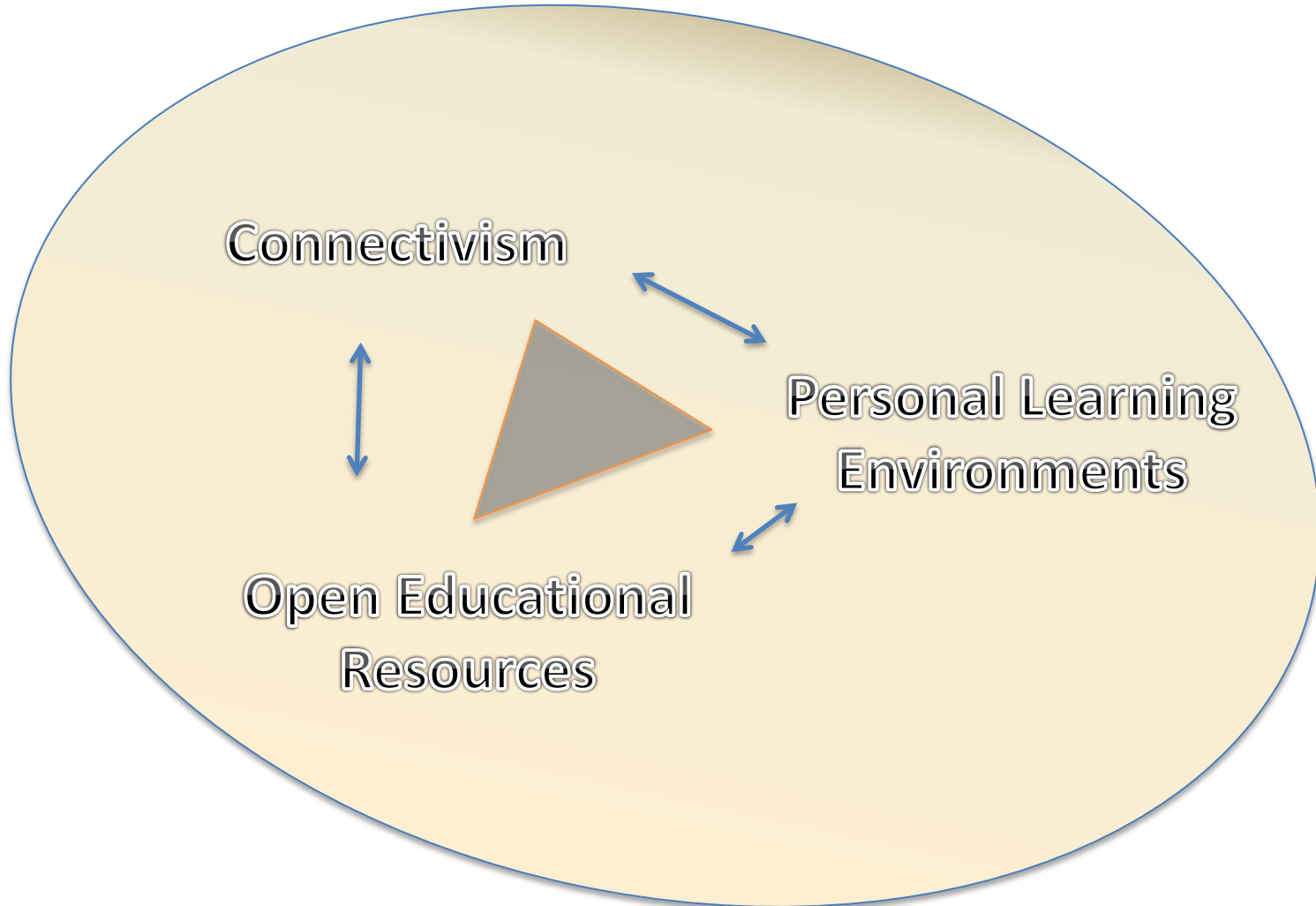




Open educational resources and personal learning environments

Stephen Downes
MSU Online
June 27, 2011

The Thesis





<http://www.support.psi.net/support/common/routers/nethopper/index.html>

Have Network, Will Travel

1996

2006



<http://one.laptop.org/>

One Laptop Per Child



2016?



<http://www.downes.ca/post/55228>



“That's 40,000 books already delivered...”



“A spring of truth shall flow from it”



Revai Meeks, 6, and Easton Meeks, 3, read with their mother Erika Lee at the Belleville Public Library Jan. 20, 2011

Brampton Library tested an Early Literacy Workstation at its South Fletcher's Branch for a two-week period earlier this month. 2007

<http://www.thebramptonnews.com/articles/1524/1/Early-Literacy-Workstation-Fun-for-Kids/Page1.html>



<http://www.qnetnews.ca/?p=5159>

•Consonants:

ㄱ	ㄴ	ㄷ	ㄹ	ㅁ	ㅂ	ㅅ	ㅇ	ㅈ
ˆk, g	ˆn	ˆt, d	ˆl, ɾ	ˆm	ˆp, b	ˆs, sh	ˆŋ	ˆch, j
kiyok	niun	tikut	riul	mium	piup	siot	iung	chiut
ㅊ	ㅋ	ㅌ	ㅍ	ㅎ				
ˆch	ˆk	ˆt	ˆp	ˆh				
ch'ut	k'tuk	t'ut	p'iup	hiut				

•Vowels

ㅏ	ㅑ	ㅓ	ㅕ	ㅗ	ㅛ	ㅜ	ㅠ	ㅡ	ㅣ
ˆa	ˆya	ˆe	ˆye	ˆo	ˆyo	ˆu	ˆyu	ˆeu	ˆee
la	lyal	leol	lyeol	lol	lyol	lul	lyul	leul	leel

Language, literacy, libraries



<http://www.ignou.ac.in/>



<http://www.open.ac.uk/>

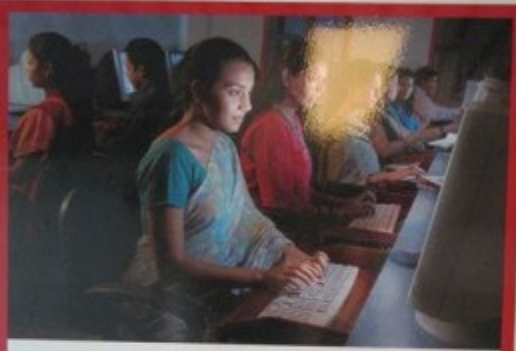
<http://www.open.edu.au/>



<http://www.athabascau.ca/>

The Idea of Open Learning...

<http://www.col.org/blog/Lists/Posts/Post.aspx?ID=134>



Indian e-tutors generate \$20 million annually, teaching American students. Do you see a world of potential? We do.



James Taylor



Students awarded credible degree or credential



Participating Institutions grant credit for courses



Open assessment from participating institutions



Open student support via "Academic Volunteers International"



Learners access courses based solely on OER

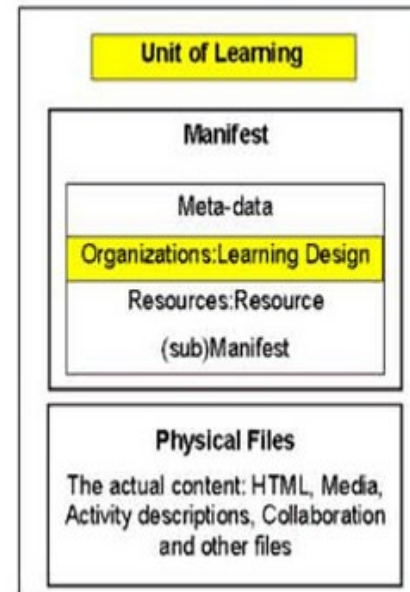
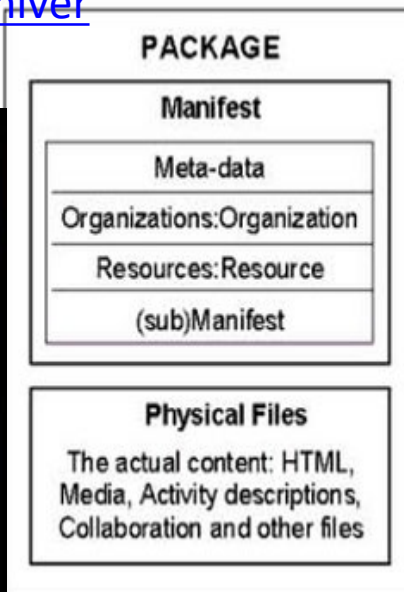
The OER university concept. Adapted from Taylor (2007)

<http://www.col.org/blog/Lists/Posts/Post.aspx?ID=130>

Phases of Openness?



<http://zaidlearn.blogspot.com/2008/06/university-learning-ocw-oer-free.html>



<http://www.msglobal.org/metadata/>

http://ltsc.ieee.org/wg12/files/LOM_1484_12_1_v1_Final_Draft.pdf

<http://creativecommons.org/>

Open Educational Resources

Open Educational Resources

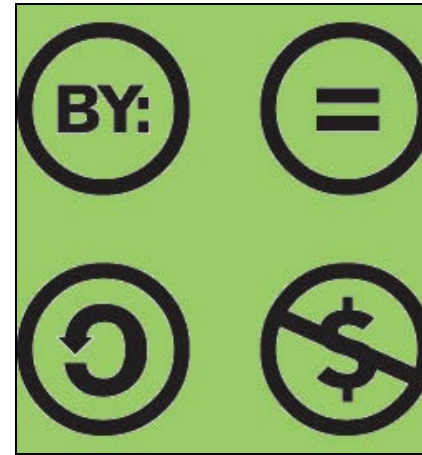


- Content licenses
- similar to open source - to protect the openness using existing law

Open Educational Resources



<http://blogs.cron.com>



The idea is to create a mid-range of licenses between Copyright and public domain - “some rights reserved”

<http://creativecommons.org/>

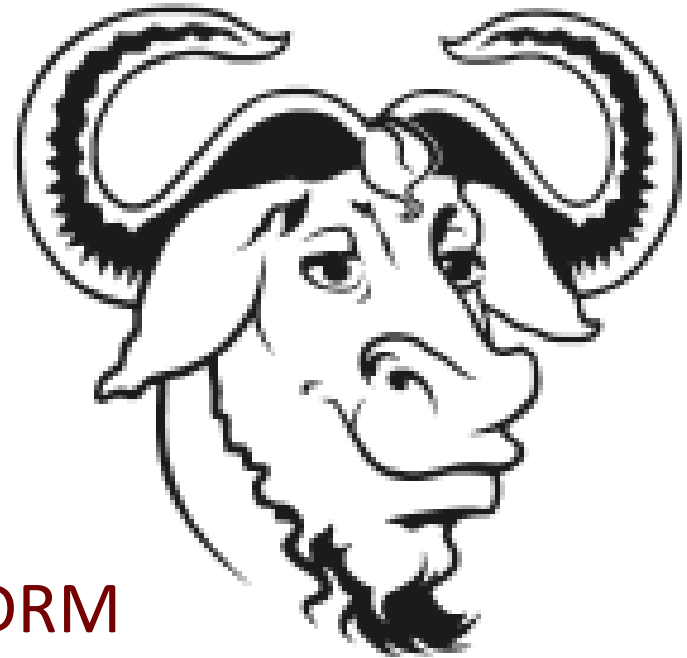
- Creative Commons

OpenEducational Resources

Conditions:

- attributions of authors
- changes must be logged
- share-alike
- unmodified sections
- no proprietary formats or DRM
- GNU Free Documentation License

<http://www.gnu.org/copyleft/fdl.html>



Open Educational Resources

- Open Publication

License <http://opencontent.org/openp>

- Attribution
- Notification of modifications
- No-derivatives clause allowed



()PENC()NTENT

David Wiley

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

Open Definition



Access to the work as a whole	Integrity: reveal modifications
Redistribution not restricted	Absence of Technological Restriction
Reuse allows modifications & derivatives	Attribution may be required
No Discrimination Against Persons or Groups	No Discrimination Against Fields of Endeavor
Distribution of License	
License Must Not Be Specific to a Package	License Must Not Restrict the Distribution of Other Works



<http://www.opendefinition.org/okd/>

Open Courseware



Open Courseware

Home

 Email this page



Unlocking Knowledge,
Empowering Minds.

