

Beyond Institutions: Personal Learning in a Networked World

London School of Economics (9th July, 2014)

Stephen Downes



Economics students are calling for a shakeup of the way their subject is being taught



“The dominance of narrow free-market theories at top universities harms the world's ability to confront challenges such as financial stability and climate change”

Professors meanwhile are still trying to ban laptops from the classroom



- Dan Rockmore: “Our “digital assistants” are platforms for play and socializing”
- The study (comparing taking notes by typing and by hand) should be rejected as irrelevant

Rockmore: <http://www.newyorker.com/online/blogs/elements/2014/06/the-case-for-banning-laptops-in-the-classroom.html>

Talbert: <http://chronicle.com/blognetwork/castingoutnines/2014/06/13/three-issues-with-the-case-for-banning-laptops>



A summary of 225 recent studies, "provides overwhelming evidence that active learning works better than lecture."

<http://www.insidehighered.com/news/2014/05/13/stem-students-fare-better-when-professors-dont-just-lecture-study-finds#sthash.wxiT1GBS.dpbs>

Scott Freeman Metastudy: <http://www.pnas.org/content/early/2014/05/08/1319030111.full.pdf+html>

In fact, pretty much anything works better than the lecture method traditional institutions defend

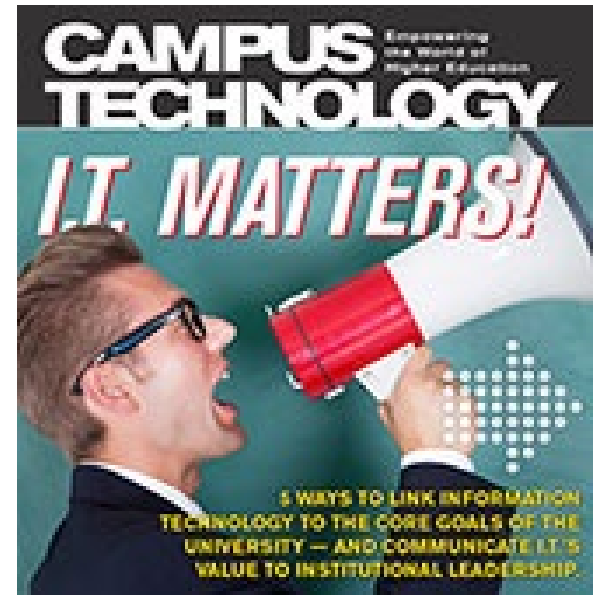


"Everyone knows that knowledge is growing at an increasing depth and an increasing breadth, so you need people which can constantly learn and bridge that gap even while they're in their current jobs." Iyadunni Olubode

http://www.elearning-africa.com/eLA_Newsportal/elearning-africa-keynote-plenary-sessions/

People are looking for learning that is relevant and practical

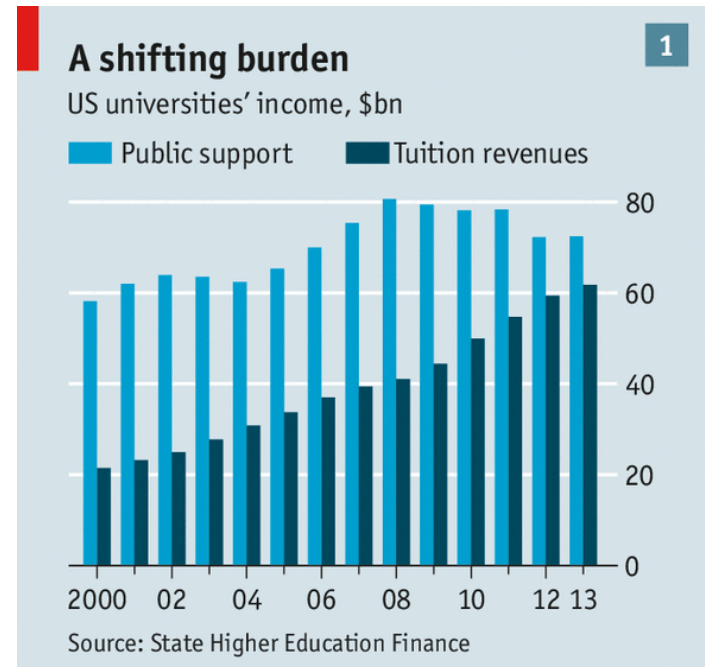
- "students expect universities to be more accessible, flexible and focused on jobs, according to a new survey."
- Of course, it would help if we surveyed *people* and not just students



<http://campustechnology.com/articles/2014/06/09/report-students-expect-future-universities-to-be-flexible-accessible-career-oriented.aspx>

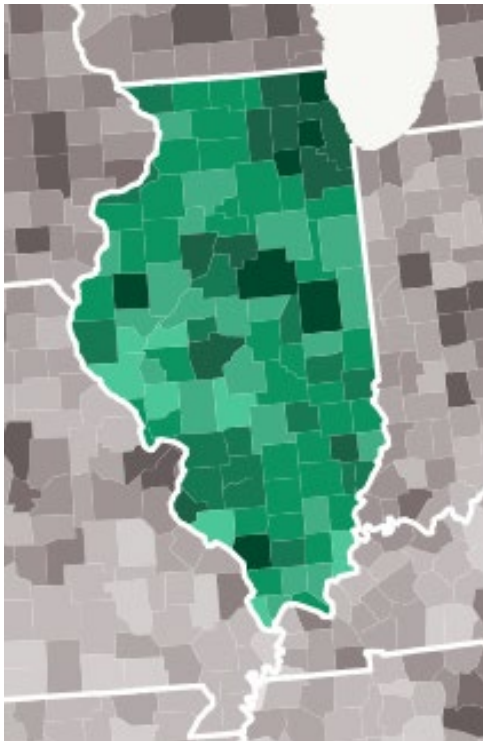
Economists have their own view of what academia needs...

If the Economist says something is good, I begin to worry. And so too with this article touting the destruction of the universities at the hands of the MOOC.



http://www.economist.com/news/briefing/21605899-staid-higher-education-business-about-experience-welcome-earthquake-digital?fsrc=scn/tw_ec/the_digital_degree

Three trends ‘worth watching’ in the higher education space:



- Tiered service models at universities
- Analytics and data-driven management
- Alternative credentials

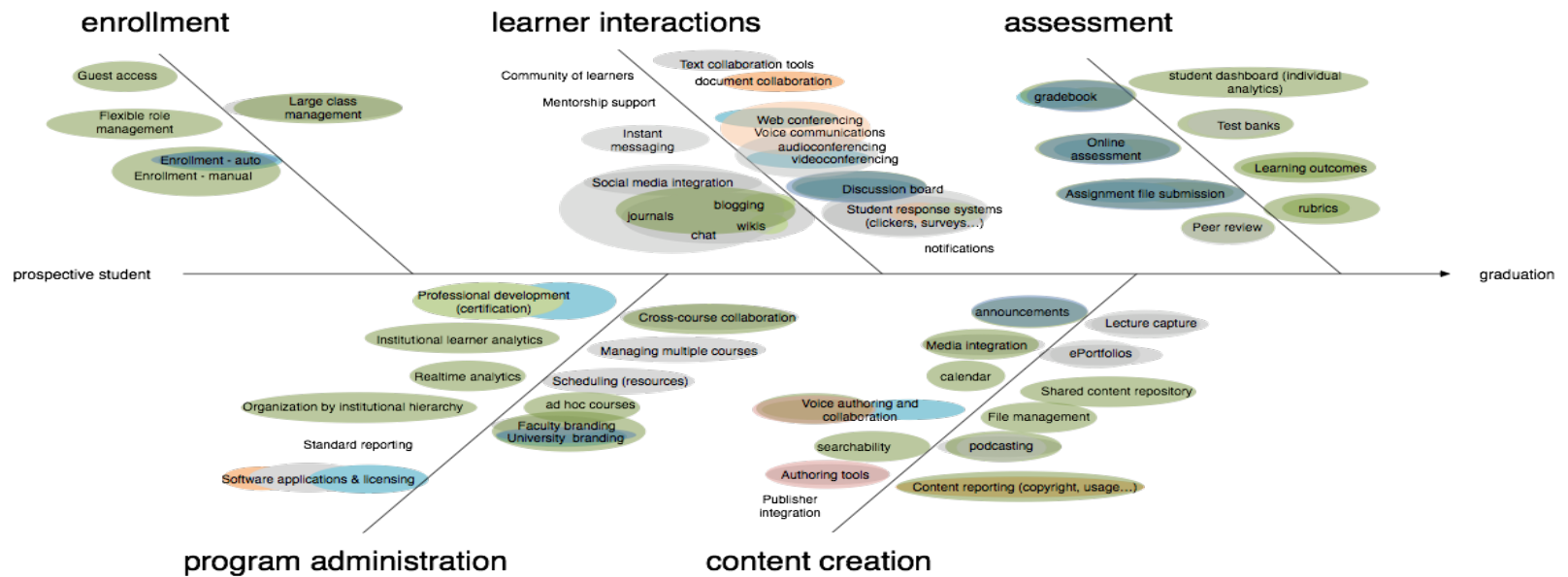
Economics and education – two domains in which *models* prevail

