

# Beyond Assessment: Recognizing Achievement in a Networked World

For ePIC 2014 (11th July, Greenwich)

Stephen Downes





# What does it take to be a Dean at MIT?

"Ms. Jones had received the institute's highest honor for administrators, the M.I.T. Excellence Award for Leading Change." But no degree.

[http://www.nytimes.com/2007/04/27/us/27mit.html?\\_r=5&](http://www.nytimes.com/2007/04/27/us/27mit.html?_r=5&)

Meanwhile, how many of us are just faking our cultural knowledge?



- And does it matter?
- Is there some set of core materials we should all know?

It's interesting to think of culture as a type of language that makes it possible to communicate, but it's a mistake, I think, to confuse knowing a language, which is an extended facility (as in playing a game), with knowing a set of facts.



Photo: <http://www.essentiallifeskills.net/ludwig-wittgenstein-philosophy.html>

# What constitutes 'success'?



- Success, say, as an 'academic researcher'?
  - the number of articles
  - the “impact factor” of the journals
  - number of citations more than expected

Really?

<http://chronicle.com/blogs/ticker/scientists-calculate-your-chances-of-success-in-academe/79063>

Image: <http://www.iihr.uiowa.edu/about/publications/recent-iihr-journal-publications/>

# Issues and questions...

1. LinkedIn, job boards, and portfolio sites make it easier than ever to look for work. So why does it seem harder than ever to find a



<http://www.cbc.ca/spark/blog/2014/04/27/hr-tech/>



2. Today's students leave lots of data trails - from demographic information, to how they read and highlight ebooks, and interact online. Is it ethical to use this?

<http://www.cbc.ca/spark/blog/2014/04/27/personal-education/>



3. If everyone's learning experience is customized, does that mean everyone gets an A?

# Are MOOCs doing what we need?

Not according to traditional metrics



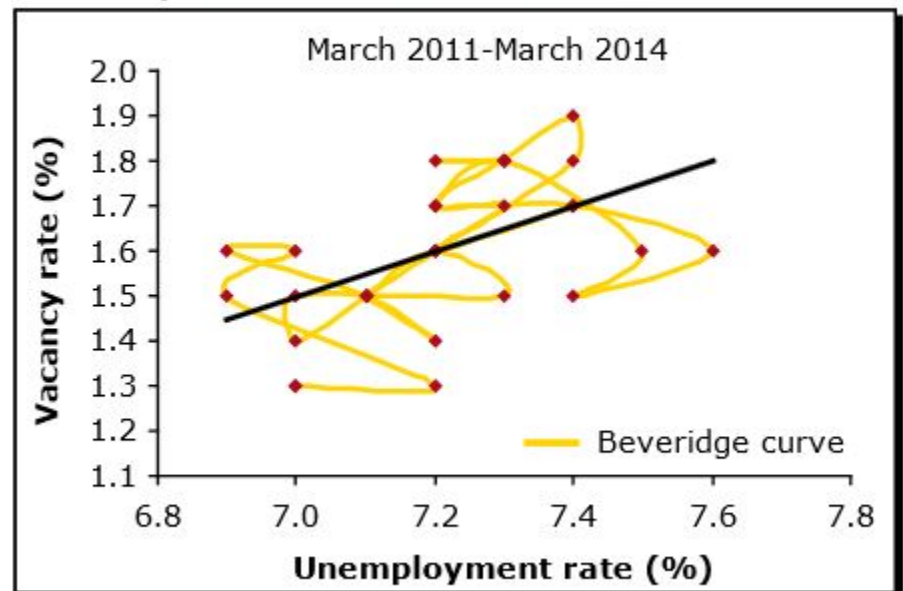
[nonetheless] “shifting the definition of education away from its historical roots to a skills-based, instrumentally-defined exercise.”

<http://www.hybridpedagogy.com/journal/mooc-problem/>

# What is it we need?

- One way of looking at it is the 'skills gap'
- “Large swaths of those unemployed are not what employers are seeking...”

Positively Correlated Vacancy and Unemployment Rates Implies Some Labour Market Mismatch



Source: CIBC calculations based on Statistics Canada's tabulations

Looked at  
this way, it  
would make  
sense for  
employers  
to offer  
learning and  
test for skills



- But that's not  
what's  
happening

<http://business.financialpost.com/2014/05/12/employers-must-start-investing-in-skills-training-or-risk-having-public-policy-nudge-them-along/>

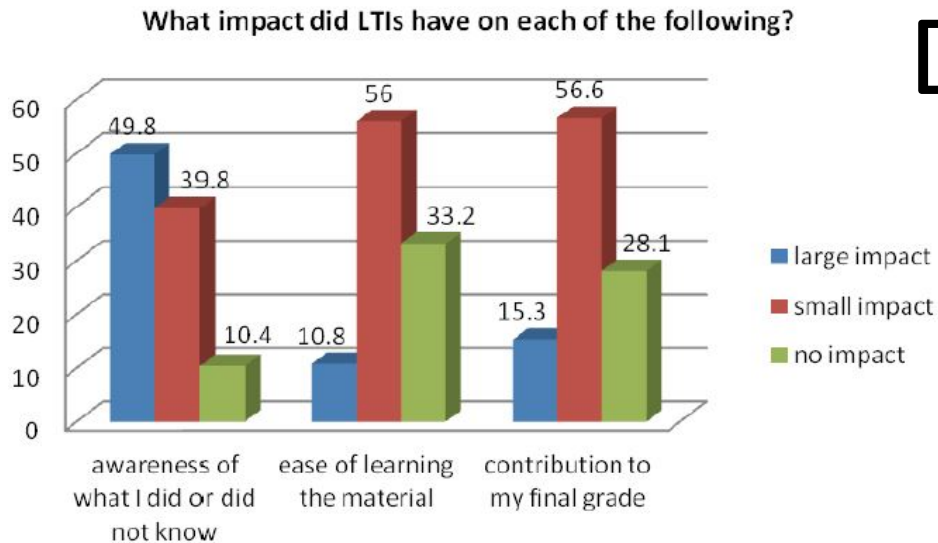
# What's being recommended instead...

- Learning Outcomes Assessment Program
- Council on Skills and Higher Education
- Education and skills for Aboriginal peoples
- Narrow the skills gaps between men and women
- Credential recognition and skills training for immigrants

[http://canada2020.ca/wp-content/uploads/2014/05/2014\\_Canada2020\\_Paper-Series\\_Education\\_FINAL.pdf](http://canada2020.ca/wp-content/uploads/2014/05/2014_Canada2020_Paper-Series_Education_FINAL.pdf)



Doing it the hard way: compiling 'learning task inventories' to define sets of activities related to skills



**Figure 4** *Student perceptions of the impact of LTIs*

The largest impact seemed to be obtained when LTIs helped students determine what they did or did not know.

To solve old problems, click here...



So here basically is the basis for instructional design: “Start with what you want them to learn, design an experience that will cause them to learn it, build in some checks that this is happening along the way and has happened by the end.”