Free lecture notes, exams,
and videos from MIT.
No registration required.

> Learn more

"It puts a previously
untouchable subject
within reach for anyone
who is interested."

Wendy Ermold
Self Learner
United States

> Read more

MIT OpenCourseWare

<http://ocw.mit.edu>

- * OCW is not an MIT education.
- * OCW does not grant degrees or certificates.
- * OCW does not provide access to MIT faculty.
- * Materials may not reflect entire content of the course.

Open Courseware



Open Courseware Consortium

<http://ocwconsortium.org/>

Blog - <http://ocwblog.org/>

Open Courseware



Find resources - author resources <http://cnx.org/>

Example - Collaborative Statistics

<http://cnx.org/content/col10522/latest/>

CNXML

<http://cnx.org/content/m9000/latest/>

Open Courseware



<http://www.oercommons.org>

“single point of access through which educators, students, and all learners can search, browse, evaluate, download, and discuss open educational resources (OER)”

Includes review,
tag features...

Open Courseware



Building a digital archive
of global content for universal access.

“Unlike with commercial scan plans, there are no restrictions on public domain books scanned by OCA members. Users are not forced to use proprietary interfaces, and OCA scans are not hidden from rival search engines. Books scanned under the BLC initiative will be hosted by the Internet Archive...”

<http://www.libraryjournal.com/article/CA6484069.html>

<http://www.opencontentalliance.org>

Internet Archive: <http://www.archive.org>

OurMedia: <http://www.ourmedia.org/>

Open Courseware



Provides complete
Open University online
courses

Provides ways for participants to
contribute as well as take
courses

Creating a new
world of learning



OpenLearn Autumn 2007

OpenLearn

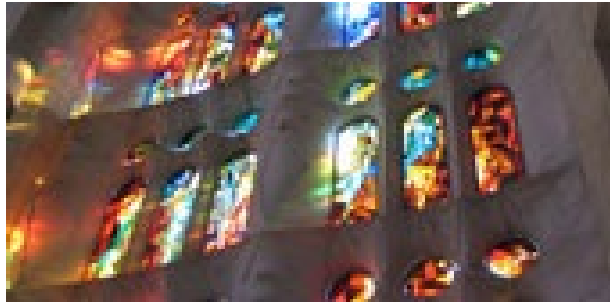
<http://www.open.ac.uk>

Open Courseware

Intute

<http://www.intute.ac.uk/>

“Intute is a free online service providing you with a database of hand selected Web resources for education and research.”



Open Courseware

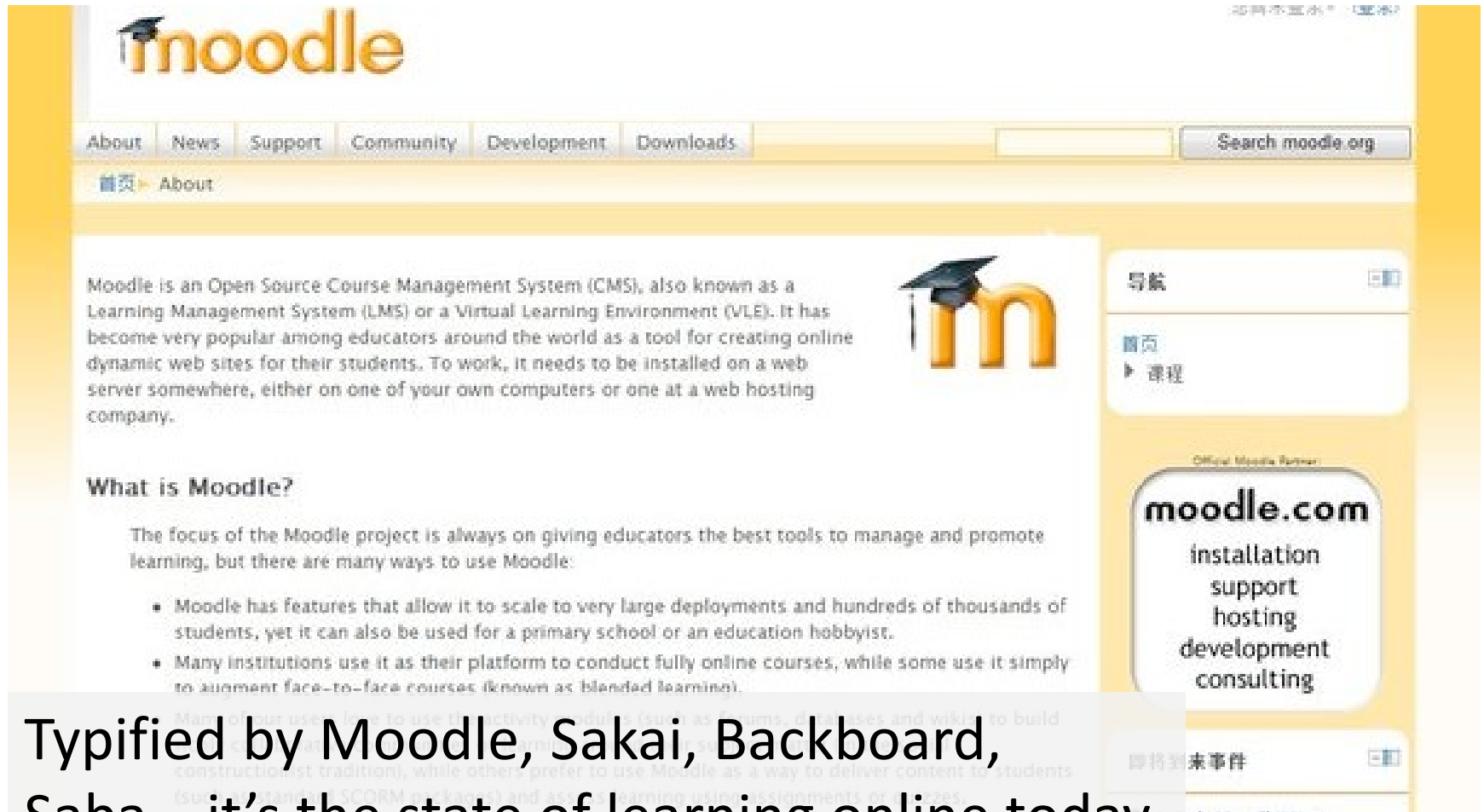
GLOBE

<http://globe-info.org/>

ARIADNE
edna Online
LORNET
MERLOT
NIME



The LMS



The screenshot shows the Moodle.org website. At the top left is the Moodle logo. Below it is a navigation menu with links for About, News, Support, Community, Development, and Downloads. A search box is located on the right side of the navigation menu. The main content area has a heading 'About' and a paragraph of text: 'Moodle is an Open Source Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It has become very popular among educators around the world as a tool for creating online dynamic web sites for their students. To work, it needs to be installed on a web server somewhere, either on one of your own computers or one at a web hosting company.' To the right of this text is a large orange 'm' logo with a graduation cap on top. Below the text is a section titled 'What is Moodle?' followed by a paragraph and a bulleted list of features. A sidebar on the right contains a search box, a list of links, and a box for 'moodle.com' with the text 'installation support hosting development consulting'. At the bottom of the sidebar is a box for '即将到来事件'.

Typified by Moodle, Sakai, Blackboard, Saba... it's the state of learning online today

The LMS

You are not logged in. ([Login](#))

Creative E-Learning:: College, Training and Research

Main menu ☰

- [Contact us.](#)
- [Site news](#)
- [CICTR Home](#)


Navigation ☰

Home

- ▶ Courses

Courses

- ▼ Online (e-learning) Courses
 - [Using Creative E-Learning as a student - FREE Course](#)
 - [Using Creative E-Learning as a Teacher](#)
 - [Drupal/Joomla/Moodle essentials to become a CMS Guru](#)
 - [Drupal: Advanced web administration and development](#)
 - [How to Plan and become successful in Overseas Study](#)
 - [Preparing for a research study \(MPhil/PhD\)](#)
- ▼ Basic Training
 - [FREE computer & Internet Training & Browsing](#)
 - [English-Speaking, Writing, Reading & Listening with Grammar Essentials](#)
 - [Computer Essentials/Basic IT training](#)
- ▼ Skills Training
 - [Hardware Engineering, Assembling Maintenance & Trouble Shooting](#)
 - [AutoCAD Essentials training course](#)
- ▼ Professional Training
 - [Mobile technology, application development & programming](#)
- ▼ Foreign Trades Training
 - [IELTS](#)
 - [Food & Hygiene training in Catering Industry \[UK\]](#)
- ▼ College Course
 - [HSC-Arts and Humanities](#)
 - [HSC-Business studies](#)
 - [HSC-Science](#)



Creative College, Training and Research (CCTR) is a unique platform to bring success of education. Our College offer Educational degrees with professional training for careers in home and abroad. During the study, students can plan with the choices of working and/or studying in home or abroad. Our training modules are designed based on needs and trends of the industries.