<http://higheredtoday.org/2014/05/05/three-trends-worth-watching-for-continuing-education-leaders/>

Image: “A Stronger Nation Through Higher Education,” Lumina Foundation, 2013. Accessed at

http://www.luminafoundation.org/stronger_nation/report/

A model of the workflow process employed to assist LMS selection



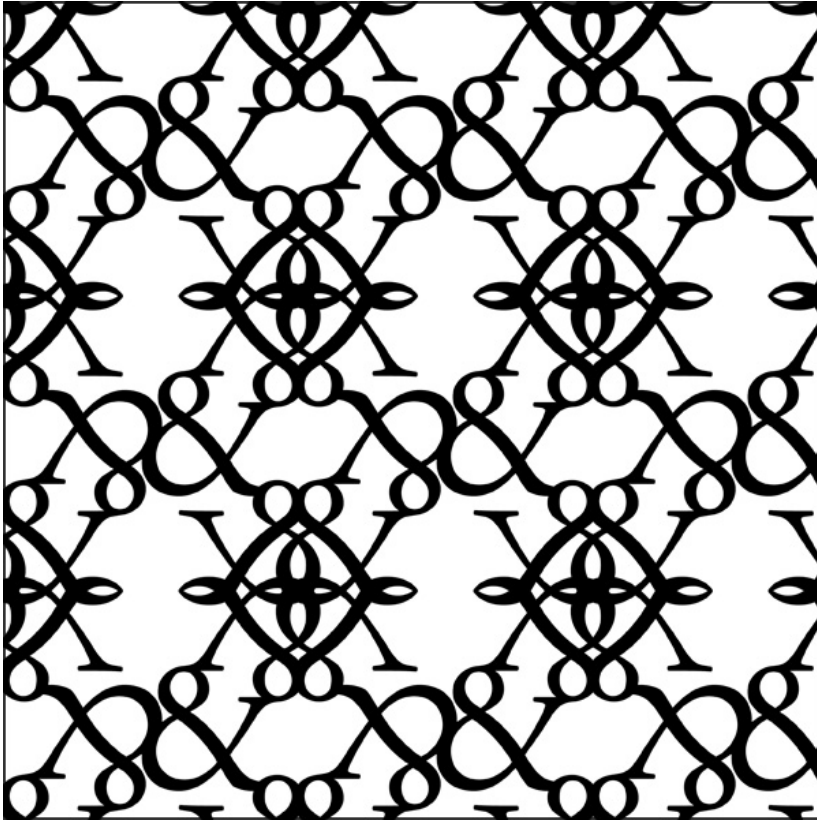
<http://darcynorman.net/2014/05/16/cnie-session-on-campus-engagement/>

A step-by-step guide to LMS selection; a customized list of LMS features

See also the appendix containing 305 questions or features to consider during the selection process.



<http://www.educause.edu/ero/article/selecting-learning-management-system-advice-academic-perspective>



Learning
design
patterns
via Grainne
Conole

“see how a particular pedagogic approach can be migrated successfully across different topics”

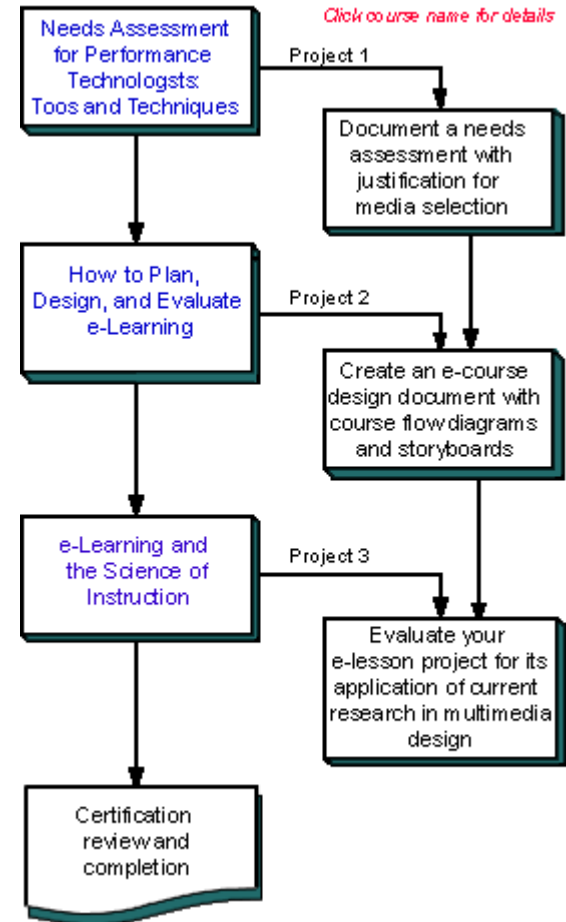
<http://learningdesigner.org/>

“Best Practices” for typical learning tasks

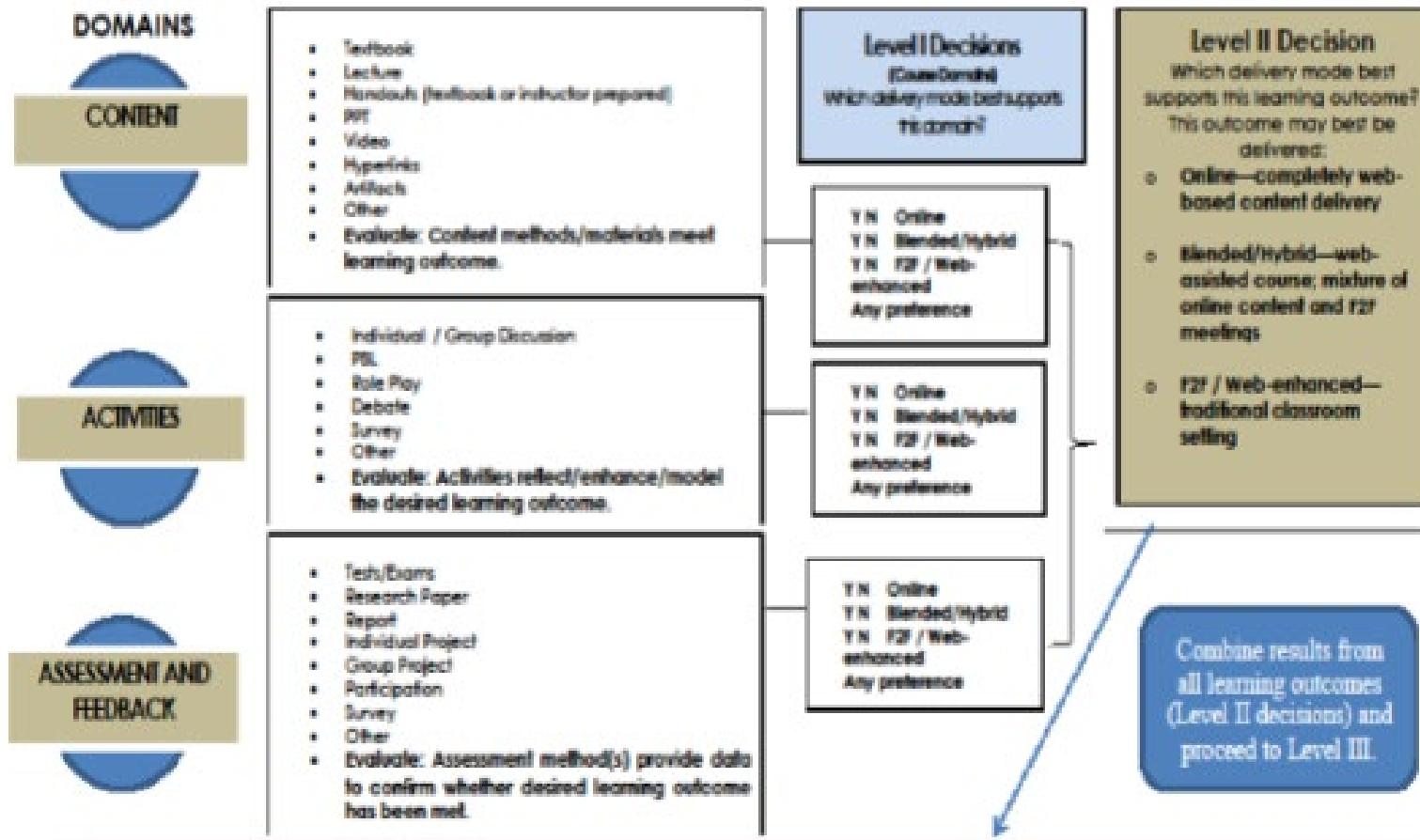
For example, the phenomenon of 'conditional release of material' - that is, showing students course content only after they have reached a certain threshold