<http://www.oliverquinlan.com/blog/2014/06/11/theory-of-change-in-education/>

# That's what PISA did...

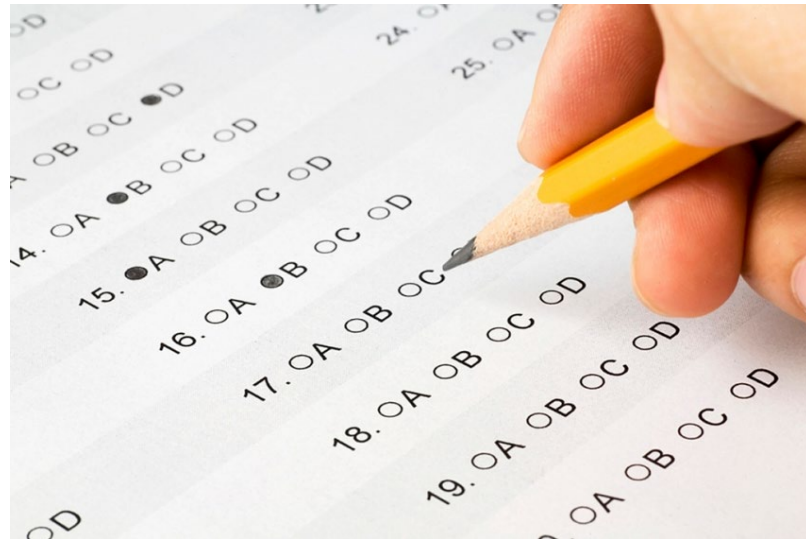
## But maybe PISA isn't working

“Their skills and qualities should also be acquired from a variety of activities such as play, online activities, and games instead of merely completing academic assignments or extending homework time.”

上海攻关学  
生作业多问  
题 或将退出  
下次**PISA**测  
试

<http://zhaolearning.com/2014/05/25/not-interested-in-being-1-shanghai-may-ditch-pisa/>  
<http://sh.sina.com.cn/news/k/2014-03-07/160084868.html>

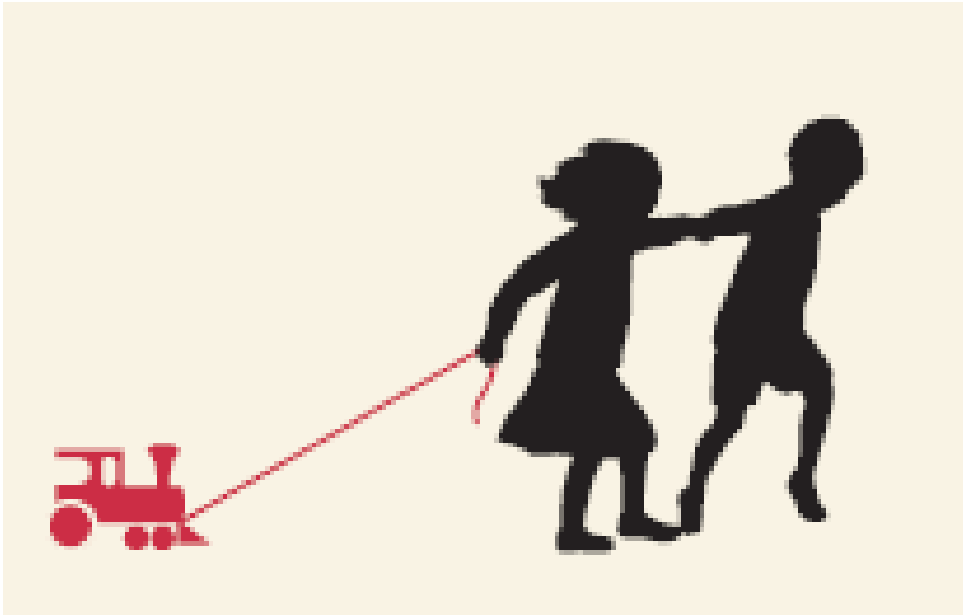
Why the emphasis on testing? One theory: it makes testing companies a lot of money...



- the per-student cost for testing is currently around \$31 per student, times 50 million students in the U.S. alone...

<http://www.teachthought.com/learning/solving-the-problem-of-modern-assessment/>

And yet  
education is  
crucial for  
development,  
and skills build  
on skills



“The average time spent in school by a country’s students and the labour productivity of its workers have been statistically linked.” -

Pearson

<http://thelearningcurve.pearson.com/reports/the-learning-curve-report-2014>

# The problem with outcomes...



Useful outcomes, like  
‘understand’ and  
‘appreciate’ are vague  
and undefinable... but  
concrete outcomes like  
‘display’, ‘recite’ and  
‘define’ are  
behaviourist and based  
in rote

<http://chronicle.com/blognetwork/castingoutnines/2014/03/05/creating-learning-objectives-flipped-classroom-style/>  
<http://www.spritzinc.com/>



Gardner Campbell: “these complexities matter. When confident, simple, plain, orderly advice is given about a complex matter, I hear the sound of the hatchet replaced by the sound of wood snapping as the branch I’m sitting on gives way.”

<http://www.gardnercampbell.net/blog1/?p=2239>

# The educational black box limits our options here...

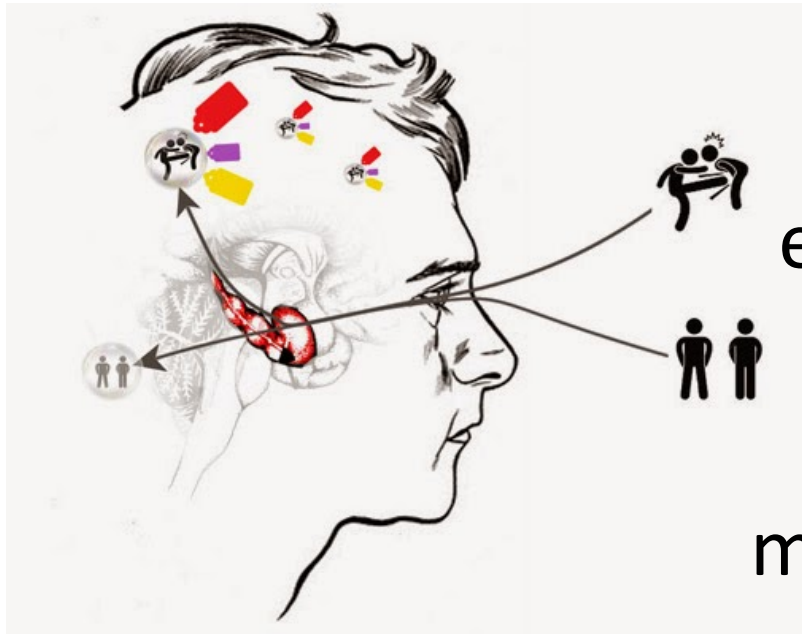
- Most all educational theory belongs either to the category of
- (a) continuing to use the black box, or
  - (b) making stuff up that we *think* characterizes cognitive phenomena.



<http://www.hackededucation.com/2014/06/07/what-should-technologists-know-about-education/>

<http://dangerouslyirrelevant.org/2014/06/ed-tech-behaviorism.html>

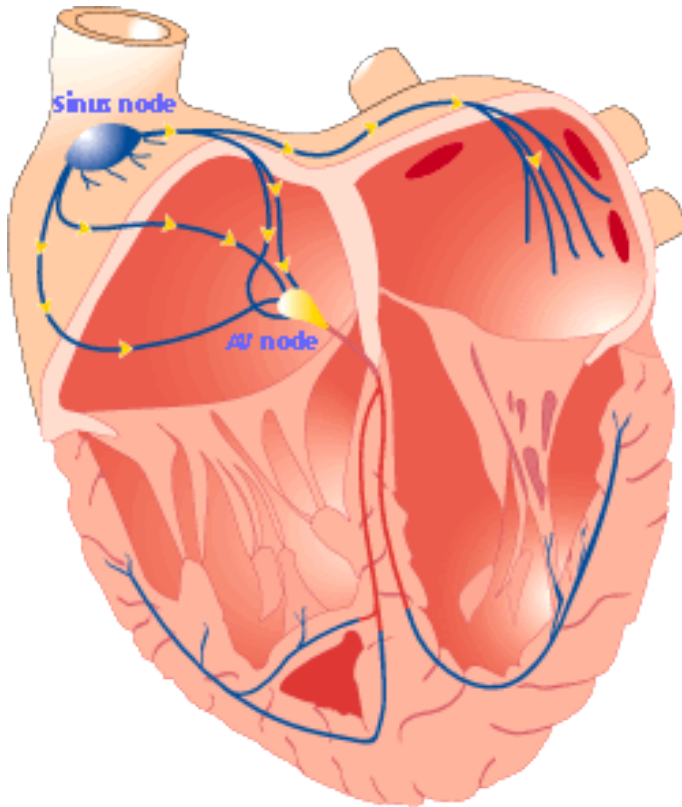
This, for example, is a blatant appeal to made up stuff:



“... our brains need some way of deciding what to encode and how to encode it, so as to retrieve it in a way which is useful. Our minds solve this problem by encoding information along with its affective context...”