Calendar ☰

◀ March 2011 ▶

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Courses are structured as though they were books, linear flows of information, content

The LMS

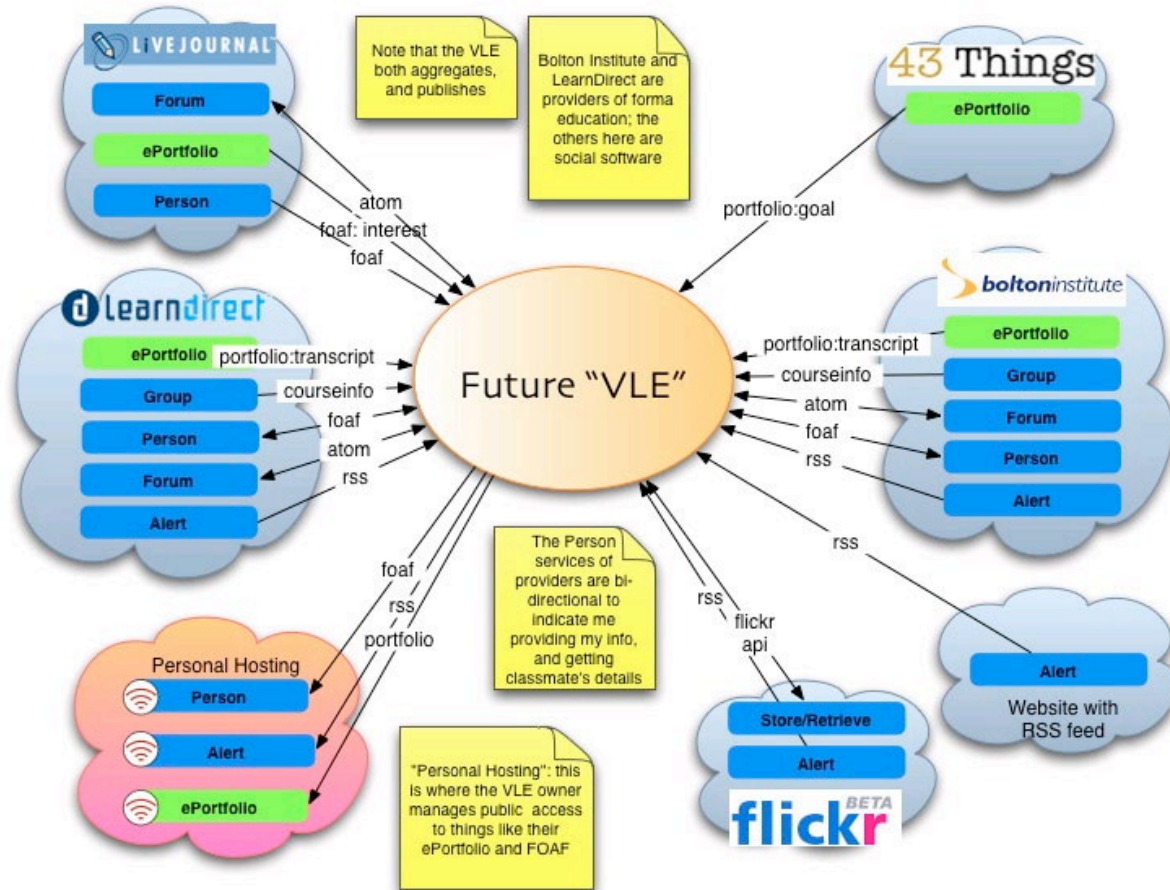
The image shows a software interface for publishing quizzes. On the left, there is a 'Publish' button with a green arrow pointing to a 'Quiz Publishing' section. Below this, there is a 'Publish on QMS (Quiz Man...)' option with a thumbnail of a QMS dashboard. A large green arrow points from the 'Publish on QMS' section to the 'Quiz Properties' dialog box on the right. The dialog box contains the following information:

- Quiz Properties**
 - Quiz title: Math-Quiz
 - Questions: 4
 - Total points: 100pts
 - Passing rate: 80%
- Options**
 - Publish for: LMS
 - LMS options: SCORM 1.2, SCORM 2004, AICC
- Folder**
 - Location: D:\Backup\My Documents\My Quiz\Projects\

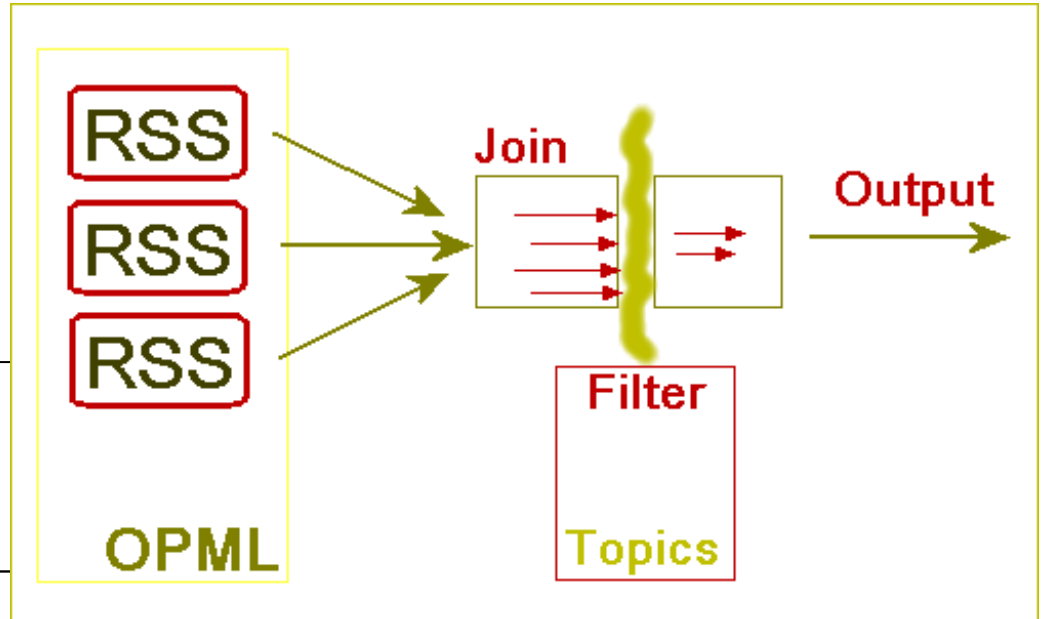
At the bottom of the dialog box, there are 'Publish' and 'Cancel' buttons. A green arrow points from the text below to the 'Publish' button. Below the dialog box, there is a file named 'imsmanifest.xml'.

Students are evaluated by knowledge retained, assessments as quizzes and tests

The Idea of the PLE



Aggregation and Remixing



MyGlu

By Stephen Downes

[About](#)

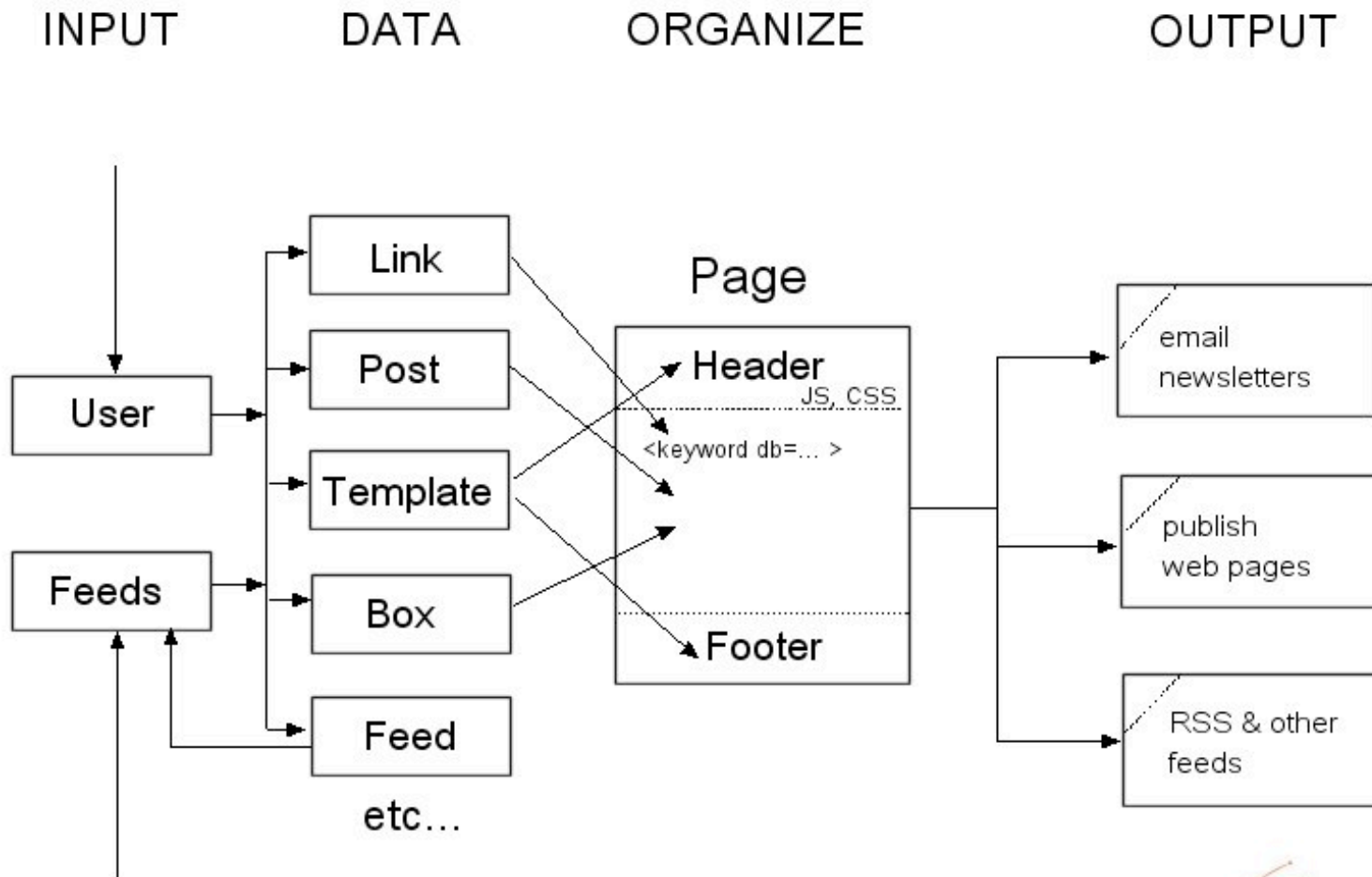
Force: 1

Harvesting <http://del.icio.us/rss/Downes>
Feedfile is: myglu/feedcache/del.icio.us_rss_Downes
No content. Harvesting from source.
URL: <http://del.icio.us/rss/Downes>
Parsing Feed=HASH(0x9f0f10c)

