Food for thought or an intellectual malnutrition epidemic?

Jörn Loviscach

& Sebastian Wernicke
Food ≅ Education
Eat to survive

Learn for breadwinning
Ingest vitamins

Grow your mind
Unequal Access
Massive Online Course

"Open"

Course

xMOOC
Newton's Law of Gravitation

\[ F = G \frac{m_1 m_2}{d^2} \]

This universal constant appearing in front-
Differential Equations in Action

Unit 1 - Houston We Have a Problem

Ratio of gravitational forces

\[
\frac{\sqrt{1}}{\sqrt{2}} : \frac{\sqrt{2}}{\sqrt{2}}
\]

\[
1 : 1 \quad 2 : 1 \quad 1 : 2 \\
4 : 1 \quad 1 : 4
\]
I find this last part somewhat counter-intuitive if $x$ was less say, too low and has in this step only just
superseded $\text{low.slip}$, it already has some 'extra' (its derivative is positive) then increasing the brake
pressure further will make $\sigma$ decreasing past $\text{high.slip}$ with an even higher derivative. Asymmetric argument
can be made for $\sigma$ decreasing past $\text{high.slip}$. Therefore, I would argue for the solution

Indeed, the car stops in $3773$ steps instead of $3723$ with this solution.

Other might however also argue against this solution, it should only work better if $x$ when "left alone"
problems) system's will work for $\text{high.slip}$ very fast in a different setting (for an analogous control
case, making it work might be 'very fast' and in a different setting (for an analogous control
this effect is greatly increased the advantage of $x$ by approaching $\text{low.slip}$ all the time, never achieving the ideal slip. However, I tried to get

Any thoughts, comments of any approach I've tried?
This is to certify that

Has successfully completed

COMPUTER SCIENCE 101:
Introduction To Computer Science
Building A Search Engine

David Evans, Ph.D.
Sebastian Thrus, Ph.D.
FREE HLTHY LUNCH DELIVRD BY YOUR DOORSTEP
Four Course Dinner  Study Program
Snack MOOC
Light-weight part-time study

10 % aged 60+
38 % have an academic degree
  4 % are PhDs
27 % have a managerial function
26 % have less than 5y of prof. experience

http://www.hpi.uni-potsdam.de/presse/mitteilung/beitrag/hpi-umfrage
-nutzer-offener-online-kurse-von-weiterbildung-beeindruckt.html
BEST BEFORE
31 DEC 2013
Knowledge is Perishable

today’s hot app → next year’s OS → the English language → c = 299,792 km/s

MOOCs

study programs
Denominazione di Origine Controllata
[...] Company may devote part of its Services to Content provided by universities outside of North America, provided that such universities are limited to the generally regarded “top five” universities within any country [...]
Mass Production
For this reason, we are temporarily suspending the “Fundamentals of Online Education: Planning and Application” course in order to make improvements.

Fatimah Wirth’s mail to the participants of her MOOC on Coursera, 2013-02-02
Discussion Prompt: Do Numbers Matter?

Reading 1: The Queen vs. Dudley and Stephens (1884) (The Lifeboat Case)

Reading 2: Justice: What’s the Right Thing to Do?

https://www.edx.org/courses/HarvardX/ER22x/2013_Spring/info
Journals want this!

- The style guidelines for many journals explicitly instruct authors to write in the active voice. For example, *Science* magazine advises:

  - “Use active voice when suitable, particularly when necessary for correct syntax (e.g., "To address this possibility, we constructed a λZap library ...")”

  - [http://www.sciencemag.org/site/feature/contribinfo/prep/res/style.xhtml](http://www.sciencemag.org/site/feature/contribinfo/prep/res/style.xhtml)
But the audience will notice?!

NO MORE CRAPPY MOOCs!

MAKE US THINK
Yes, and everybody will abandon junk food, too?!

• Shallow recipes instead of understanding
• No equations; little quantitative data
• Glitzy graphics instead of clear explanations
Indigestive Online Education

• English?
• Broadband access?
• Time to invest?
• Mindset?
<table>
<thead>
<tr>
<th>Category</th>
<th>Courses Available</th>
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<tbody>
<tr>
<td>All Languages</td>
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<tr>
<td>English</td>
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<tr>
<td>All Categories</td>
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<td>Chemistry</td>
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<td>CS: Artificial Intelligence</td>
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<tr>
<td>CS: Software Engineering</td>
<td></td>
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</tbody>
</table>
A MOOC on emergency medicine or on agriculture delivered in a dozen African languages and made available offline?
For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath.

Matthew 25:29
Poor Retention?

MITx 6.002x: Circuits & Electronics
Data from http://tech.mit.edu/V132/PDF/N34.pdf
SIGN UP FOR edX

You must Sign Up or Log In to enroll.

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eg. yourname@domain.com

Password*

****

Public Username*
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https://www.coursera.org/about/terms
Open vs. “Open”

MIT and Harvard aim to make much of the edX course content available under more open license terms that will help create a vibrant ecosystem [...].

https://www.edx.org/tos
Open vs. “Open”

*Udacity hereby grants you a license in and to the Educational Content under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 License [...].*

https://www.udacity.com/legal/tos
Sebastian Thrun: Udacity Announces For-Credit Course Pilot with San Jose State University


https://www.edx.org/press/gates-foundation-announcement
Tilling the Field
Blend Online and Offline

Thou shalt not leave the learner alone.

Let the computer do what it does best.

Let a human instructor do what he or she does best.
Rethink Courses

Videotaped lectures ➔ KSVs
A quiz every 20 minutes ➔ A quiz every minute
Too hard, too simple ➔ Challenge, achievement
Shallow recipes ➔ True mastery
Encyclopedia ➔ Story
Rethink the University

http://www.flickr.com/photos/t_trace/2324550892/

Taijo Fujii, CC BY 2.0 (image manipulated)
Rethink the University
Rethink the University
Rethink the University

Curriculum

Course A

What survives
Rethink the University

Curriculum

What's really important?
Rethink the University

Are we “optimizing” on the wrong end?