<http://www.aconventional.com/2014/06/learning-explained.html>

# Talbot: Biology's shameful refusal to disown the machine-organism



Even a simple concept like 'Paris' is more like a wave of interconnected neural activations, an activation that takes place *in the very same body* of water as the next wave

[http://natureinstitute.org/txt/st/org/comm/ar/2014/machines\\_18.htm](http://natureinstitute.org/txt/st/org/comm/ar/2014/machines_18.htm)

Image: <https://emedtravel.wordpress.com/page/16/>

# The next phase: competency-based education



- CBE models offer credentials based on demonstrated proficiencies
- Critics argue that it seems too much like training and is focused too much on outcomes

<http://www.universityaffairs.ca/competency-based-degree-programs-are-growing-in-the-us.aspx>

<http://eduvation.ca/ideas/competency-based-degrees/>

<http://academica.ca/top-ten/competency-based-degrees-continue-gain-popularity>

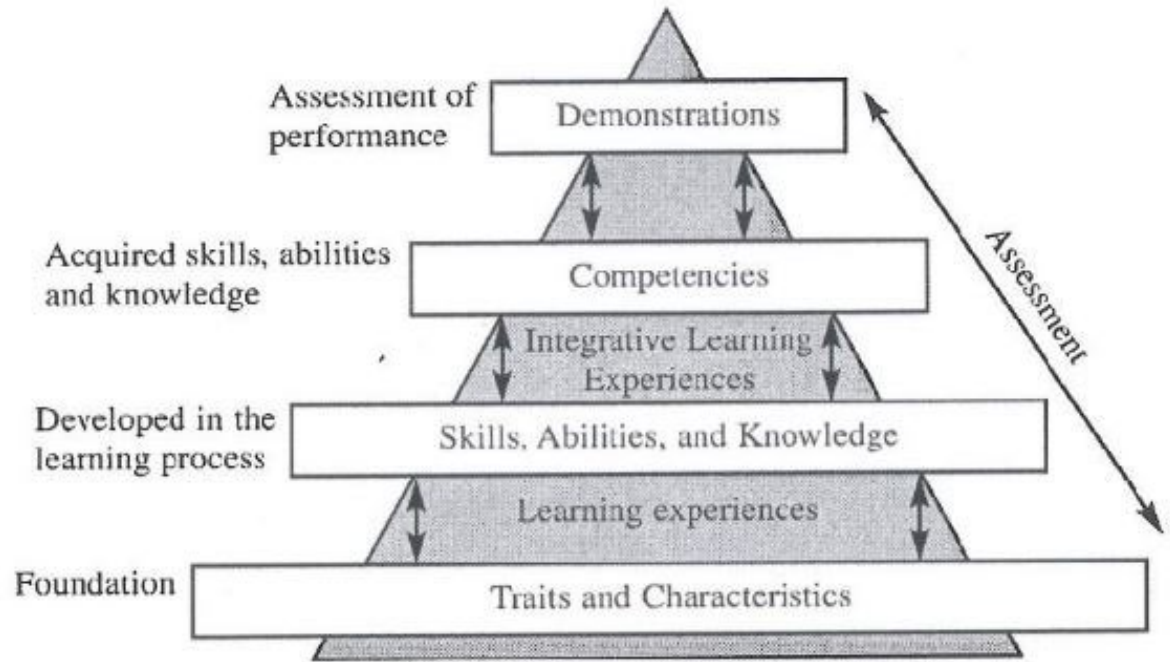
# Personal learning requires competencies?



Well, yes, under some circumstances: ““You can’t truly do personalized learning and also continue to have common expectations without competencies.”

<http://blogs.kqed.org/mindshift/2014/06/going-all-in-how-to-make-competency-based-learning-work/>

“There is no systematic, comprehensive study indicating that the purported skills from a CBE program translate into performance.”



But which competencies? We don't really know...

[http://heqco.ca/SiteCollectionDocuments/CBE Report-ENG.pdf](http://heqco.ca/SiteCollectionDocuments/CBE%20Report-ENG.pdf)

[http://heqco.ca/en-CA/Research/Research Publications/Pages/Summary.aspx?link=139](http://heqco.ca/en-CA/Research/Research%20Publications/Pages/Summary.aspx?link=139)

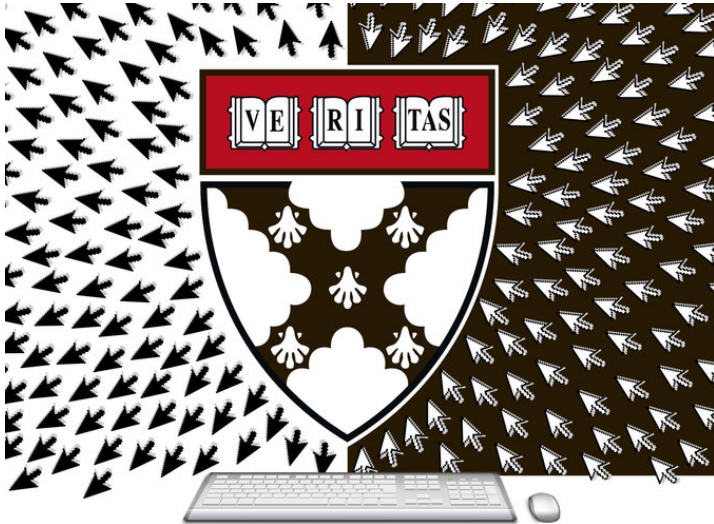
What are we getting instead?  
A slew of alternative credentials...  
A veritable *slew*!



- “Qualt are based on courses developed by the Association of Accounting Technicians (AAT), Google, the Institute of Direct and Digital Marketing (IDM) and other professional bodies.”

<http://www.qualt.com/>

# Everybody's in on it



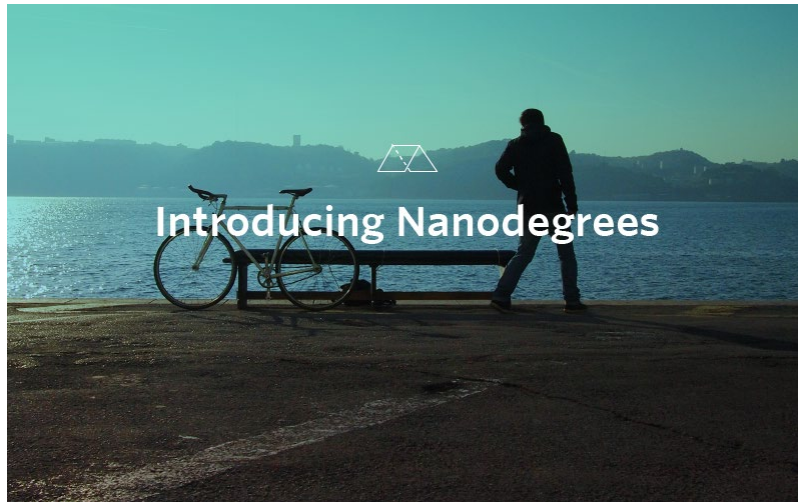
- “(Harvard’s) response is to create a new type of credential, the Credential of Readiness, or CORe, which students can take online.