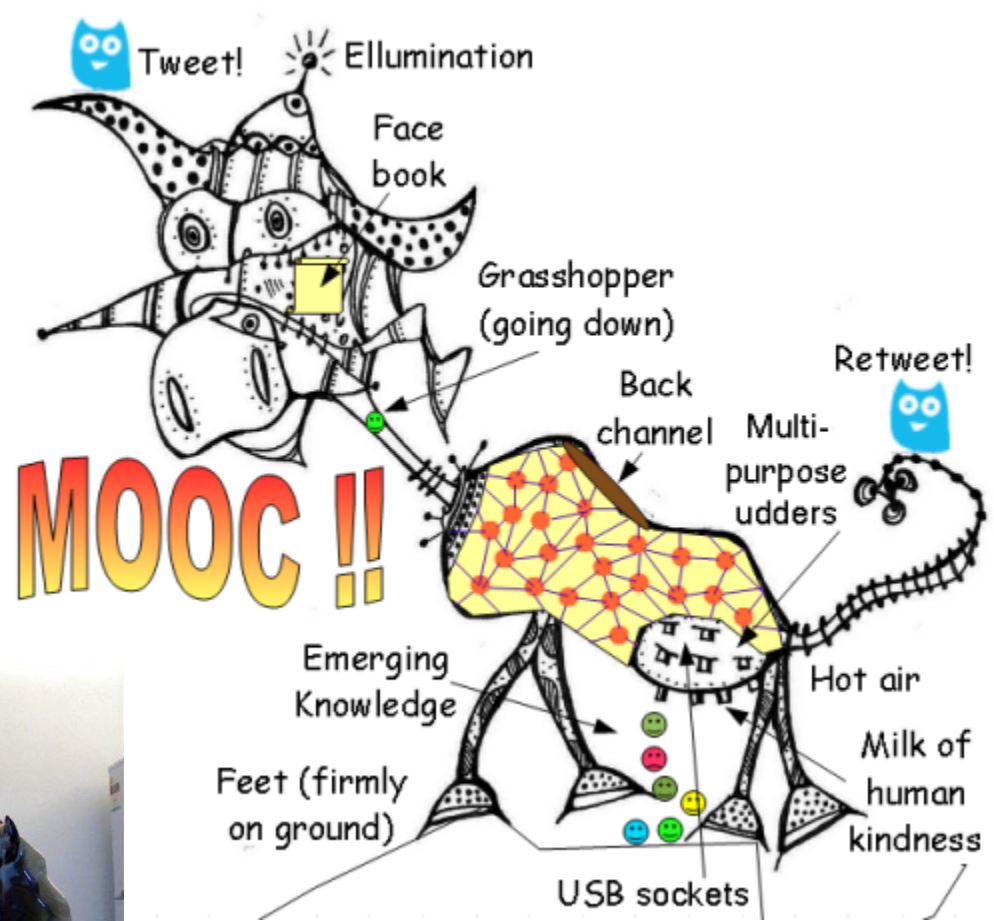
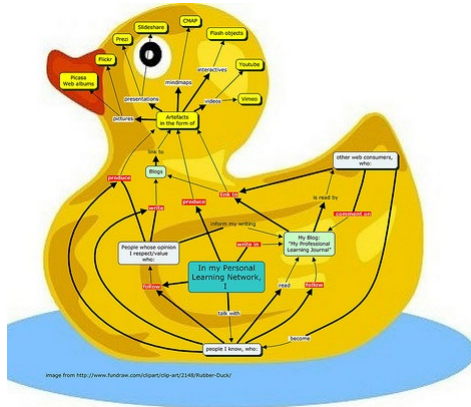
Harvesting <http://www.downes.ca/news/OLDaily.xml>
Feedfile is: myglu/feedcache/www.downes.ca_news_OLDaily.xml
No content. Harvesting from source.
URL: <http://www.downes.ca/news/OLDaily.xml>
Parsing Feed=HASH(0x9f0ef8c)

<http://www.downes.ca/mygluframe.htm>

gRSShopper



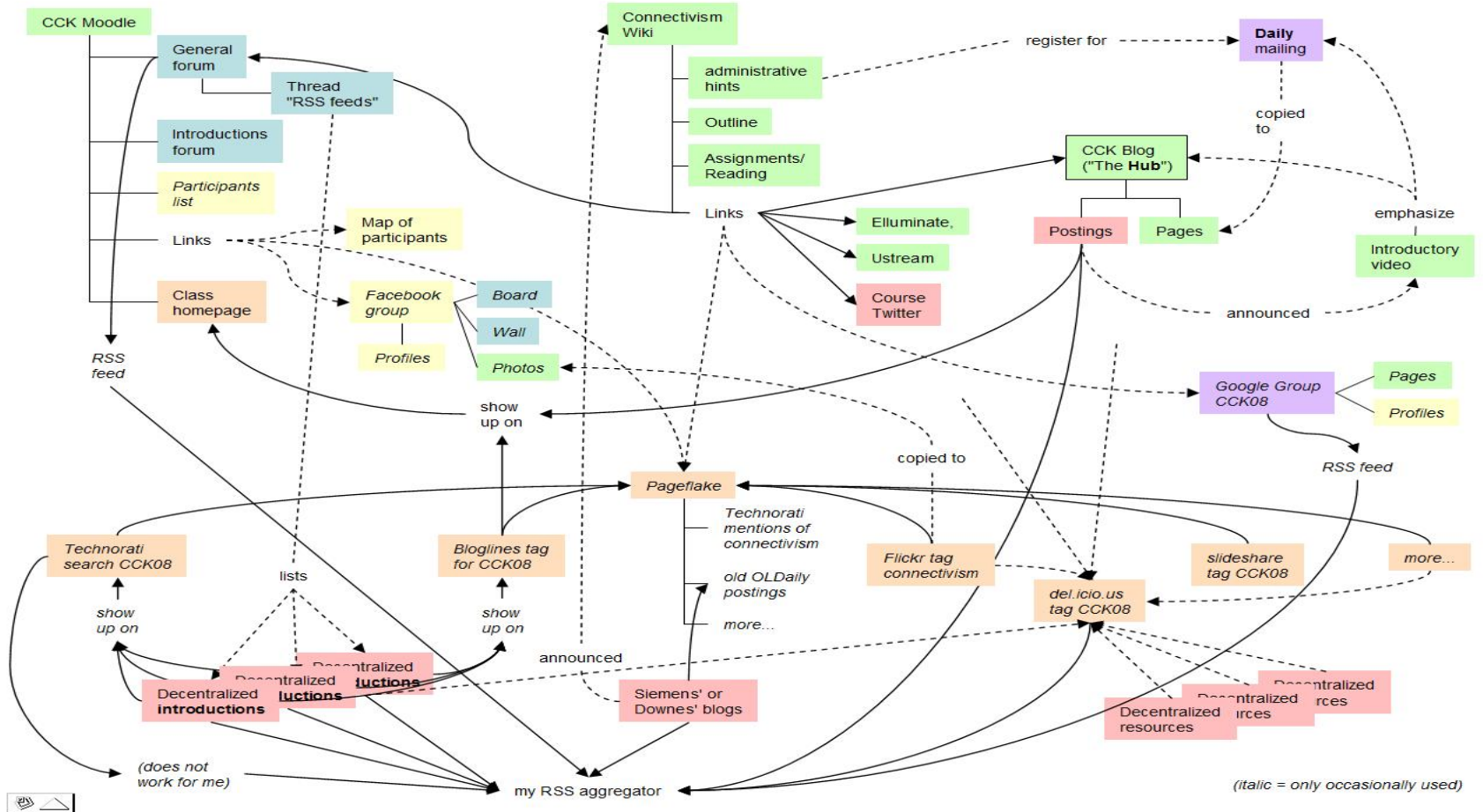
<http://www.mooc.ca>
<http://cck11.mooc.ca>



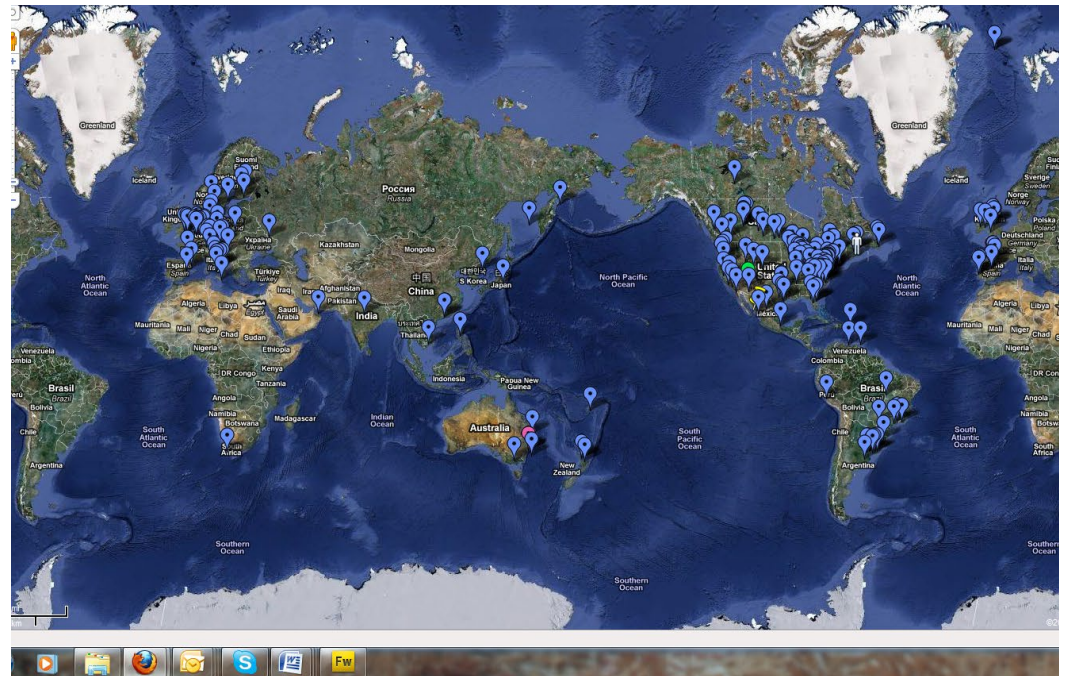
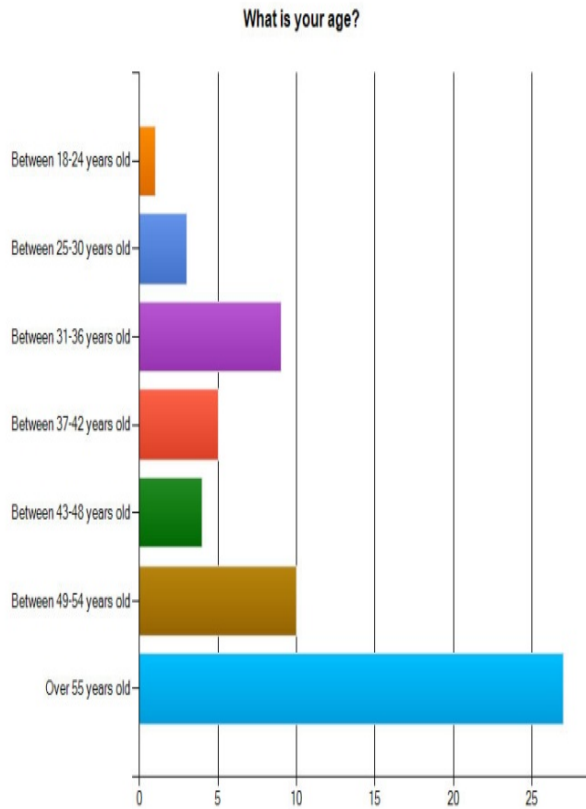
<http://suifaijohnmak.wordpress.com/2011/03/10/cck11-how-to-explain-connectivism-mooc-and-plepln/>