http://jolt.merlot.org/vol10no2/fisher_0614.pdf

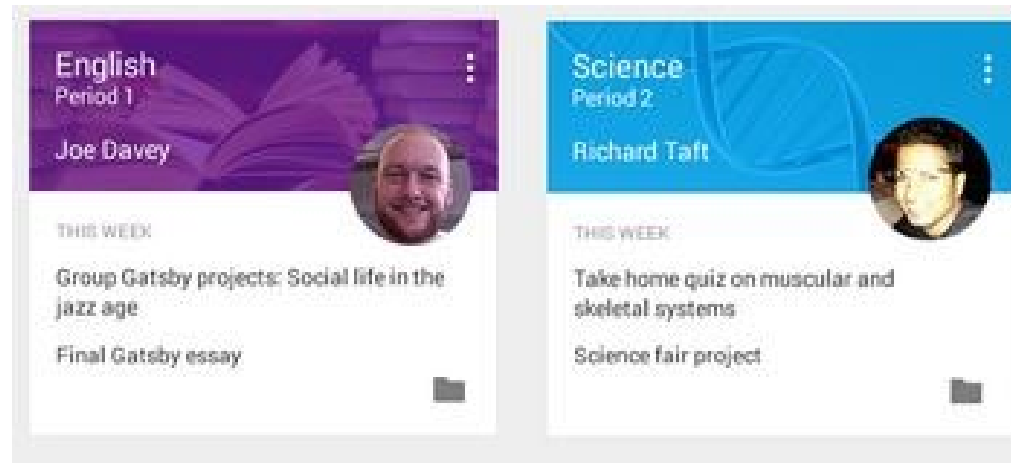
Image: <http://www.clarktraining.com/eLearning.php>



How should I offer this course: the online, hybrid or traditional models...



These models are being implemented as educational technology



Dozens of LMS companies are re-examining their business plans this week after the launch of Google's preview of Classroom, part of the Google Apps for Education suite.

<http://googleblog.blogspot.ca/2014/05/previewing-new-classroom.html>



According to their official blog, Classroom helps teachers:

- help teachers create and collect assignments
- make announcements and ask questions
- create folders for each assignment and for each student.

Image: <http://www.google.com/enterprise/apps/education/>

With models, the answers are determined before the system or simulation is ever run...

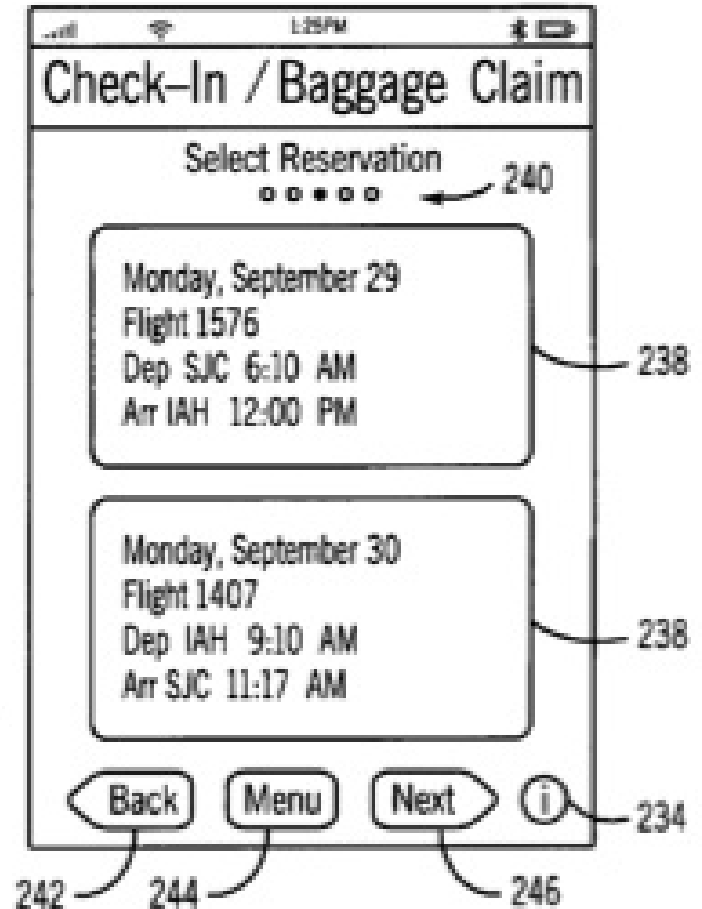


“Carnegie Mellon University received a two-year grant for research on and development of MOOCs platforms '*intelligent enough to mimic the traditional classroom experience*'.”

<http://unescochair.blogs.uoc.edu/blog/2014/06/25/a-goal-for-google-and-carnegie-mellons-mooc-research/>

But it's not new just because you've added "on a computer" to some pre-existing model or idea

- The courts have spoken on this



<https://www.eff.org/deeplinks/2014/06/bad-day-bad-patents-supreme-court-unanimously-strikes-down-abstract-software>

Image: <http://www.macrumors.com/2012/07/10/apple-wins-patent-for-nfc-enabled-it-travel-transportation-ticketing-app/>



“This isn’t simply a matter of forgetting history -- the history of technology or the history of education or the history of ed-tech... It’s a rewriting of history” -
Watters

<http://hackededucation.com/2014/06/18/unfathomable-cetis2014/>

It’s not even new
on a computer...
today’s online
learning models
are yesterday’s
models with new
names

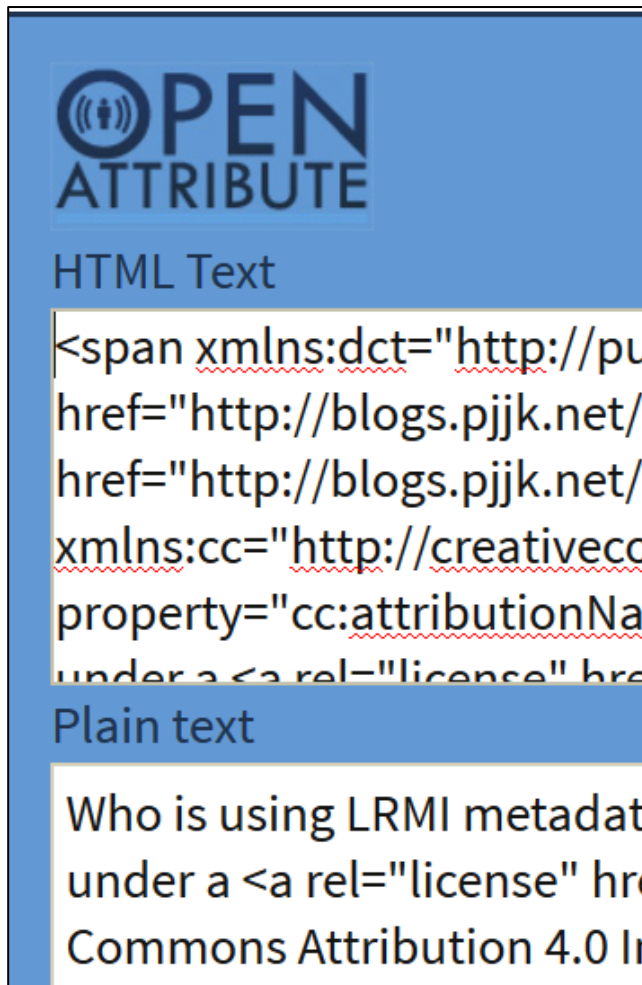
Take, for example, LRMI, a model of learning resources

- You'll recognize AICC, IMS, IEEE-LOM, SCORM, IMS-MLR...



<http://blogs.pjjk.net/phil/lrmi-at-the-cetis-conference-2014/>

And the results are pretty much what you'd expect



The screenshot shows a blue header with the "OPEN ATTRIBUTE" logo. Below it, the "HTML Text" view is selected, displaying a snippet of HTML code with red wavy underlines under the URLs and namespace URIs. The "Plain text" view is also visible below, showing the rendered text of the snippet.