[http://www.nytimes.com/2014/06/01/business/business-school-disrupted.html?\\_r=0](http://www.nytimes.com/2014/06/01/business/business-school-disrupted.html?_r=0)

- ALT designs and releases badges as part of its ocTEL MOOC
  - It also releases a plug-in
- Badges issued using BadgeOS are now exposed as Open Badges compliant Assertion



<https://newsletter.alt.ac.uk/2014/06/alt-issues-first-open-badges-as-part-of-octel-and-releases-plugin-to-the-community/>  
<http://cogdogblog.com/2014/06/25/to-badge-yourself-or-to-be-badged/>



- Udacity: “Together with AT&T and an initial funding from AT&T Aspire of more than \$1.5 million, we are launching nanodegrees: compact, flexible, and job-focused credentials that are stackable throughout your career.”

<http://blog.udacity.com/2014/06/announcing-nanodegrees-new-type-of.html>



- European Commission: VM Pass
- (Recognition of virtual mobility and OER learning)
- “validation process that is based on combination of peer review and crowdsourcing.”

<http://acreelman.blogspot.ca/2014/06/passport-for-learning.html>

<http://vmpass.eu/>

- College Credentials by Condé Nast
- Writers and editors will contribute subject matter expertise
- The publisher will provide some financial backing to the partnerships



<http://www.insidehighered.com/news/2014/06/03/conde-nast-team-venture-fund-create-college-courses-credentials>



- “...open access to machine-readable representations of learning objectives published by education agencies and organizations including the Common Core State Standards.”

<http://www.achievementstandards.org/>



- Learning Locker
- open source Learning Record Store (LRS) for tracking learning data
- turnkey offering, the Cloud LRS

<http://www.ht2.co.uk/ben/?tag=learning-locker>  
<http://learninglocker.net/>

# The Holy Grail of open learning...



- ... at the moment is finding a sustainable and reliable model for the validation of non-traditional learning. -- Alastair Creelman
- But this makes me ask: do we want to validate the learning, or the *person*?

# Let's remember what the objective was...

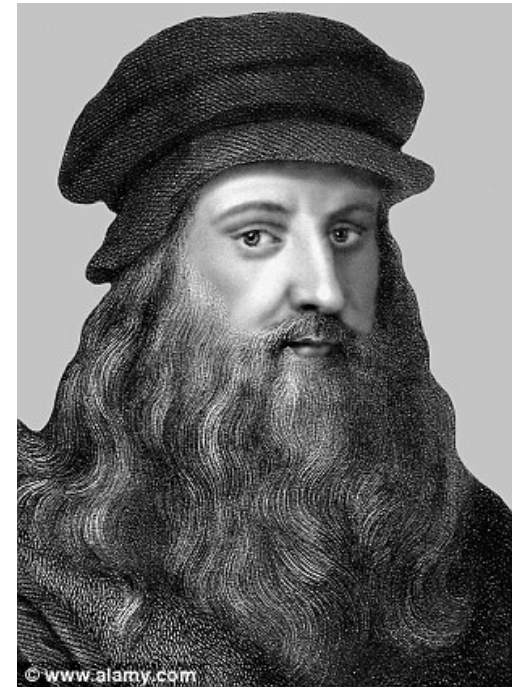


Jobs,  
Skills,  
Gap...

<http://flowingdata.com/2014/07/02/jobs-charted-by-state-and-salary/>

# A basic understanding of understanding:

- I don't really think the answer to "do you understand?" is "let me demonstrate". It's too easy to fake.
- But there's a sense in which knowing is about *doing* rather than some mental state



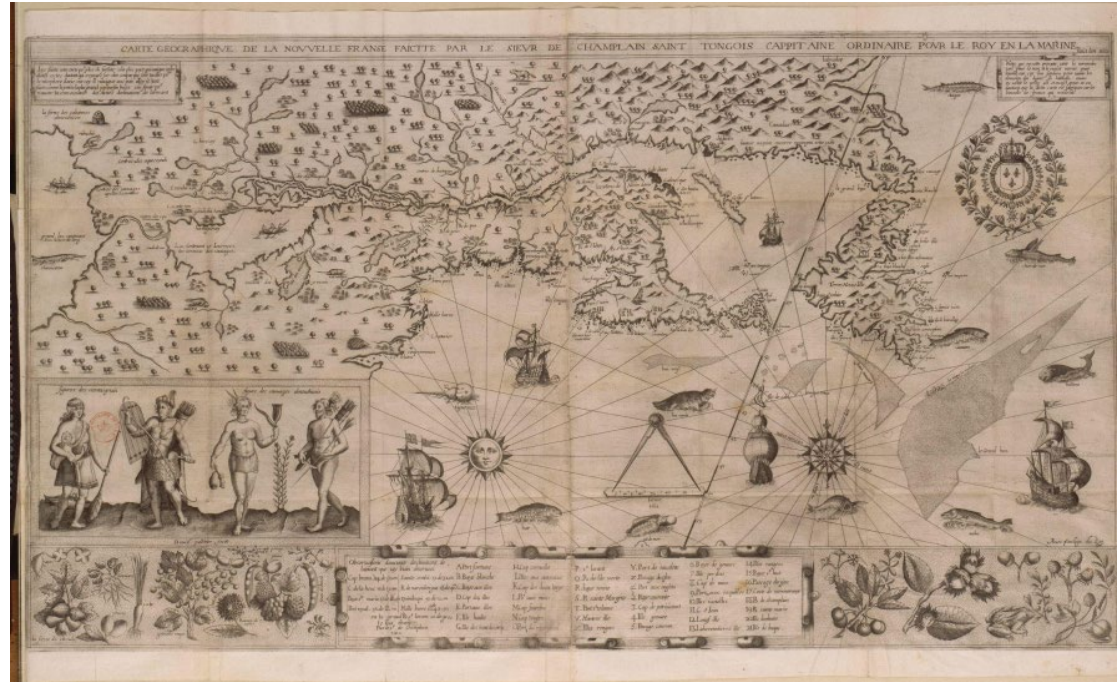
[http://www.academia.edu/611581/On Maturana and Varelas Aphorism of Knowing Being and Doing A Phenomenological-Complexity Circulation](http://www.academia.edu/611581/On_Maturana_and_Varelas_Aphorism_of_Knowing_Being_and_Doing_A_Phenomenological-Complexity_Circulation)

# To know is to *recognize*



- Recognition isn't a mental state, like a belief or an idea.
- It is a physical state - quite literally, the organization of connections - which is manifest as a disposition - the propensity to respond appropriately in an authentic environment

To *do*, in  
other  
words,  
rather than  
to know.



- Theories and concepts can help associate different perceptual states and make us better recognizers. But they are an *aid* to learning, not the objective.