The Connectivism Courses

The Connectivism Courses



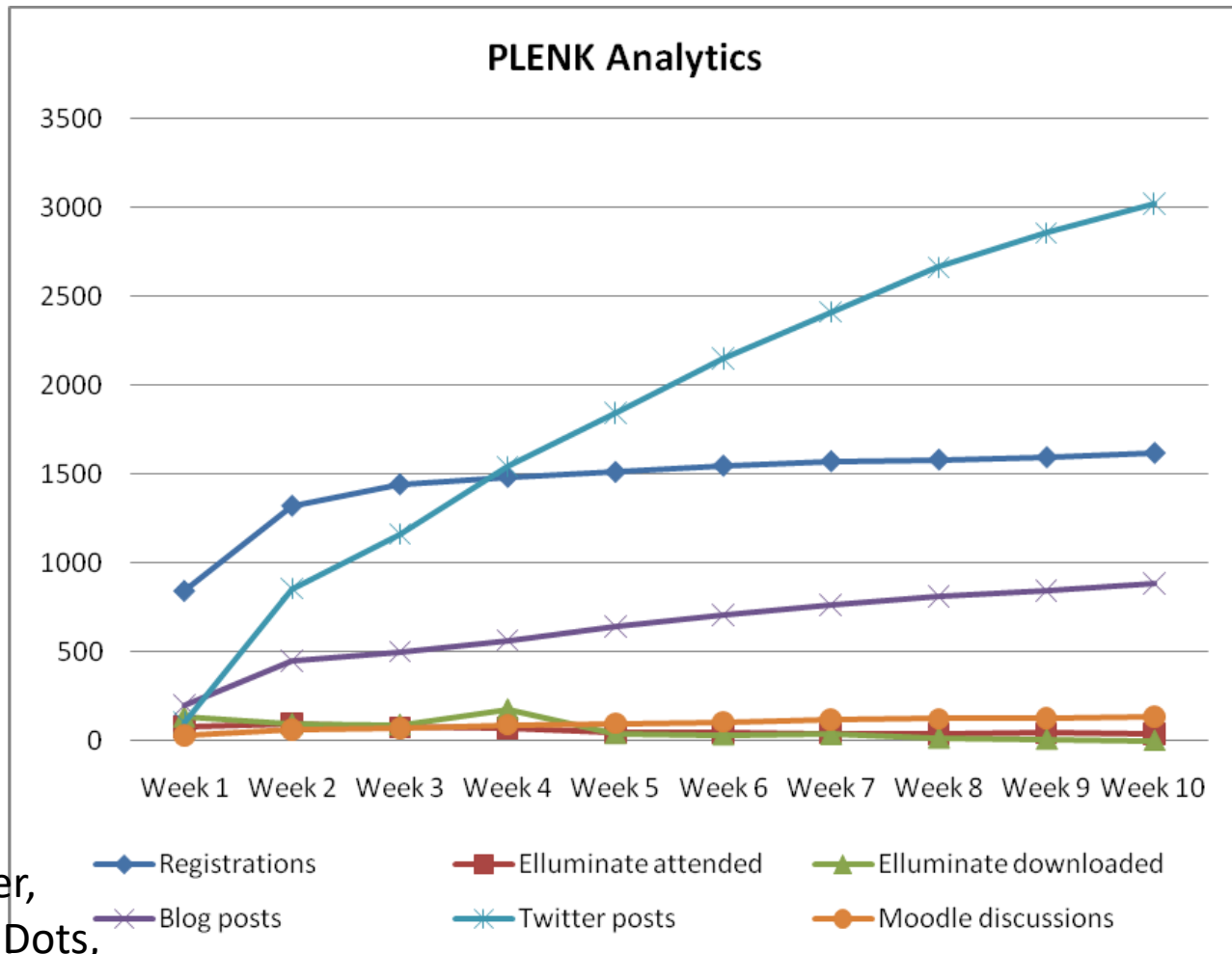
Our Experience



administration adult architect assistant college community consultant **designer** developer
director director distance district e-school **education** elearning elementary engineer english facilitator
faculty higher independent instructional language learning **lecture** librarian manager math mentor network non-profit product
professional **researcher** retired rhetoric senior service **software** teacher teaching
technology trainer university web workshop writing-university

Kop and Fournier,
Connecting the Dots,
CIDER, 2011

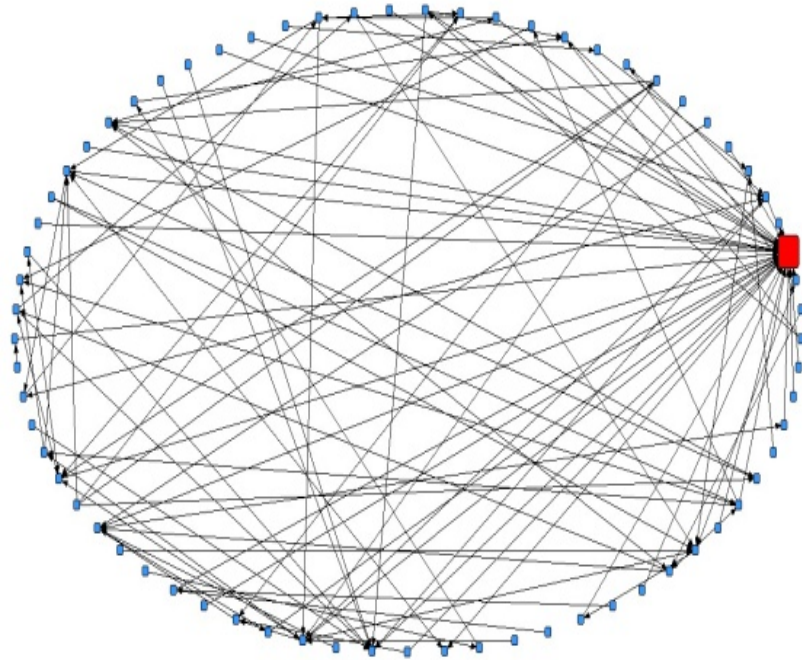
Our Experience



Kop and Fournier,
Connecting the Dots,
CIDER, 2011

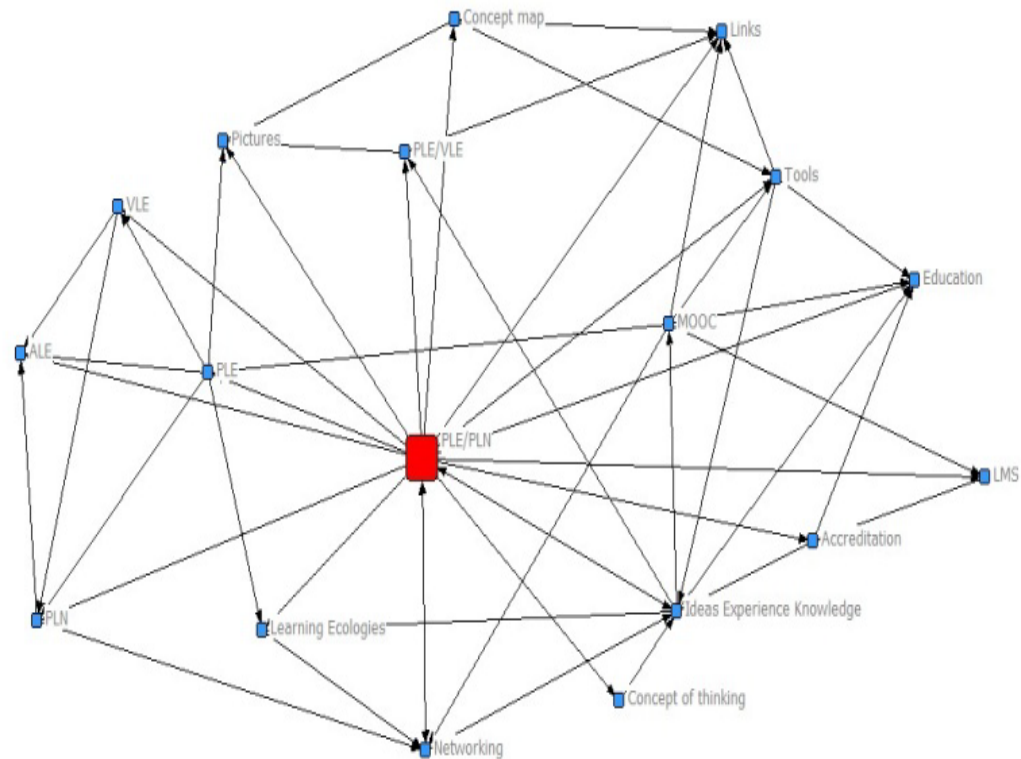
PLENK participation rates

Our Experience



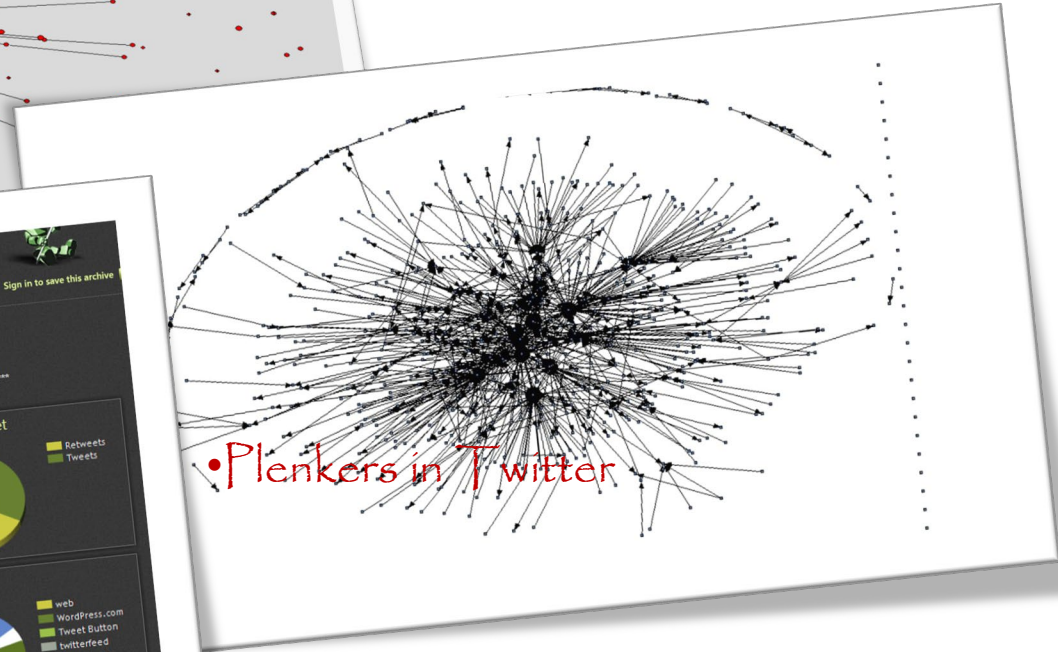
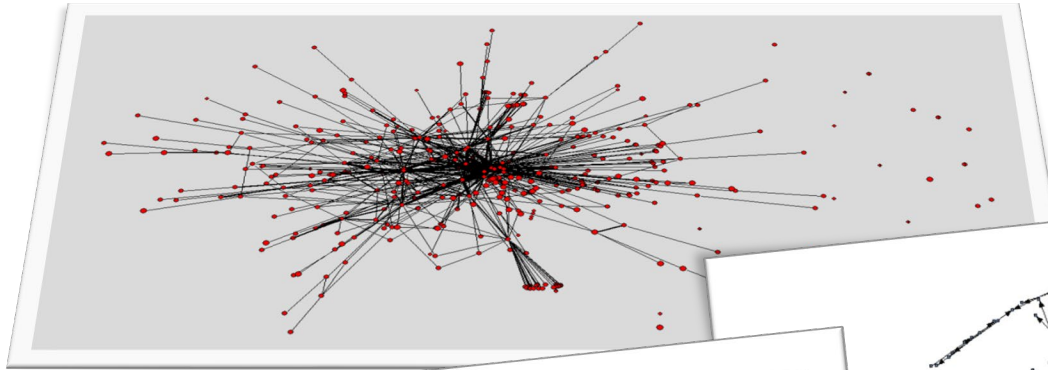
The complex network a facilitator's post generated