HTML Text

```
<span xmlns:dct="http://pu  
href="http://blogs.pjjk.net/  
href="http://blogs.pjjk.net/  
xmlns:cc="http://creativeco  
property="cc:attributionNa  
under a <a rel="license" href
```

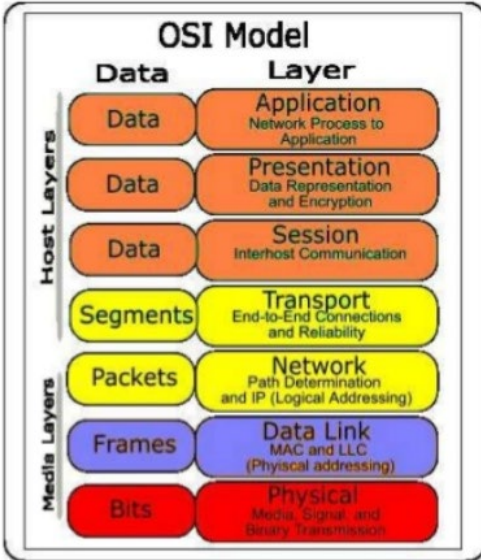
Plain text

Who is using LRMI metadat
under a <a rel="license" href
Commons Attribution 4.0 In

This post offers a short selection of sites where it can be found. Despite Barker's qualification this seems to me to be a very short list.

<http://blogs.pjjk.net/phil/who-is-using-lrmi-metadata/>

New versions of
old models
don't produce
new results



Phil Richards “highlighted the NHS as an example of a sector in which large sums of money had been invested in the development of interoperable systems based on open standards which had failed to deliver.”

<http://ukwebfocus.wordpress.com/2014/06/30/the-city-and-the-city-reflections-on-the-cetis-2014-conference/>

And maybe the 'right model' is to do away with the models altogether

It could be "non-standards based systems, such as "innovative, successful learning technology without standards" such as "Sugata Mitra's 'hole in the wall' work as an example of successful self-organised learning

Jisc

Self-organisation in complex systems

» Sugata Mitra – 'hole in the wall' self-organised learning

» Innovative, successful learning technology without standards?

» Or is the way the system is seeded the *de facto* standard here?



What's
missing in the
standard-
based models-
based
approach is
what we used
to think of as
BAD



- **Bricolage** – the doesn't allow or cater for bricolage.
- **Affordances** – everage the technology to improve learning and teaching.
- **Distribution** – implications for the institutional practice of e-learning."



Weinberger: We don't feel overloaded by the effects of 1.3 million apple pie recipes or 7.6 million cute cat photos. Why not?

We need to question the presumption that we have too much or that it must be organized a certain way

<http://www.hyperorg.com/blogger/2014/05/11/2b2k-in-over-our-heads-my-simmons-commencement-address/>

We're not expected to *master* them. We're expected to pick and choose and apply as needed

Perfect Apple Pie recipe from Pillsbury.com



www.pillsbury.com/recipes/...apple-pie/1... ▾ Pillsbury Company ▾

3 hrs - 230 cal

A classic **apple pie** takes a shortcut with easy Pillsbury® unroll-fill refrigerated pie crust.

Apple Pie Recipe - Taste.com.au



www.taste.com.au/recipes/5008/apple+pie ▾

★★★★★ Rating: 4.5 - 90 reviews

Apple pie recipe - Sift flours and a pinch of salt into a large mixing bowl. Add butter and rub lightly into flour with your fingertips. Lift mixture high above the bowl ...

Scrumptious Apple Pie recipe from Betty Crocker



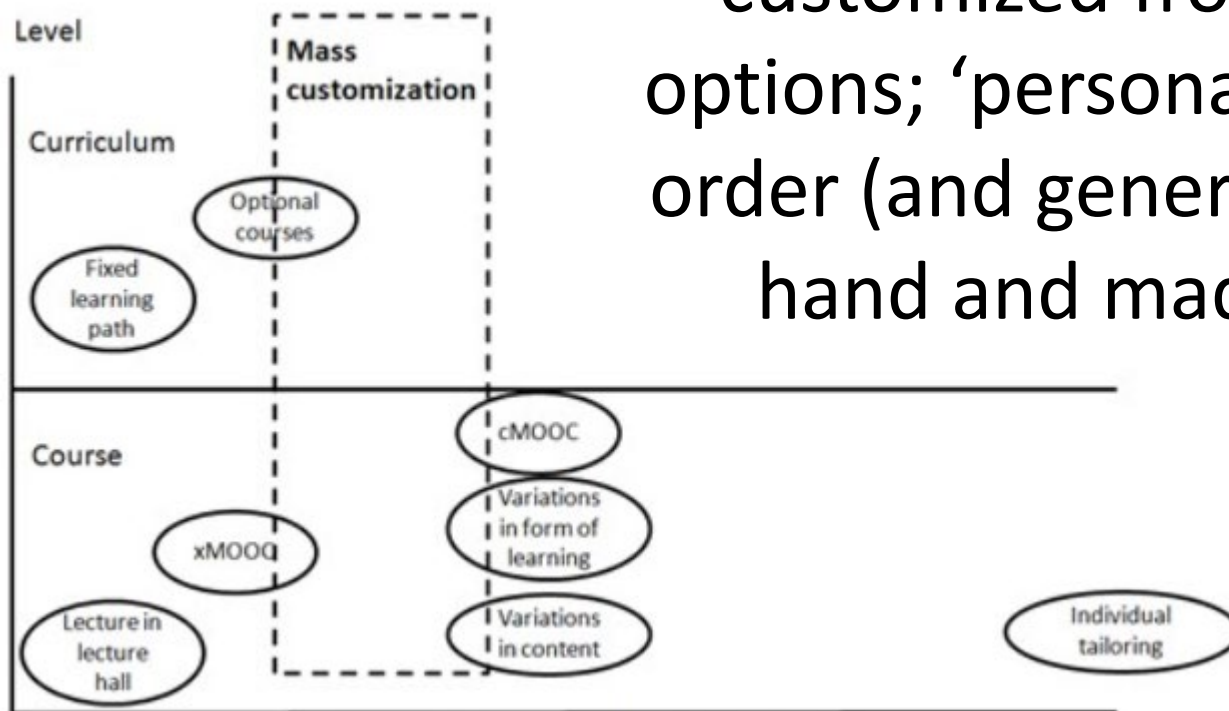
www.bettycrocker.com/recipes/...apple-pie/a4... ▾ Betty Crocker ▾

2 hrs 20 mins - 480 cal

This **apple pie** is a classic, from the scrumptious filling to the flaky pastry crust. of using fresh apples, and you'll shave about half of the prep time off this recipe.

That's the difference between *personal* learning and *personalized* learning

'personalized' is off-the-shelf and customized from a menu of options; 'personal' is made to order (and generally made by hand and made by and for oneself)



Institutions understand *personalized*. But they don't understand *personal*.

- “The widespread adoption of social media among students brings shared interactional practices that does not match university arrangements for learning.
- “This, we argue, invites reappraisal of the framing of established educational practices and the metaphorical work that precedes it.”

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

Autonomy, rather than control, is essential in education



Satel: Control is an illusion and always has been an illusion. It is a Hobbesian paradox that we cannot enforce change unless change has already occurred. Higher status—or even a persuasive presentation full of facts—is of limited utility.

<http://blogs.hbr.org/2014/04/to-create-change-leadership-is-more-important-than-authority/>

Image: Bill Watterson http://en.wikipedia.org/wiki/Bill_Watterson

The design theories are nothing more than abstractions of the actual process, that they are most useful as descriptions of what was done, as opposed to prescriptions of what should be done

- "designers should aim and accept that design is often based on informed guessing."

<http://flosse.blogging.fi/2010/12/27/designing-learning-tools-%E2%80%94-introduction-to-some-methodological-thoughts/>

The *personal* isn't designed. It is

based on
self-
organization



Each bird is actually reacting to the birds nearest to it, that the movement is the result of a series of short-range reactions... one bird's movement only affects its seven closest neighbors.

<http://www.wired.com/2010/06/starling-physics/>

<http://www.pnas.org/content/early/2010/06/11/1005766107.abstract>

The great wildebeest migration is a similarly unplanned event



“There is neither start nor finish to their endless search for food and water, as they circle the Serengeti- Mara ecosystem in a relentless sequence of life and death...”