# The secret formula to becoming an e-learning professional (or anything else, for that matter)

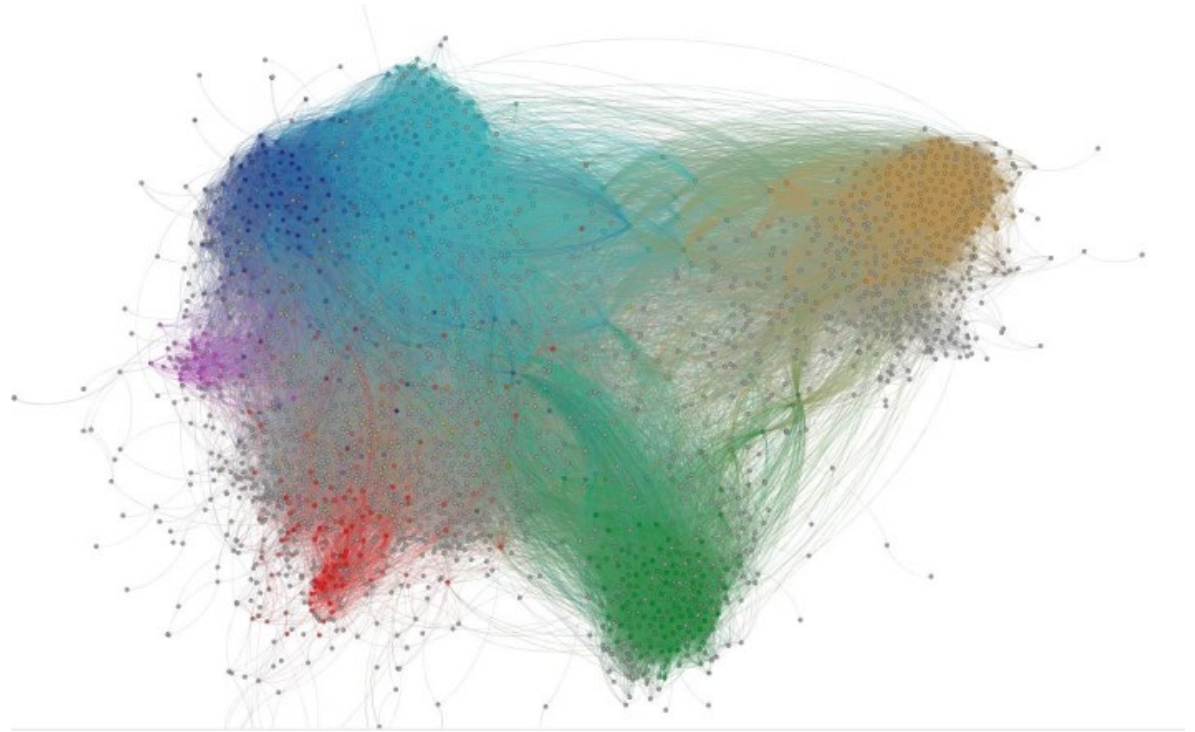


- e-learning pros practice their craft
- e-learning pros show examples of their work
- e-learning pros share what they do and learn

<http://www.articulate.com/rapid-elearning/secret-formula-becoming-e-learning-pro/>

# Here's me showing what I know...

Here's  
my LinkedIn  
network  
showing a lot  
of connections  
in Latin  
America, the  
UK and India



<http://www.bethkanter.org/catechfestla/>

<https://www.facebook.com/photo.php?fbid=10151498446276256&set=pb.513946255.-2207520000.1379085355.&type=3&theater>

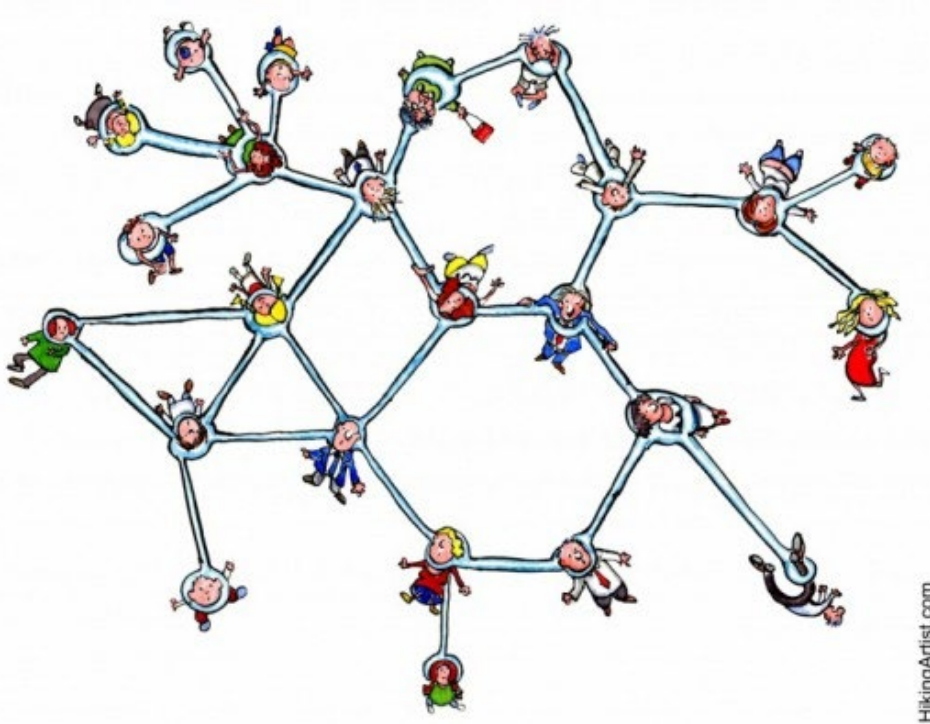
# Add life-logging to learning...



A system called SCROLL (System for Capturing and Reusing of Learning Log). This in turn is based on the LORE model: Log, Organize, Reuse, Evaluate.

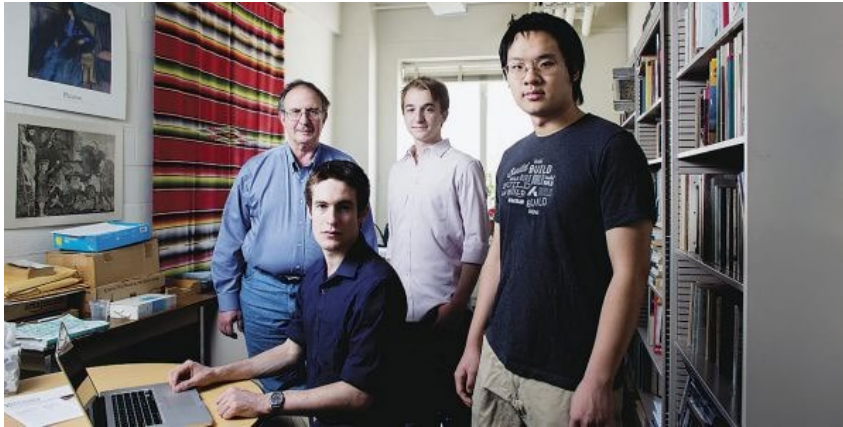
[http://www.ifets.info/journals/17\\_2/8.pdf](http://www.ifets.info/journals/17_2/8.pdf)

# Add learning to the Internet of Everything



"We will have to get skilled at constantly lumping data and things together, then filtering and categorizing the changing landscape."

It's assessment  
based on *public*  
*performance*,  
like an essay  
(and can be  
assessed in the  
same way an  
essay can be  
assessed)



And I know there are  
sceptics about  
machine-graded  
essays, but they're  
wrong

<http://chronicle.com/article/Writing-Instructor-Skeptical/146211/>

<http://vikparuchuri.com/blog/on-the-automated-scoring-of-essays/>

# The machines are fooling you



- with as much as 65 percent of online chatter being generated by bots, chances are you've read or interacted with one.