Kop and Fournier,
Connecting the Dots,
CIDER, 2011



Relationships between topics in a discussion in week 1

Our Experience

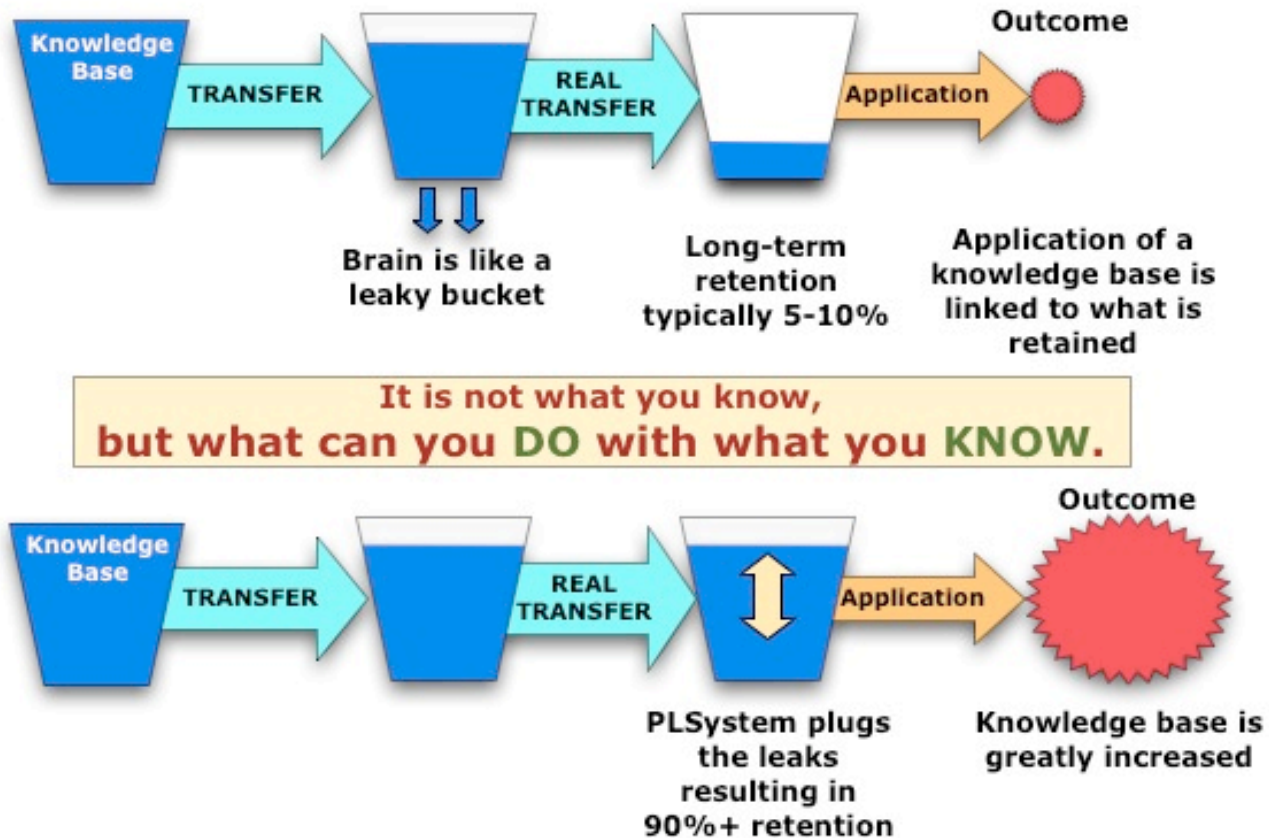


Tweets for a week: Tweets, retweets, replies

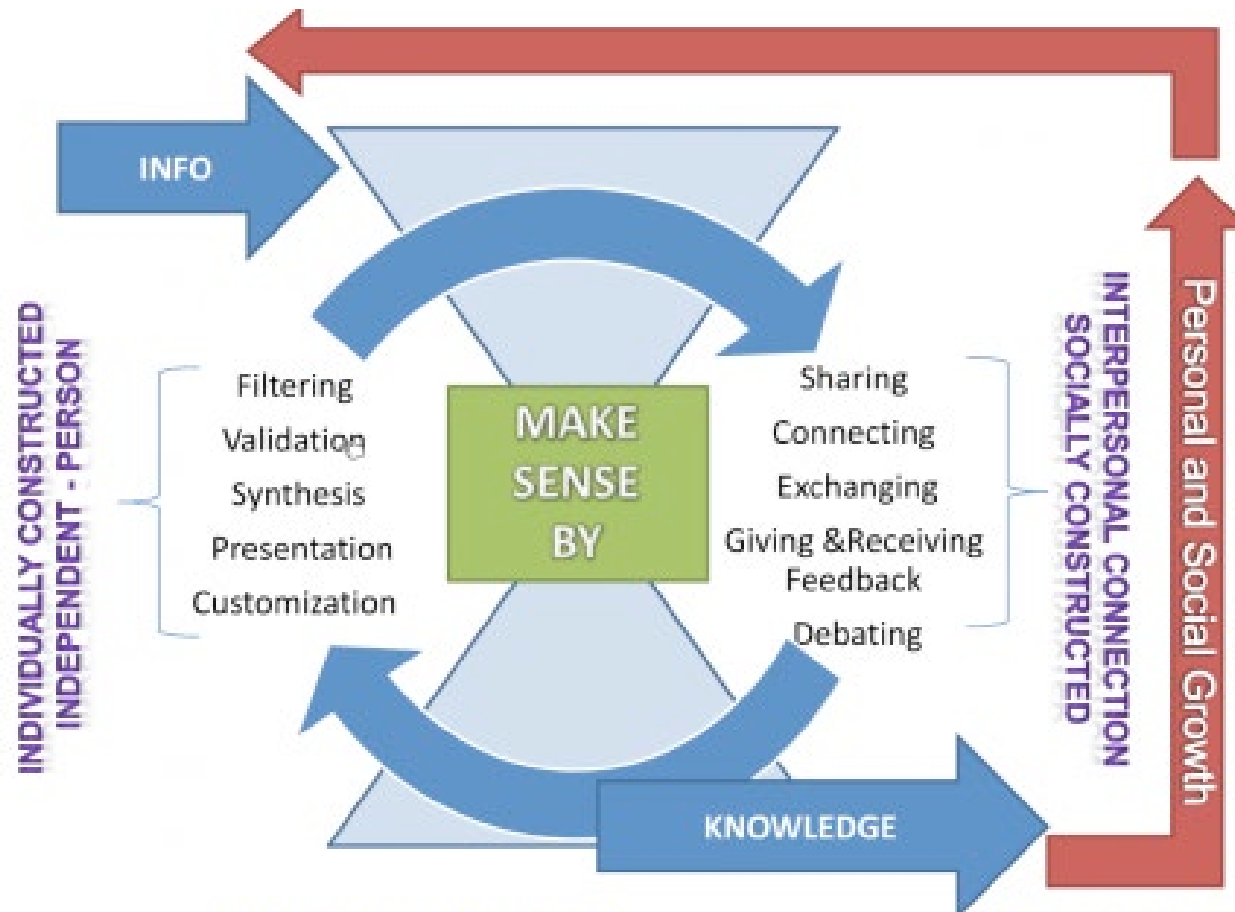
Kop and Fournier,
Connecting the Dots,
CIDR, 2011