<http://www.maasaimara.com/entries/great-wildebeest-migration-maasai-mara>

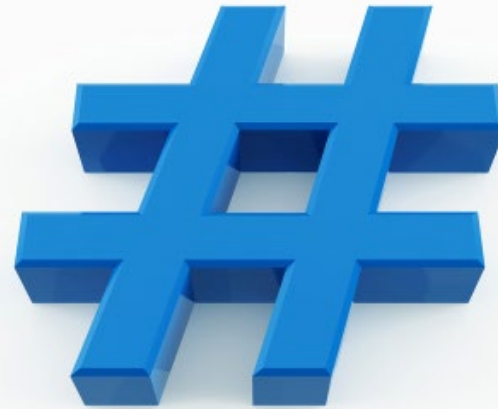
There is no single *cause* of events;
landmark ideas are created by
societies, not individuals



Charles Darwin's grandfather,
Erasmus, was *also* an
evolutionist, as was this man,
Jean Baptiste Lamarck.

<http://hplusmagazine.com/2014/04/24/lamarckian-inheritance-passing-what-you-have-learned-to-your-children/>

Hashtags:
categorizing using
self-organizing
networks rather
than standard
metadata and
ontologies

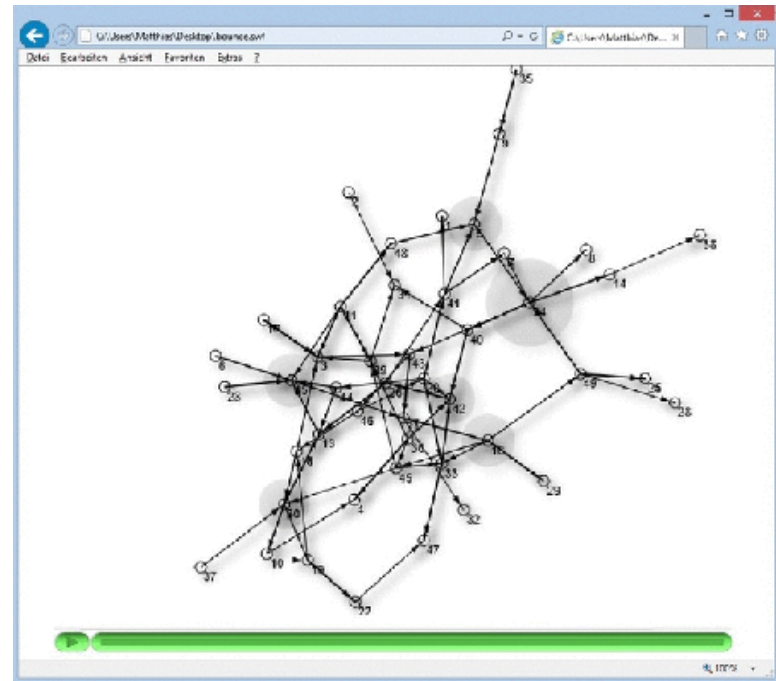


Though commonly
associated with Twitter,
they existed before
Twitter monetized them

<http://tressiemc.com/2014/04/23/another-post-about-hashtags-no-seriously/>

Hashtag networks can be seen as self-organizing ideas

A concept map isn't the same as a network. But *insofar as concepts are dynamic, interacting things* they can and do form networks.



<http://x28newblog.wordpress.com/2014/04/25/conceptual-connections-once-again/>

Mary Meeker...

The rise of mobile, the proliferation of apps... "the edge is becoming more important than the node"

<http://www.businessinsider.com/mary-meekers-2014-internet-presentation-2014-5>

Photo: J.D. Lasica



Students in academia: not the start of a trend, but the continuation of one



Even a search for Ed Tech student panels specifically yields more than 2,000 results. So I think that the trend is well-established;

<http://mfeldstein.com/three-makes-movement-branson-creates-youth-panel-student-voice-ed-tech>

Photo: student Rachel Winston, who gave a keynote address at Alt-C last year

Watters: the future of ed tech is a reclamation project



“We can reclaim the Web and more broadly ed-tech for teaching and learning. But we must reclaim control of the data, content, and knowledge we create.”

<http://www.hackededucation.com/2014/05/22/alberta-digital-learning-forum/>

Photo: <http://siliconslopes.com/2013/06/instructure-co-founder-apis-in-ed-tech-will-provide-open-dialogue/>



Lucy Gray, who saw all of her Slideshare presentations deleted and her account closed without notice or explanation.

We are not
resources to be
mined. Learners
do not enter our
schools and in
our libraries to
become products
for the textbook
industry

Known

“You can still share selfies, make friends, listen to music together and share links, but now you do it in a space that's really yours, and that you get to have more control over.”

<http://werd.io/2014/how-were-on-the-verge-of-an-amazing-new-open>



<http://withknown.com/>

#indieweb

The silos of today will become the syndication endpoints of tomorrow

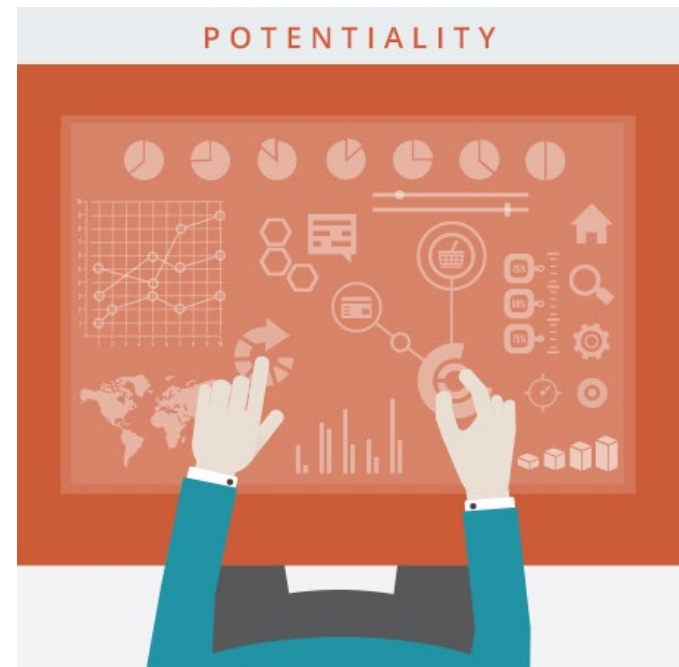


- Publish (on your) Own Site, Syndicate Elsewhere”... The POSSE antimodel - promoted here through everything from #indiweb to Diaspora to app.net to syndication itself - that we've been taking about here for years.

<http://opencontent.org/blog/archives/3393>

Photo: http://education-portal.com/articles/Interview_with_David_Wiley.html

“Starting now. A technology that allows for limitless reproduction of knowledge resources, instantaneous global sharing and cooperation, and all the powerful benefits of digital manipulation, recombination, and computation...” – Jim Groom



<http://www.educause.edu/visuals/shared/er/extras/2014/ReclaimingInnovation/default.html>

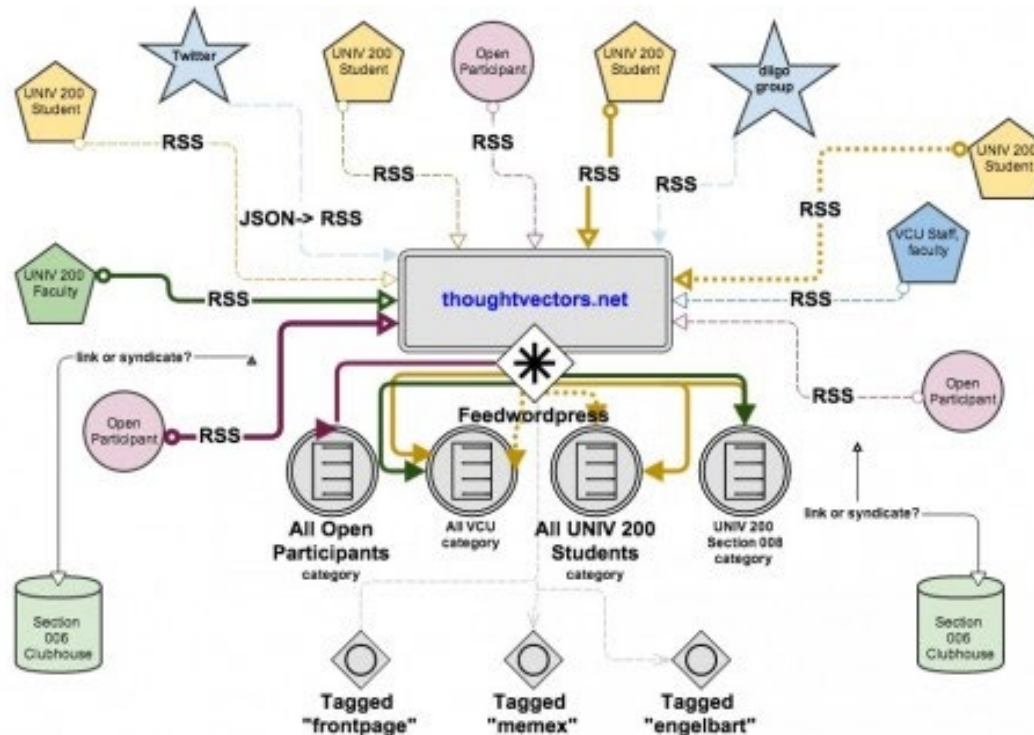
Learning reclaimed is network learning...