<http://www.bbc.com/future/story/20140609-how-online-bots-are-tricking-you>

# Grading is a *recognition* task

- This is what neural networks do
- It's how we design and build interfaces for ourselves



- It's how we'll interact with the internet of things

<http://architectures.danlockton.co.uk/2014/04/21/introducing-powerchord-blackbird-edition/>

It's how we're beginning to understand the world now (it's sometimes depicted as 'intuitive' – but it's a language, it's a culture, and we're growing up with it)



That's what Tapscott *really* means (though he might not know it)

<http://www.youtube.com/watch?v=E5umSdiizH0>

We're beginning to  
become sensitive to  
these cues and signals  
we send over the  
internet

'Can I Tweet That?'



<http://www.insidehighered.com/news/2014/06/13/aaup-conference-sessions-focus-academic-freedom-relation-social-media>

Image: <http://www.brucesallan.com/2013/05/24/social-media-social-good-social-media-mistakes/>

We reveal ourselves  
in our messages,  
and others reveals  
their thoughts  
about us in theirs...



- 'She will mock your aspirations then cackle over the remains of your spirit.'
- 'Good lecturer, ugly shoes.'

<http://www.insidehighered.com/news/2014/06/27/amusing-video-has-professors-read-aloud-harsh-student-reviews>

Image: <http://www.entrepreneurs-journey.com/796/how-to-make-millions-selling-ugly-shoes/>

These  
assessments can  
be devastatingly  
personal and  
uninhibited

Discourse online is much  
less inhibited than  
discourse in person.



<http://www.networkedlearningconference.org.uk/abstracts/pdf/rose.pdf>

Image: <http://nyrm.org/?p=76>

# We'll see it in other areas first...



“Use Big Data, crush the numbers in specialized AI software, and soon the narrative of why and how mental health issues appear, of why some students persist and some not, will become clear, predictable and operational.”

<http://www.universityaffairs.ca/how-artificial-intelligence-is-about-to-disrupt-higher-education.aspx>

# Sometimes what we reveal will be involuntary...

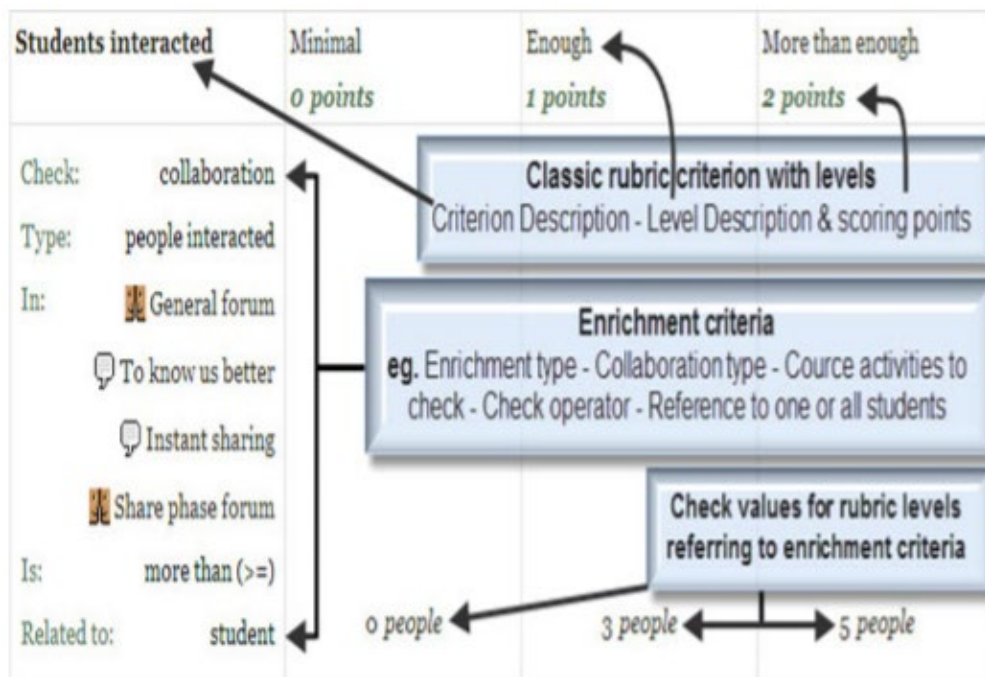


<http://bits.blogs.nytimes.com/2014/06/15/looking-at-link-between-violent-video-games-and-lack-of-empathy/>

Image:

<http://www.shareinator.com/image/10288/>

I experience an  
involuntary shudder as  
though it were *me* about  
to experience that fall.  
It's hard to self-monitor,  
but it *seems* like I'm  
reacting less over time  
to these fail videos.



"a new cloud-based assessment tool, called Learning Analytics Enhanced Rubric (LAe-R)"

These assessment mechanisms are being built into LMSs and will become more sophisticated over time

# People are beginning to raise important questions:

- "methods for exploring the unique types of data that come from educational settings"
- "the intelligent use of data about learner behaviour"
- "data fishing"



<http://newsletter.alt.ac.uk/2014/05/alt-members-views-on-learning-analytics/>

Image: <http://adaptivelearninginelt.wordpress.com/>



The worlds of privacy and analytics intersect (not always happily)

“A right to privacy is neither a right to secrecy nor a right to control but a right to appropriate flow of personal information.”

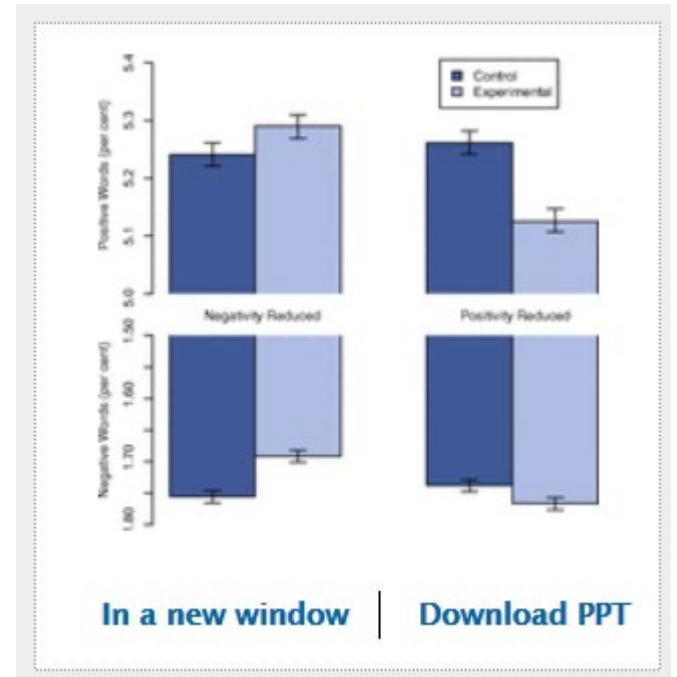
<http://epress.lib.uts.edu.au/journals/index.php/JLA/article/view/3339>

Image: [http://article.wn.com/view/2014/05/07/Privacy\\_Analytics\\_Expands\\_Discovery\\_and\\_Analytic\\_Capabilitie/](http://article.wn.com/view/2014/05/07/Privacy_Analytics_Expands_Discovery_and_Analytic_Capabilitie/)

You probably  
heard about  
this one:

“We show, via a massive ( $N = 689,003$ ) experiment on Facebook, that emotional states can be transferred to others via emotional contagion...”