Knowledge Transfer

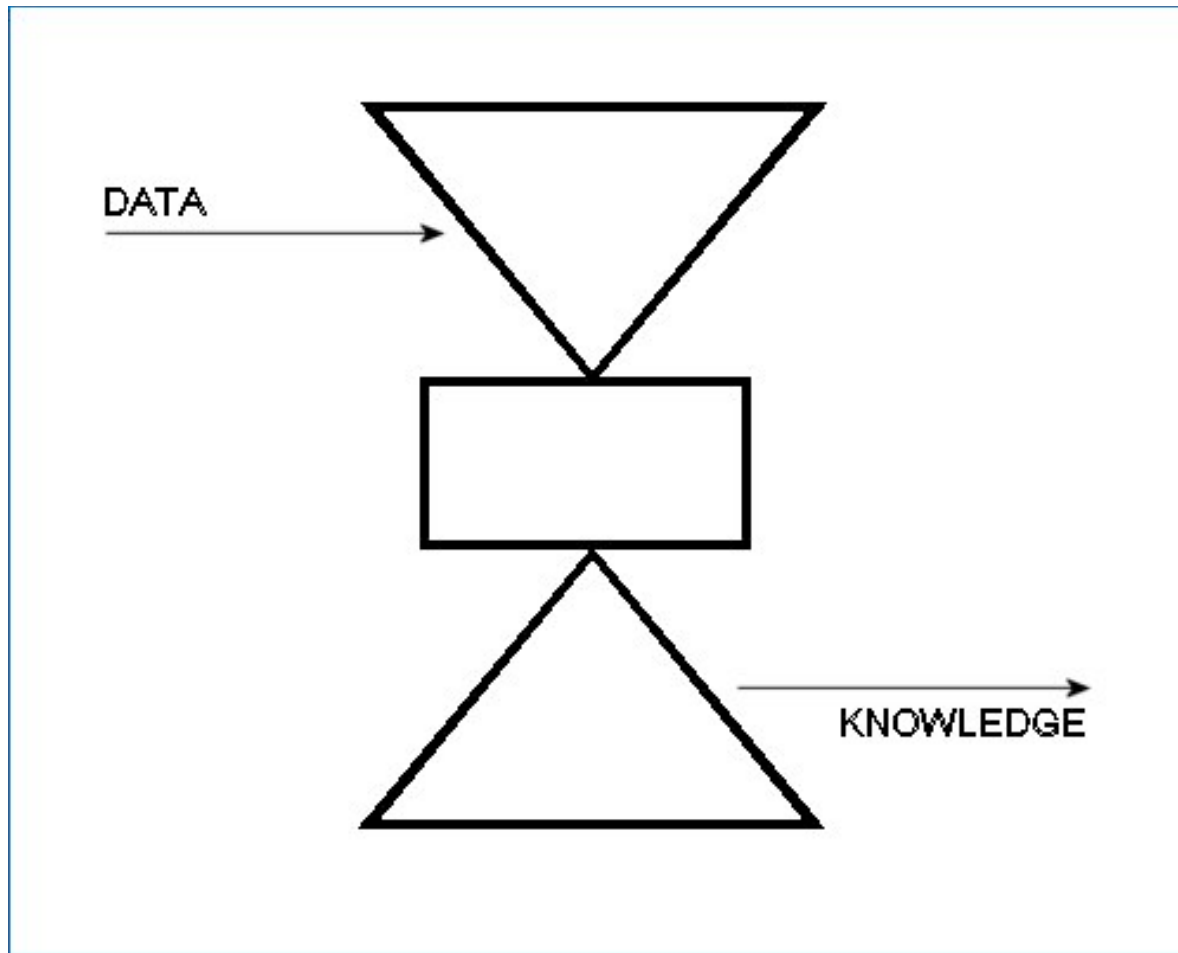
Knowledge Transfer Process



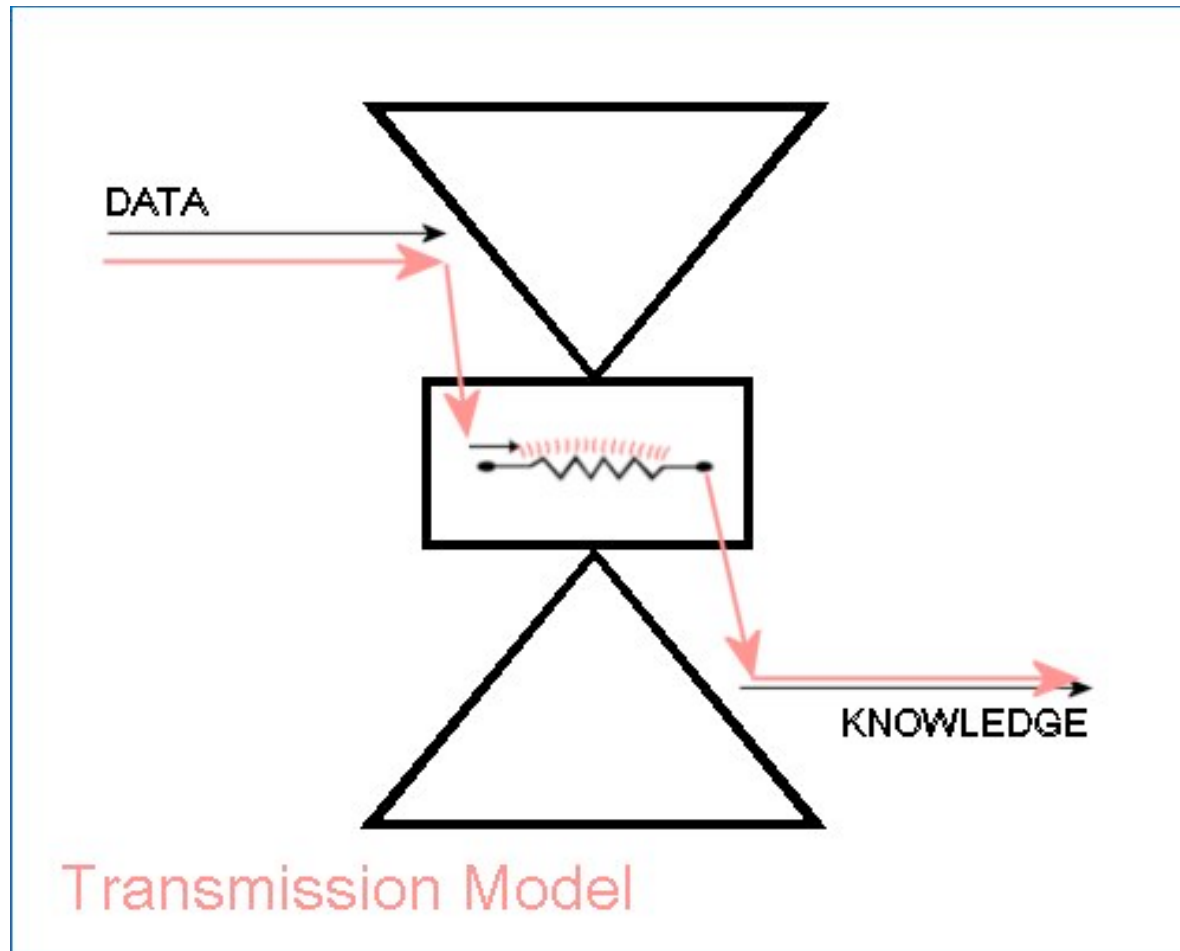
The Induction Model



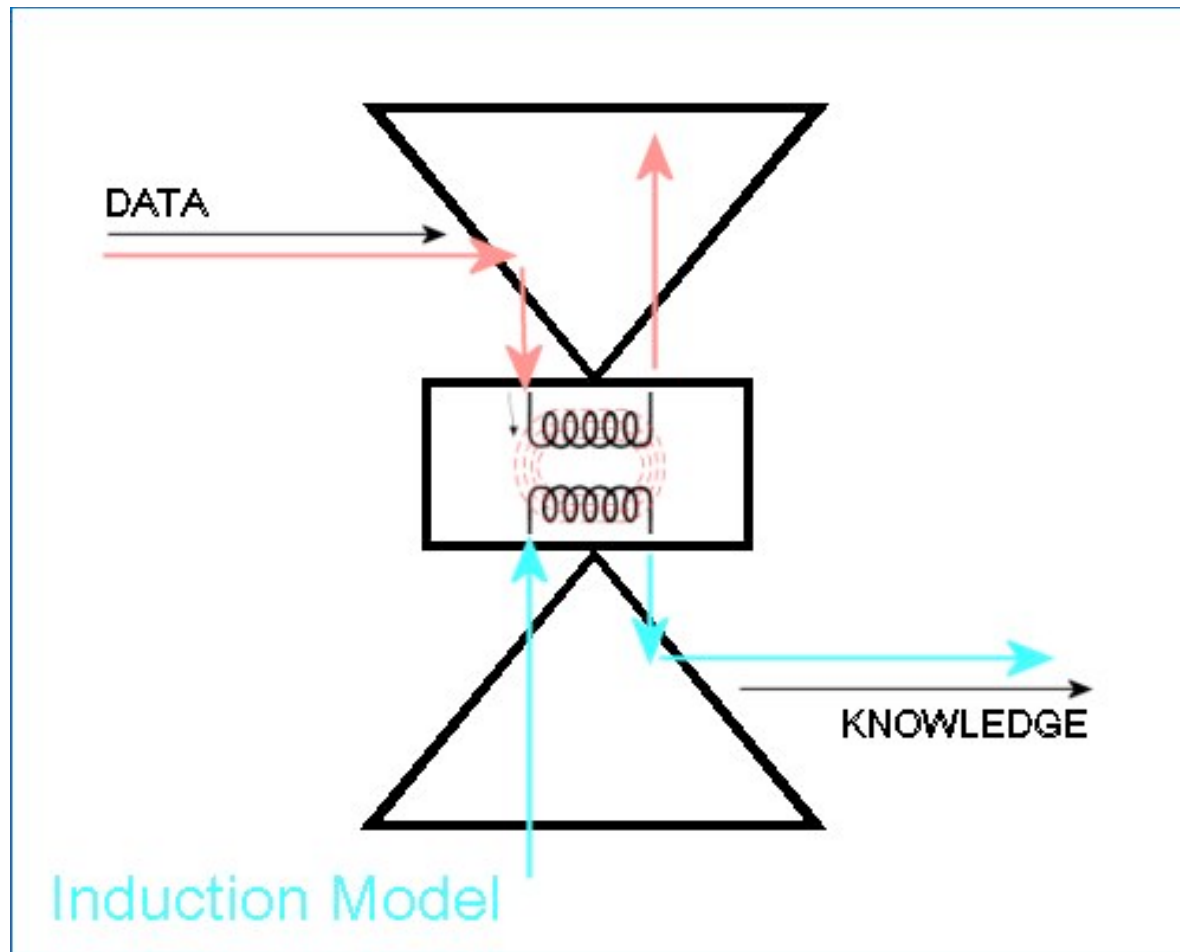
The Induction Model



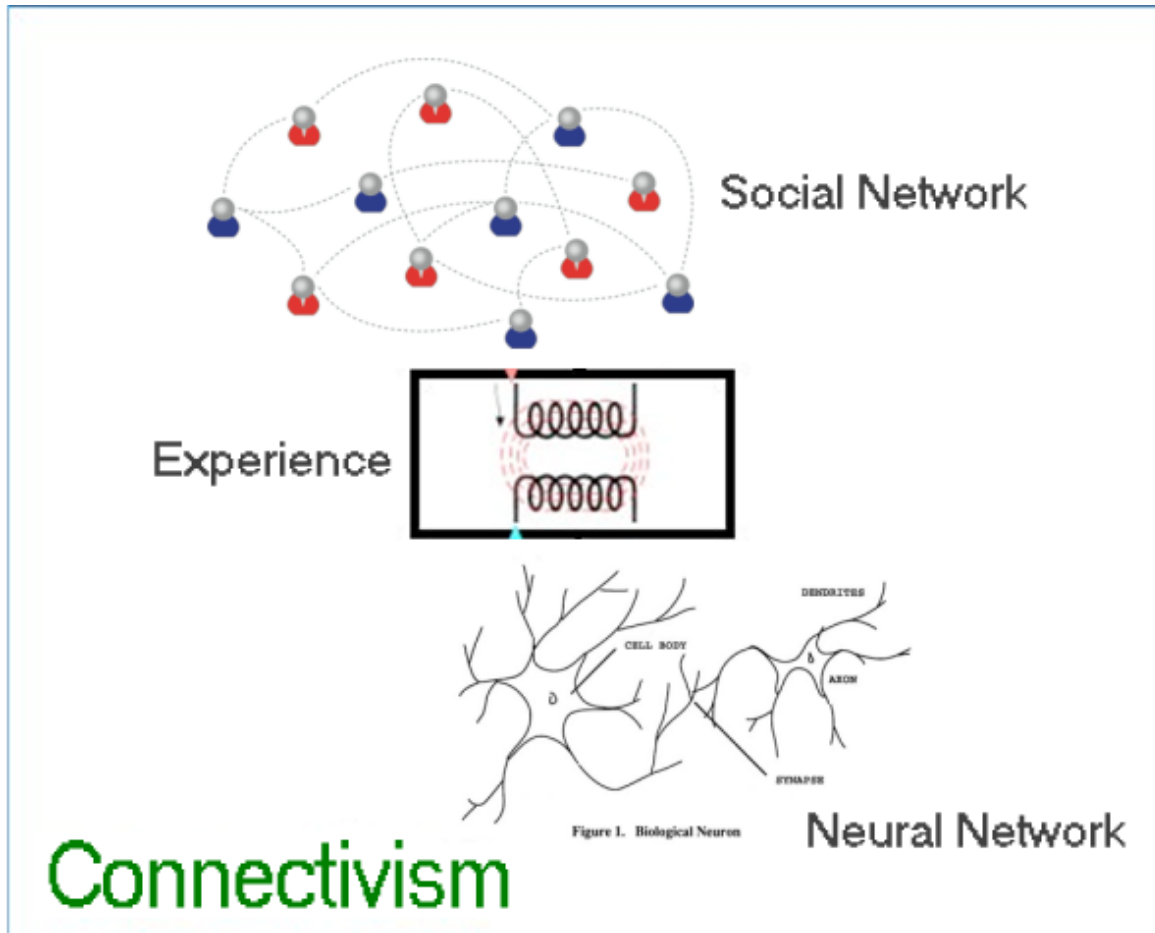
The Induction Model



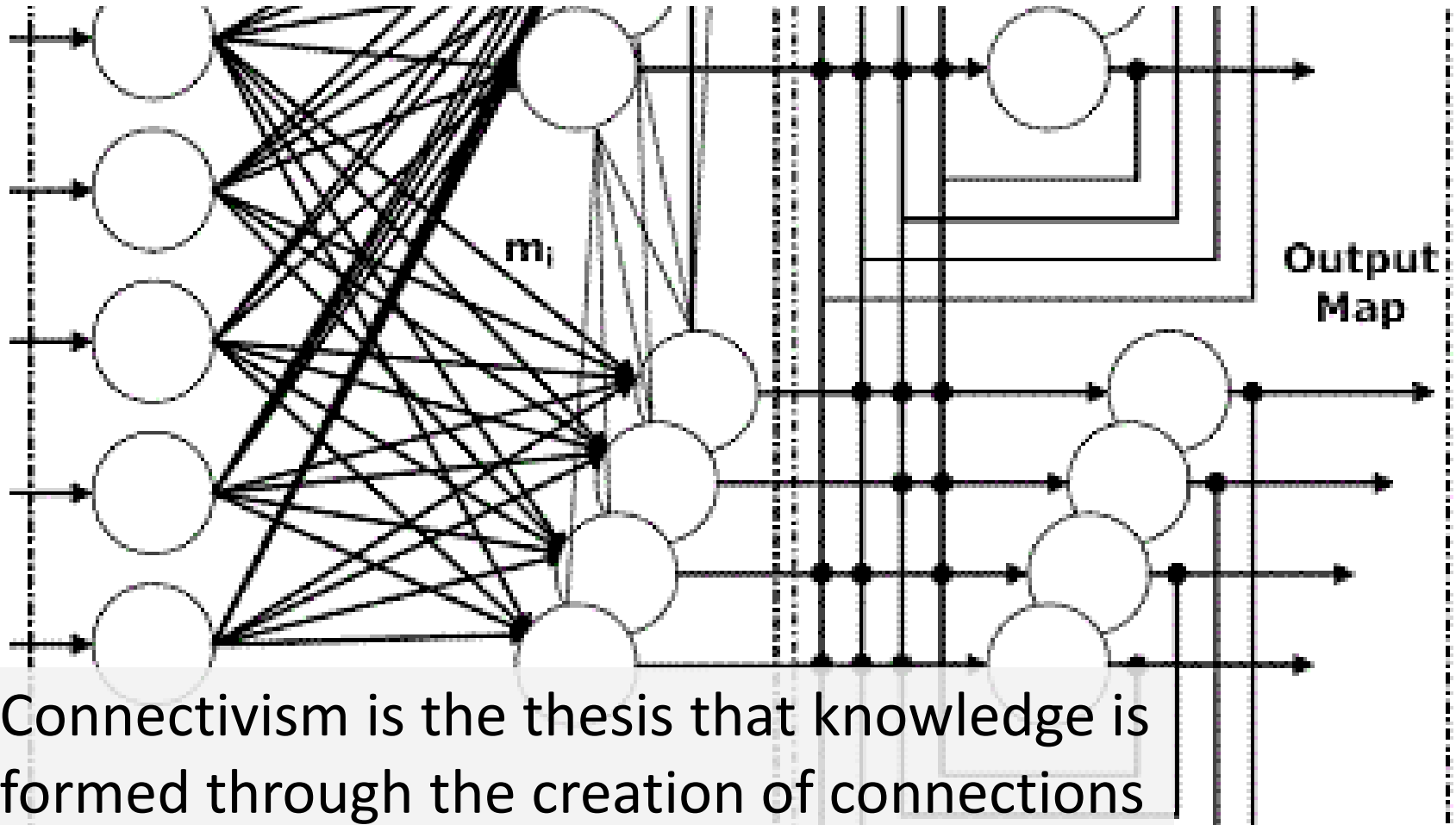
The Induction Model



Connectivism



Connectivism



Connectivism is the thesis that knowledge is formed through the creation of connections

Connectivism

- There is no curriculum, no theory, no body of knowledge