For example, Adapt Learning to develop a freely available authoring tool for ~~organisations~~ *people* that wish to develop their own responsive e-learning content..”



<https://community.adaptlearning.org/>

That's what we were building when we were building something like this...



How to set up cMOOC-style website for your class

<http://cogdogblog.com/2014/06/09/under-the-hood/>

Some of the technology behind the reclaimed web...



- “digital tools that will make it easier for readers to post comments and photos on news sites and to interact with journalists and each other.”

http://www.washingtonpost.com/lifestyle/style/washington-post-new-york-times-and-mozilla-team-up-for-new-web-site-comment-system/2014/06/19/fa836e90-f71e-11e3-8aa9-dad2ec039789_story.html

Image: <http://blog.wan-ifra.org/2014/06/23/washington-post-and-new-york-times-collaborate-with-mozilla-to-improve-online-comment-cul>



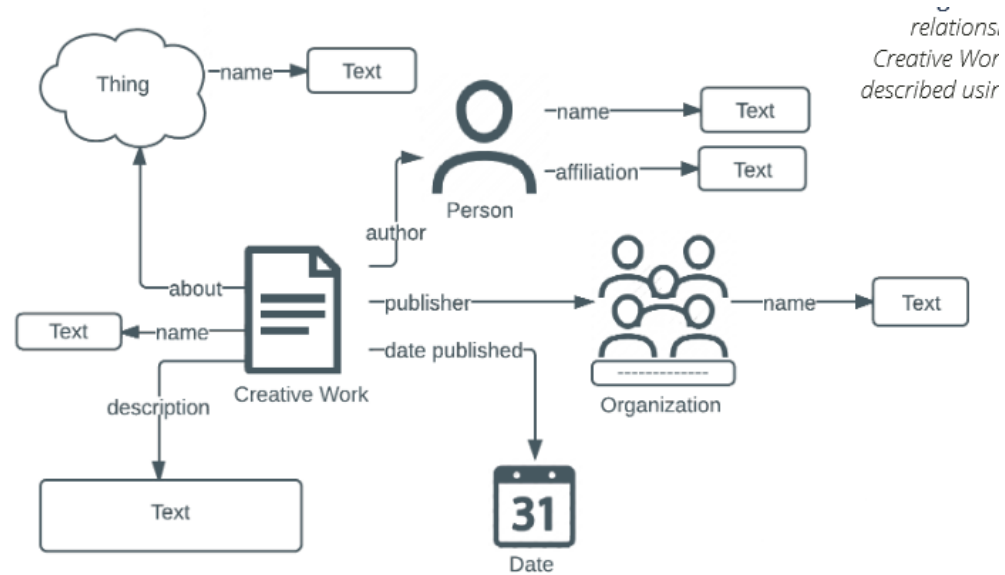
Toolset: the Distributed Developer's Stack (DDS)

- they're built on distributed computing. Coursera, for example, relies on Amazon Web Services (AWS).

<http://radar.oreilly.com/2014/05/beyond-the-stack.html>

Schema.org – making it easier for search engines to index your site

- a joint initiative of the search engines Google, Bing, Yahoo and Yandex
















An app store for server software

- Install your favorite applications in your own servers or run them in the cloud.

Applications

Bitnami is an app store for server software. Install your favorite applications in your own servers or run them in the cloud. Select one app to get started or learn more about what makes Bitnami special.

Search.. 

All	 WordPress Blog	 Joomla! CMS	 Redmine Bug Tracking	 Drupal CMS	 Ametys CMS	 WAMP Stack Infrastructure
Popular						
Recently Updated						
Infrastructure						
Cloud Tools						
Accounting						
Analytics						
Binary Repository						
Blog	 CraftBukkit Minecraft Games	 Moodle eLearning	 Cloud Tools for Google Cloud Platform	 Magento e-Commerce	 ProcessWire CMS	 ownCloud Media sharing

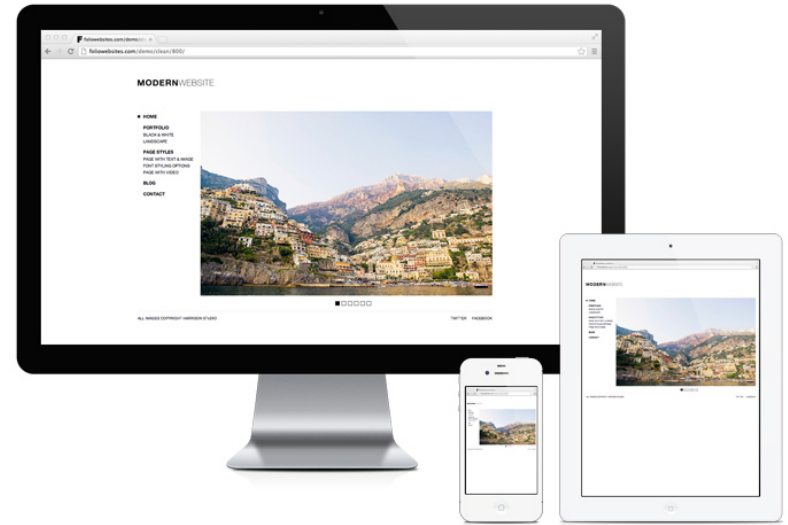
<https://bitnami.com/stacks>

Take back your data from Google



- "a personal web server preloaded with open source software that lets you run your own web services from your home network."

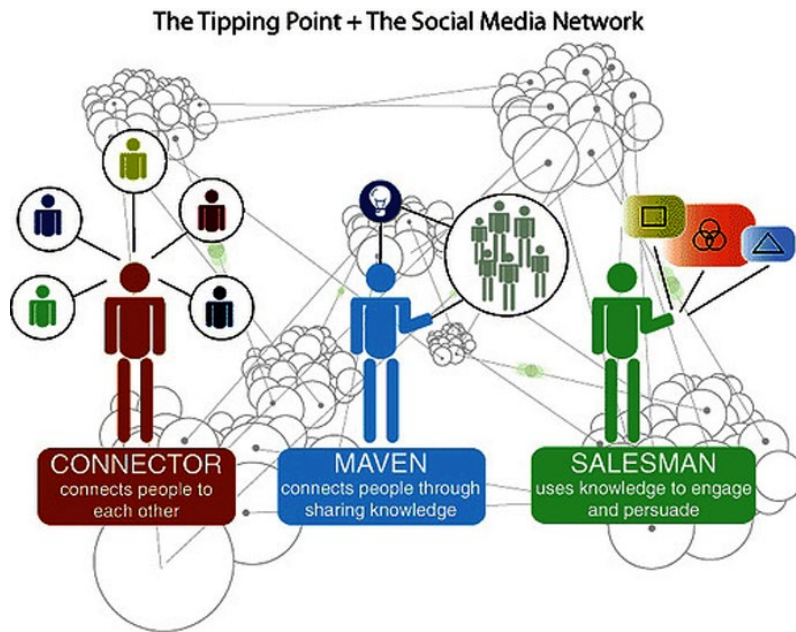
QR codes, open search, Windows Live tiles, touch icons for mobile and android, RSS autodiscovery, humans.txt – these are features of the modern website



<http://www.labnol.org/internet/improve-website-tips/5007/>

Image: <http://foliowebsites.com/portfolio/modern/>

How this changes learning: the theory of connectivism



“Connectivism repositions media as a type of content, in that media, as tools of cognitive engagement, have the potential to transform the content of learning.”