<http://www.pnas.org/content/111/24/8788.full>



# And you probably heard about the reaction...

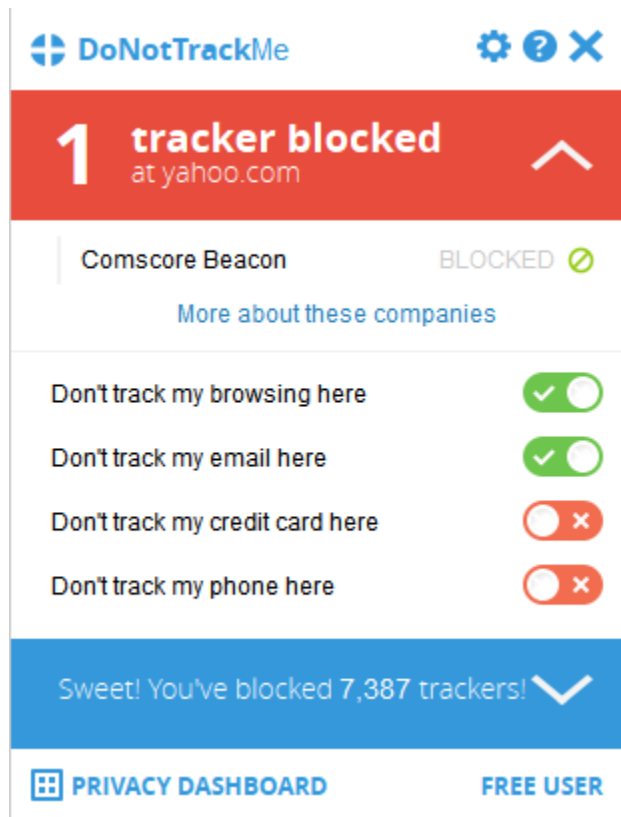


some people  
want to de-  
Facebook.  
They'll be on  
Twitter

<http://www.theglobeandmail.com/technology/tech-news/facebook-psychology-experiment-raises-ire/article19386909/>  
<https://www.facebook.com/audrey.watters?fref=ts>

# It's not just Facebook, though

- Yahoo joins others in dropping 'Do Not Track' citing standards confusion (standards confusion it helped create in the first place)



<http://marketingland.com/yahoo-ditches-track-will-signal-end-privacy-initiative-82384>

# Google is another perpetrator...

They announced in April that they has halted the practice of scanning student Gmail accounts for any potential advertising purposes.

Wait! You mean they *were* scanning student accounts for advertising purposes?



[http://blogs.edweek.org/edweek/DigitalEducation/2014/04/google\\_halts\\_scanning\\_of\\_stude.html](http://blogs.edweek.org/edweek/DigitalEducation/2014/04/google_halts_scanning_of_stude.html)

<http://googleenterprise.blogspot.com/2014/04/protecting-students-with-google-apps.html>

# Sometimes it's accidental

- ... but reveals some really questionable practices
- UVa Law School, for example: the information being collected and distributed to potential employers: grades, class rankings, political affiliation, work experience, recommenders, even information about where their girlfriends live!

<http://chronicle.com/blogs/wiredcampus/emailed-in-error-uva-law-schools-student-spreadsheet-spreads-fast/53133>

<http://abovethelaw.com/2014/06/oops-top-law-school-email-screw-up-reveals-grades-ranks-of-all-clerkship-applicants/?show=comments>

# One option is to delete all our social media accounts

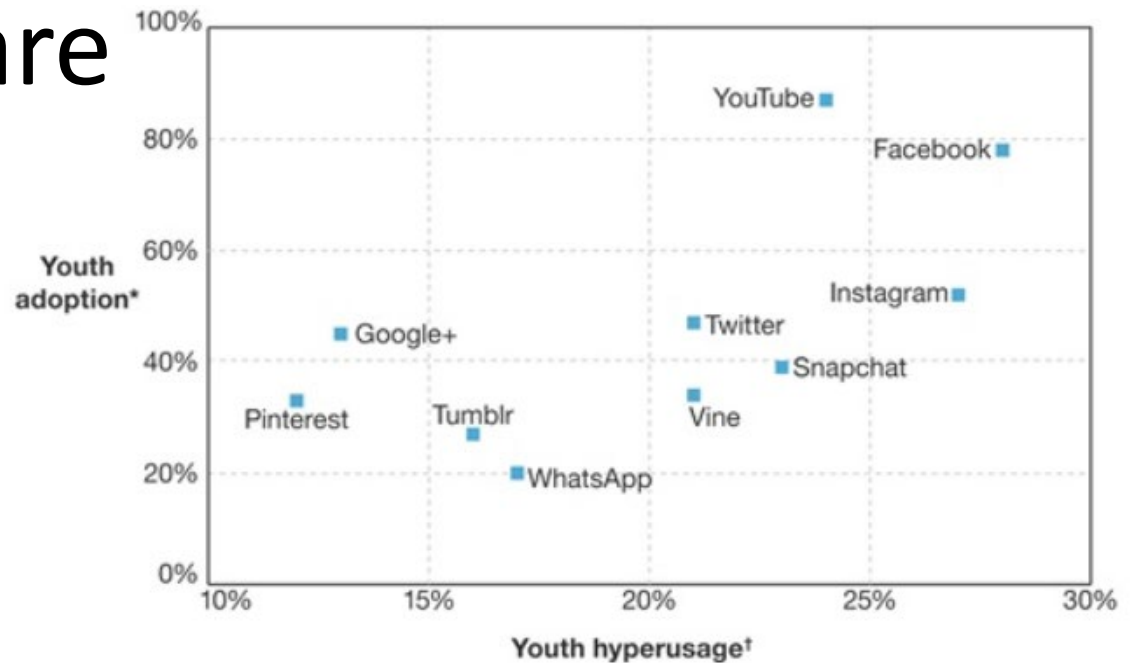
Heather Bussing: "I don't agree to their Terms of Service, and I don't need LinkedIn enough to put up with it."

<http://www.elsua.net/2014/05/06/why-i-too-killed-my-linkedin-account/>

<http://www.hrexaminer.com/why-i-killed-my-linkedin-account/>



# But people are not fleeing Facebook: Forrester



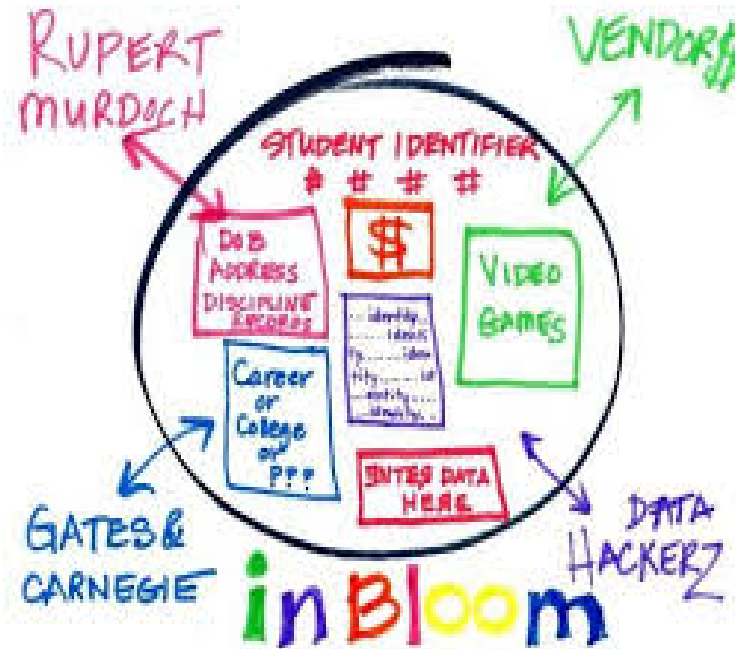
- Of course, that could change
- But for now, more than three-quarters of online youth use Facebook

[http://blogs.forrester.com/nate\\_elliott/14-06-24-facebook\\_still\\_dominates\\_teens\\_social\\_usage](http://blogs.forrester.com/nate_elliott/14-06-24-facebook_still_dominates_teens_social_usage)

<http://www.adweek.com/news/technology/study-teens-are-not-fleeing-facebook-158535>

# But companies are feeling the heat

- A Gates-funded startup is shutting down over privacy and security concerns.
- "InBloom, based in Atlanta, offered to store and synthesize student data"



<http://bigstory.ap.org/article/gates-funded-student-data-group-shut-down>

Image: <http://education-curriculum-reform-government-schools.org/w/2014/04/parents-force-shutdown-of-gates-inbloom-student-data-collection/>



- "The main instrument of inBloom's death was privacy. Because inBloom involved so much student data, privacy concerns began to swirl about, and eventually turned into a tornado."

