What may be persistent issues...
Displaying or Delivering Doesn’t Mean Learning is Taking Place...

Passive Learning, Mostly One-way Transmission, Not So Much Higher Order Learning...
Creating
Evaluating
Analyzing
Applying
Understanding
Remembering

Promote Higher Order Learning
Enable Deep Learning
Mobility, Social Networking, Higher Order Learning, Deep Learning, & Gamification

- Create Questions
- Exchange Learning
- Incorporate Mobile Media
- Present Problems
- Reflect
- Evaluate
- Solve

*in teams*
SMILE (Stanford Mobile Inquiry-based Learning Environment)
Every student is engaged

S. Korea. Medical University - BYOD
Moving from lecture-centered to student interaction-centered model.
Developed local evaluation rubrics.
• SMILE on Local Issues
• Relevancy
• Real-World Problems & Solutions
• Team Discussions
¿Siendo La Guajira un departamento bien posicionado geográficamente, con diversidad de culturas y vegetación, se encuentra estancado en el turismo? Seleccione las respuestas correctas.

A. Falta de liderazgo y empoderamiento de las entidades gobernamentales
B. Falta de compromiso del pueblo Guajiro
C. Existen otros sectores de mayor interés para el desarrollo
D. Los indígenas están cerrados al turismo (sin capacitación) e impiden su desarrollo

Rate question: ★★★★

Answer Distribution:
A. 9 (82%)  
B. 2 (18%)
No question? Have you really learned anything?
Local Problems and Solutions Identified
Progress bar (automated semantic analyses)

Critical thinking development
Question quality based on relevancy, originality, creativity, clarity, syntax, etc.
Question types (e.g., simple recall, simple arithmetic, analytical, multi-dimensional, etc.)
Subject matter augmentation, vocabulary expansion, etc.
Bridge between MOOCs and Learners in the under-developed regions.

Adhoc local area mobile learning network – content & application server + router + wifi + storage
One button and runs on a battery
Applications

**smile**

SMILE flips a traditional classroom into a highly interactive learning environment by engaging learners in critical reasoning and problem solving while enabling them to generate, share, and evaluate multimedia-rich inquiries.

**Wikipedia**

Wikipedia is the world's largest collaborative encyclopedia. This selection of articles for schools is searchable and contains 6000 articles, 26 million words and 50,000 images!

**Khan Academy**

KA Lite allows for blended learning opportunities using the core Khan Academy maths exercises.

**Bible for Children**

Colorful stories from the Bible. Check back daily for a new inspiring devotional.

**edify DRAW & PAINT**

Create your own drawings and paintings!

**PhET**

Free educational simulations covering a diverse selection of topics designed by the University of Colorado.

**Snap! Learn to Program**

Snap! (formerly BYOB) is a visual, drag-and-drop programming language. It is an extended reimplemention of Scratch (a project of the Lifelong Kindergarten Group at the MIT Media Lab) that allows you to Build Your Own Blocks. It also features first class lists, first class procedures, and continuations. These added capabilities make it suitable for a serious introduction to computer science for high school or college students.

**Turtle Academy**

The easy way to learn programming! Turtle Academy makes it surprisingly easy to start creating amazing shapes using the LOGO language.

**Repl.it**

Repl.it is an online environment for interactively exploring programming languages. The name comes from the read-eval-print loop, the interactive toplevel used by languages like Ruby, Lisp and Python.

**Learn JavaScript!**

Code Monster gets kids excited about programming. It is a combination of a game and tutorial where kids experiment with learning to code.

**Seeds of Empowerment**

Children love to tell stories. However, in many places in the world, their creative voices are rarely heard or cultivated. The 1001 Stories Program conducts storytelling workshops in schools, libraries, hospitals, and community centers.

**cK-12**

High quality and curated Textbooks collection on STEM (Science, Technology, Engineering and Math) from cK12.org. PDF format.
Questions in Swahili and English. No textbook. Only the teacher owns textbooks.

Learning English by creating questions with photos. (Bottom)
Lessons Learned:

• Learning & Assessment Take Place at the Same Time
• Evidence of Higher Order Learning
• Question Quality Improves Over Time
  (From Simple Recall to Critical Thinking Questions)
• High Engagement & Transparency
• Enabling Social & Mobile Learning Through BYOD
• Local Problems, Local Solutions, Local Empowerment
Any other lessons?

After visiting and meeting students of all ages in over 30 countries...

And teaching a 20,000-student MOOC...
The millennial students, those earning higher-education degrees in the 21st century, walking through our doors don’t just want to make money; they want to make a difference...

Garth Saloner, the Philip H Knight Professor and Dean of Stanford Graduate School of Business
Ellen Dong Yi

• 1992 - Born in Zhejiang, China
• 2010 - studied in Zhejiang University
• Taught Chinese in Cambodia
• Worked for Teach For China.
• 2012 - Attended Stanford open course: Designing a New Learning Environment and decided to devote myself in solving education problems in underserved communities.
New Media Consortium
Goldman Sachs
NovoEd
Udemy
and several education leaders
Designing a New Learning Environment

INSTRUCTOR: Paul Kim
Chief Technology Officer and Assistant Dean, School of Education, Stanford University

October 19, 2012 - December 20, 2012
The next offering of this course will be in Spring 2013.

The Course

What constitutes learning in the 21st century? Should reading, watching, memorizing be the only way to learn? Or could technology (used effectively) make learning more interesting?
Challenges – China, Mideast, social network sites banned, no YouTube access. (Use Youku, 56.com, etc.)

What’s not typical in MOOCs
Hi,

because many participants in this class figured out problems watching the lectures because of the host (YouTube) or the available bandwidth, I've created low bandwidth versions of every lecture. Within the folders at Dropbox and Google Drive, you will find videos (flv files) and only-audio versions (mp3 files, sized roundabout 50% of the videos). I strongly recommend the Open Source VLC player (portable version).

Links
DropBox => CLICK
Google Drive => CLICK

Available audio-only and video files

- DNLE Week 1 Designing a New Learning Environment
- DNLE Week 2 Guest Speaker University of Wolverhampton Professor John Traxler
- DNLE Week 2 Guest Speaker USC Professor Gullbert Hentschka
- DNLE Week 3 Needs Analysis
- DNLE Week 4 Technology, Content, Pedagogy, and Value
- DNLE Week 4 Learning Technology Design Principles I
- DNLE Week 5 Design Principles II
- DNLE Week 5 Design Principles III

This will be updated every week!

If you are in need for different file-formats, please do not hesitate to ask for it.

Marc
How to Ignite Passion?

Present Relevant Problems

Link to Development Initiatives

Remain as a Coach
When considering best practices...

- Learning Skills & Self-Regulatory Skills
- 21st Net Competencies
- Learning and Assessment Taking Place at the Same Time
- Better Understanding Learners with Big Data
- Engage Students in Higher Order Learning
- Better Questioning is the Process & Outcome of Better Learning
- Passion Fuels Sustainable Learning and Engagement
Innovation in education is hard and that’s why we are doing it...
SMILE (Stanford Mobile Inquiry-based Learning Environment)

http://smilelearn.Stanford.edu

Search and Join “UWI” Group
Make Questions
Add Comments
Evaluate Questions

Ask me about earning SMILE certificates.