<http://kelliralph.wordpress.com/2014/05/24/connectivism-informing-distance-education-theory-pedagogy-and-research/>

Image: <http://www.edrev21.com/2012/07/27/150/>

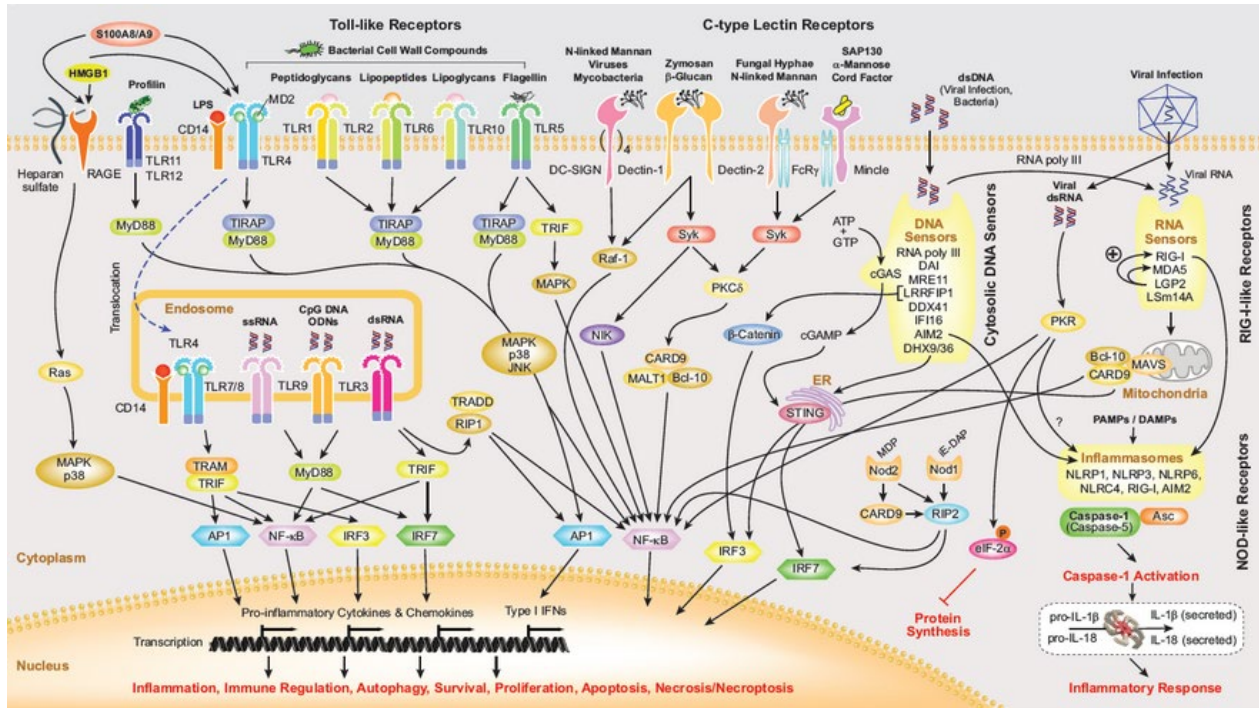
What's the connection between social networks and neural networks?



- The Siemens answer is multimodal extension. The networks reach out and integrate with each other.

<http://x28newblog.wordpress.com/2014/05/01/visualizing-my-understanding-of-connectivism/>

Image: http://www.pcworld.com/article/239125/google_plus_day_24_is_google_plus_a_more_engaging_social_network.html



- The Downes answer: pattern recognition. One network perceives patterns in another network and *interprets* or *recognizes* these patterns *as* something.

<http://www.journals.elsevier.com/pattern-recognition/>

Image: <http://www.adipogen.com/media/Catalogs/Pix/Pattern Recognition Wallchart Pix.PNG>

Connectivism as a learning theory



Cain writes, "for me, a theory must

- account for current theories
- sufficiently explain where we are now
- make predictions
- be subject to testing."

<http://cain.blogspot.ca/2014/04/why-connectivism-is-learning-theory.html>

Image: [Shira Golding http://cain.blogspot.ca/2013/07/oer-possible-resources-for-biology.html](http://cain.blogspot.ca/2013/07/oer-possible-resources-for-biology.html)

Connectivism's response: researching the MOOC

- The MOOC was developed by Siemens and myself to instantiate the principles of connectivism
- Our courses were designed as networks, testing both aspects of our theories

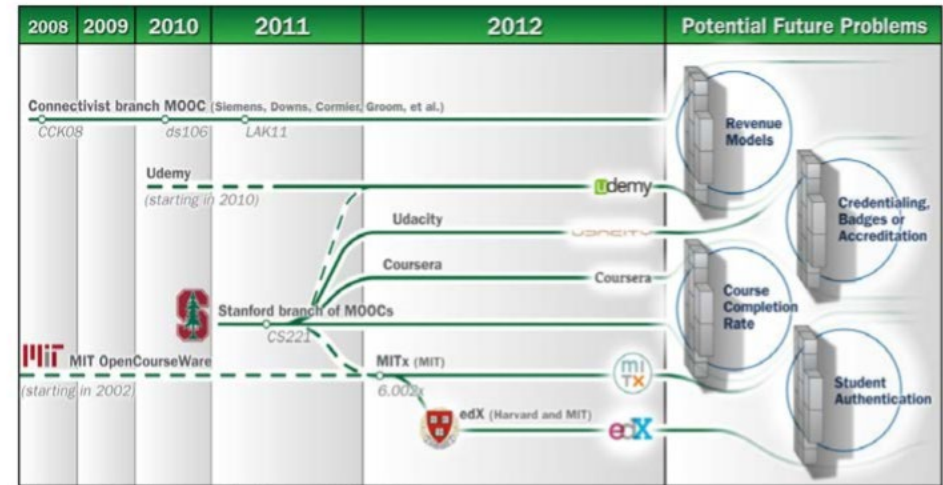


George Siemens (Photo credit: [heloukee](#))

http://jolt.merlot.org/vol10no1/fournier_0314.pdf

<http://cain.blogspot.ca/2012/10/moocs-and-connectivist-instructional.html>

Participants' perceptions in MOOCs



"creating networks and developing professional connections through networking technologies are advantages of participating in cMOOCs"









http://jolt.merlot.org/vol10no1/saadatmand_0314.pdf

Image: <http://mfeldstein.com/four-barriers-that-moocs-must-overcome-to-become-sustainable-model/>

Where to now? The learner at the centre of the networked world

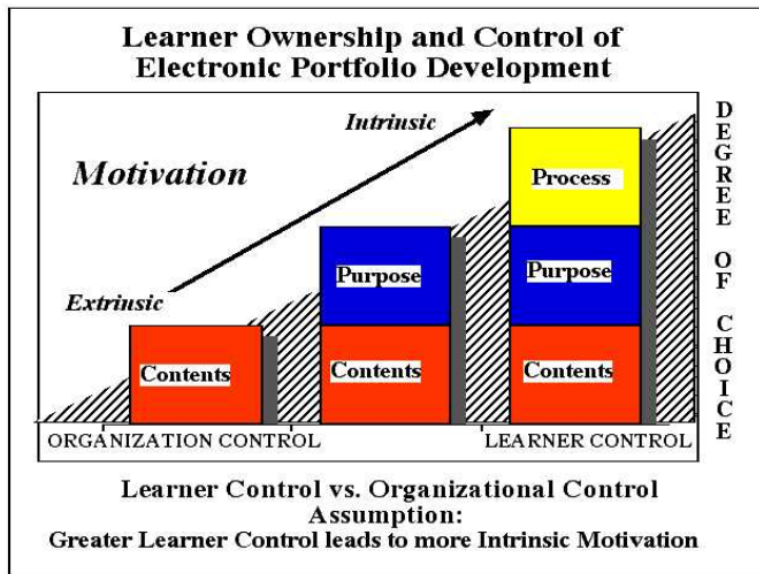
Aspen Institute:

- empower learners to learn any time, any place
- support and guide learners in a networked learning environment
- interoperability across learning networks

	GOVERNMENT
	PARENTS
	EDUCATORS
	SCHOOL DISTRICTS & LEADERS
	STUDENTS
	FOUNDATIONS
	NON PROFITS
	BUSINESSES

Learner control has moved beyond computer assisted programs...