<http://www.safegov.org/2014/4/28/why-did-inbloom-die-a-hard-lesson-about-education-privacy>

Photo: <http://teachersletterstobillgates.com/>

# (Ironically) The new concern about privacy is called ‘the Snowden Effect’

“No one can deny that countries and regions are putting some strict guidelines in place to ensure privacy of sensitive data that is moving outside of their borders.”

<http://cloudcomputing.sys-con.com/node/3069314>



# The concern for privacy is impacting other aspects of learning



- Lecture capture, for example
- Today, when you attend class, the cameras will be on

<http://www.universitybusiness.com/article/lecture-capture-privacy-please>



One proposal is to ensure  
that common spaces are  
public spaces, and not  
privately owned...

“Perhaps it’s time for governments to stop  
fawning over billionaires with technical skills and  
start providing services for all of us..” - Belshaw

<http://doughelshaw.com/blog/2014/04/23/software-with-shareholders/>

# The real answer is personal privacy



- And there *is* a clear indication that this is what people want
- For example, on the German crowdfunding site Seedmatch... an 'NSA-proof' private server project raised 750,000 euros in just 89 minutes

<http://rt.com/news/163968-nsa-proof-server-crowdfunding/>

# People are moving to privacy-securing social networks

- Privatext, TigerText, [L] [SEP] Whisper, Mark Cuban's Cyber Dust, and so on.
- Another one with good press is Ansa
- There's also Omlet, an "open mobile social network."
- And let's not forget Diaspora, which has a user base of about 200,000.



<http://www.inc.com/magazine/201407/ceo-of-wickr-leads-social-media-resistance-movement.html>

# Elements of the new system of assessment:

- Personal servers
- Public and private social networks
- Identity management

These are all being developed today



# Personal production feeds into content networks, which act as human-assisted quality filters



- Not just curation – but a process where readers engage with authors' work, draw links, demonstrate relevance

<http://theedublogger.com/2014/06/12/curation/>

Professions will coalesce around online communities, open-ended networks where links between members can be discerned

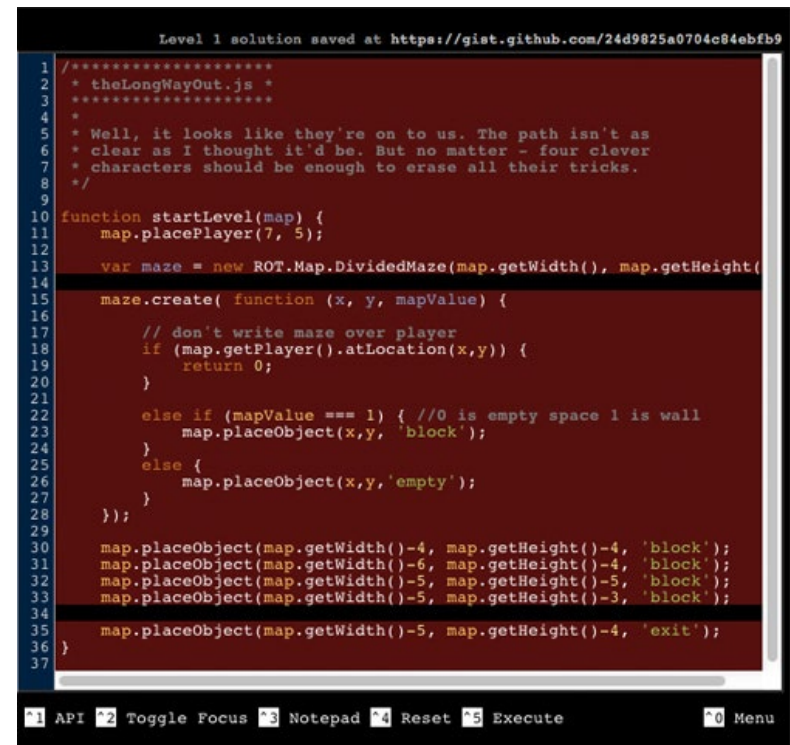


For example, the launch of Google Educators Groups. This is a program made up of communities of educators who can connect with each other to learn, share, and help each other.

<http://educationaltechnologyguy.blogspot.ca/2014/06/google-announces-google-educator-groups.html>

These will resemble communities of practice... but just as easily could resemble games

For example, Untrusted: the idea is to escape. But to do so, you have to go into the Javascript that defines the maze and edit the code.

A screenshot of a code editor window titled "Level 1 solution saved at https://gist.github.com/24d9825a0704c84ebfb9". The code is in JavaScript and defines a function `startLevel` that sets up a maze. The maze is created using the `ROT.Map.DividedMaze` class. The code includes comments and logic to place the player, walls, and an exit. The editor has a dark theme and a sidebar on the left showing file explorer icons.

```
1  /*****  
2  * theLongWayOut.js *  
3  *****/  
4  *  
5  * Well, it looks like they're on to us. The path isn't as  
6  * clear as I thought it'd be. But no matter - four clever  
7  * characters should be enough to erase all their tricks.  
8  */  
9  
10 function startLevel(map) {  
11   map.placePlayer(7, 5);  
12  
13   var maze = new ROT.Map.DividedMaze(map.getWidth(), map.getHeight());  
14  
15   maze.create( function (x, y, mapValue) {  
16  
17     // don't write maze over player  
18     if (map.getPlayer().atLocation(x,y)) {  
19       return 0;  
20     }  
21  
22     else if (mapValue === 1) { //0 is empty space 1 is wall  
23       map.placeObject(x,y, 'block');  
24     }  
25     else {  
26       map.placeObject(x,y, 'empty');  
27     }  
28   });  
29  
30   map.placeObject(map.getWidth()-4, map.getHeight()-4, 'block');  
31   map.placeObject(map.getWidth()-6, map.getHeight()-4, 'block');  
32   map.placeObject(map.getWidth()-5, map.getHeight()-5, 'block');  
33   map.placeObject(map.getWidth()-5, map.getHeight()-3, 'block');  
34  
35   map.placeObject(map.getWidth()-5, map.getHeight()-4, 'exit');  
36 }  
37
```

<http://gameswithpurpose.org/untrusted/>

<http://alexnisnevich.github.io/untrusted/>

Artifacts such as conversations  
can be analyzed for meaning  
and word use



all interviews, even (perhaps especially) those used in research, should have three participant: interviewer, interviewee, and a third 'audience' or 'observer' person

<http://www.wiziq.com/class/info.aspx?7P2M2COncN/5Xs/5ivC1NIYJsTEBRRTThQITIBdbg4QqeIUDbnj0i6HRES9H+M/IUe7Jne36hcQtRp28qgh9wx/QIHMhCcypz0nRi38B1PjA6lxDLzZL/Gz/u2pDyWshI>

Image: <http://80000hours.org/blog/109-should-we-stop-interviewing-people>

# Assessment of the future will redefine 'body of work'

And that will be a good thing



<http://celt.uwindsor.ca/ojs/leddy/index.php/CELT/article/view/3981>

Image: <http://hamzakhan.ca/body-of-work-a-decade-of-kanye-west-productions/>



Stephen Downes

<http://www.downes.ca>