“towards authentic learning contexts mediated by technology in which the learner may have a greater control of either tangible or intangible elements of a learning environment”



Utopia
developer
Steve
Pettifer



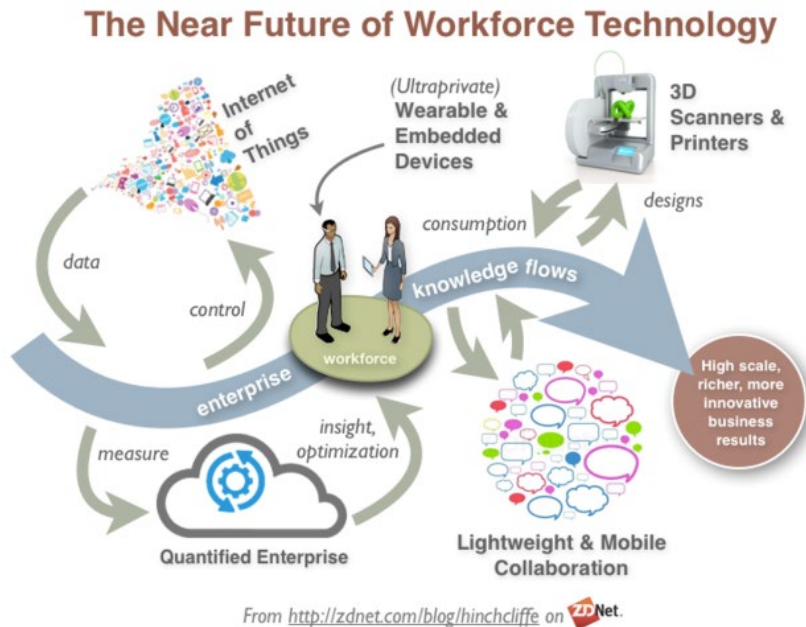
Reading and
networking
will become
one and the
same thing

for instance, when a document in Utopoa is opened, "a sidebar opens up on the right-hand side and fills with relevant data from external databases and services like Mendeley, SHERPA/RoMEO, and Wikipedia."

<http://poynder.blogspot.co.uk/2014/06/interview-with-steve-pettifer-computer.html>

Connective learning technology is already transforming the workplace

“Combine ambient data on just about any physically manufactured object with pervasive wearable technologies that constantly present us with dashboards, notifications, analyses, and visualizations of all this data...”



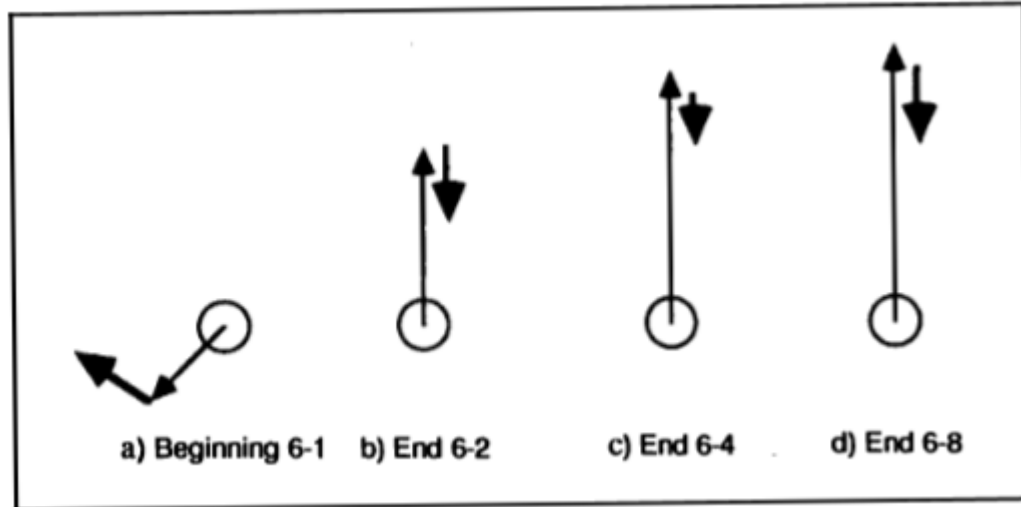
Teams and collaborations will be transformed into networks and cooperatives

- For example, the "oscillation principle" where developers meet three times a year for three days.
- The rest of the time "team members are ... using various forms of social media.

<http://www.nancydixonblog.com/2014/05/-proquest-case-study-using-the-oscillation-principle-for-software-development.html>

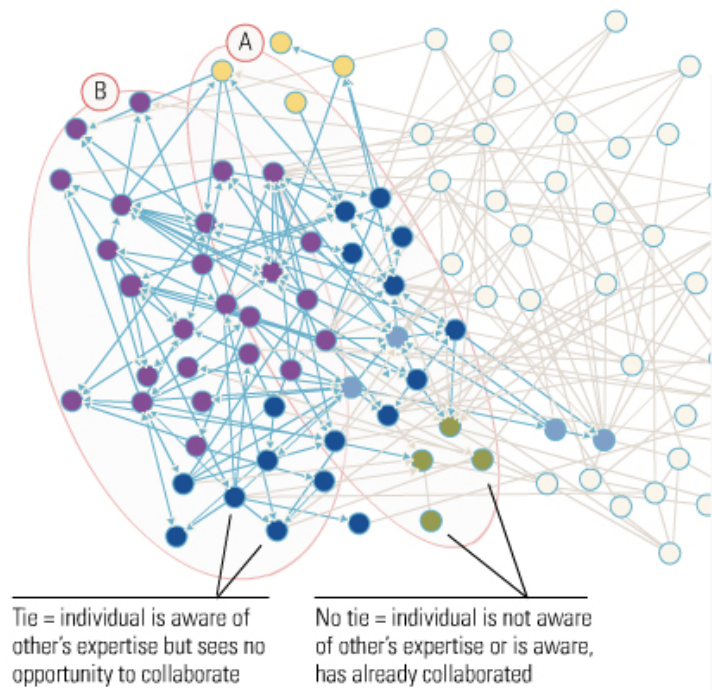


Interactions in a problem space



“Cooperative work is accomplished by the division of labour among participants, as an activity where each person is responsible for a portion of the problem solving.”

Individuals were asked to identify people whose expertise they knew about but with whom they saw no opportunity to collaborate. The resulting network map illustrates those *potential but missed opportunities*.



In cooperation,
we no longer
share models,
designs, visions,
goals, or
objectives

- "virtual distance had significant influences on trust, goal clarity and OCB and indirectly influenced innovation and success."

Axelrod: Cooperation does not require centrality, commonality, management, control or even trust



- It requires only a durable relationship... a network infrastructure
- Which is a good thing, because my most useful cooperations are with those I trust least

Cooperation means
working with others
without all the
overhead



“Cooperation can be achieved if all participants do their assigned parts separately and bring their results to the table; collaboration, in contrast ... involves negotiations, discussions, and accommodating others’ perspectives.”

<http://www-ee.stanford.edu/~hellman/Breakthrough/book/pdfs/axelrod.pdf>

Image: <http://www.pinterest.com/explore/overhead-projector/>

The new skills are network skills



You need to understand the real meaning of such arcania as lists, loops and APIs.

<http://onlinejournalismblog.com/2014/05/09/coding-for-journalists-10-programming-concepts-it-helps-to-understand/>



People forget about Codecademy... 'the other MOOC'

"The problem with MOOCs, according to Codecademy founder Zach Sims, is that they simply try to replicate the offline learning experience. The web presents the opportunity to learn in an entirely new way, he says."

<http://tech.fortune.cnn.com/2014/04/23/with-24-million-students-codecademy-revamps-its-offerings/?section=magazines> fortune

People, passion and play



Nicholas Negroponte, Alan Kay, and Marvin Minsky and Mitchel Resnick

The Media Lab model of "projects and peers and passion and play" grew out of Papert's work

<http://www.media.mit.edu/video/view/spring14-2014-04-24-4>

The Superuniversity

- We are being told “future universities will be rewarded by governments for their performance in economic development, employability of graduates, immigration and commercialisation of research.”



One slide points out that universities have survived since the 16th century "because societies need them."

What Is that what we need?

- More designs and models?
- More standards and measurement?
- More centralization and control?
- The same mistakes, repeated again?

It is worth asking at this juncture exactly what it is that societies need



The citizens of Leiden famously opted for a university as a reward from William of Orange instead of the economic advantage of tax-free status. The citizens of Tübingen famously rejected industrial development in favour of remaining a university city.

<http://law.leiden.edu/elmc/lu/leiden-university.html>

<https://www.uni-tuebingen.de/en/university.html>

We have an alternative
for today's society
We can reclaim
learning



Image: <http://bavatuesdays.com/reclaim-hosting-is-live/>

We are moving
beyond institutions...
toward a cooperative
knowing society based
on network knowledge



activities that will promote
extending learning beyond
formal education.

<http://www.educationfutures.com/2014/05/01/building-a-knowmad-society-in-ecuador/>

There is this tendency to suggest that the number of universities will dwindle to a very few. But in fact, universities will proliferate. They will be accessible and available, and number in the hundreds of thousands, not in the dozens. What will change is that *universities will no longer be bastions of privilege and elitism.*



<http://halfanhour.blogspot.ca/2014/06/new-learning.html>



Stephen Downes

<http://www.downes.ca>