 - (or, more accurately, the curriculum is the McGuffin)
- The product is not the knowledge, it is the *learner*
- It's not that there's nothing to learn, it's that it's *complex* and needs to be navigated...

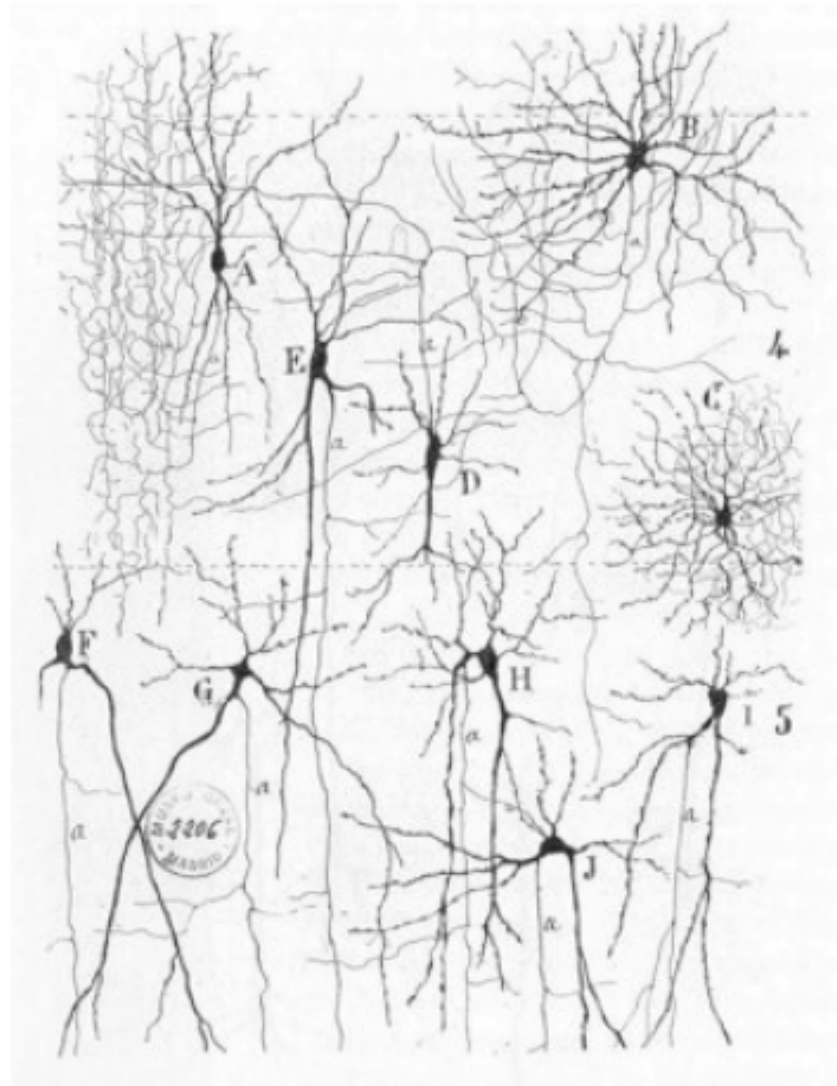


Connectivism

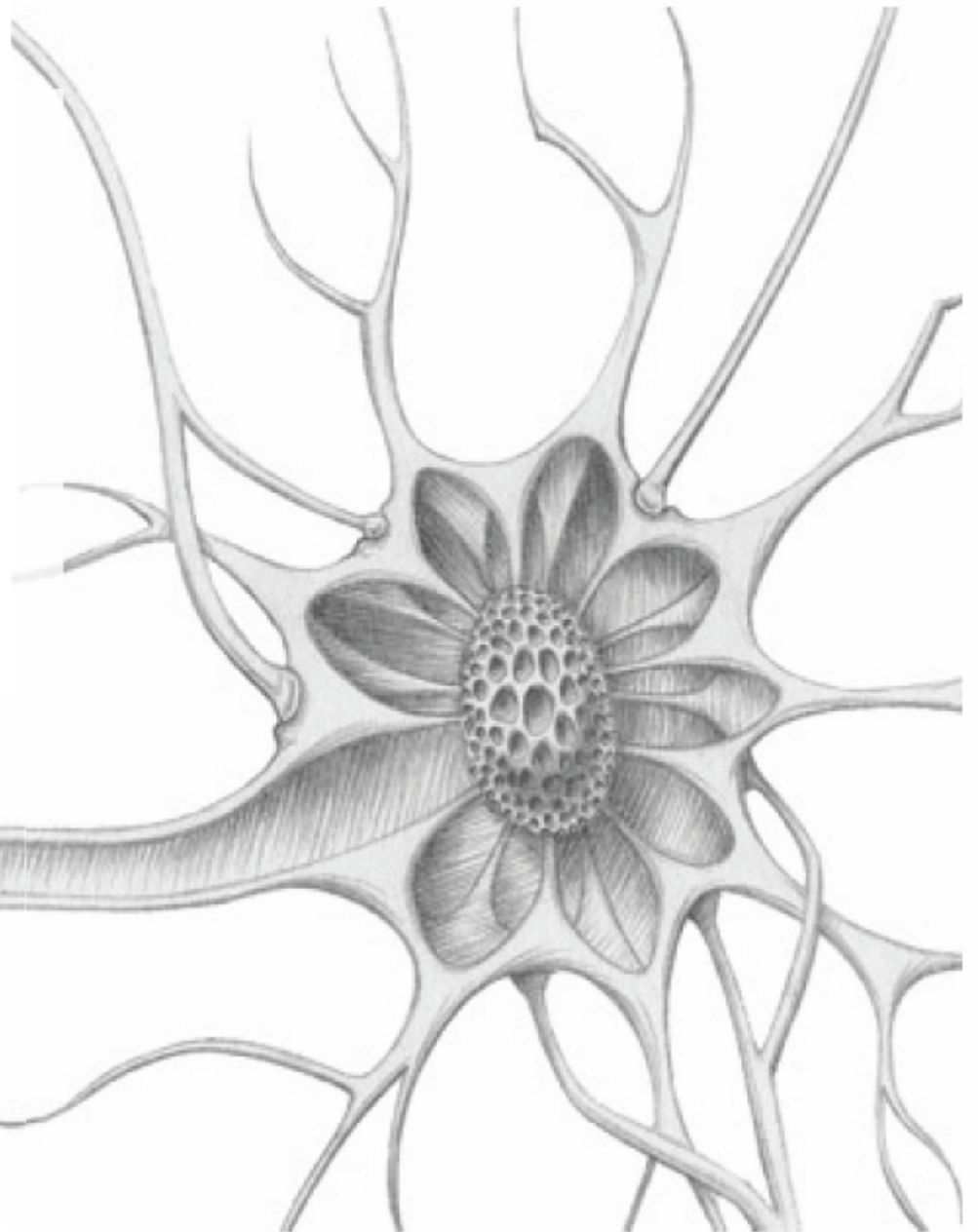


The connectivist method: Aggregate....
Remix... Repurpose.... Feed Forward

- Teachers are nodes, students are nodes
- Both teaching and learning consists of sending and receiving communications to other nodes



Aggregate
Remix
Repurpose
Feed Forward



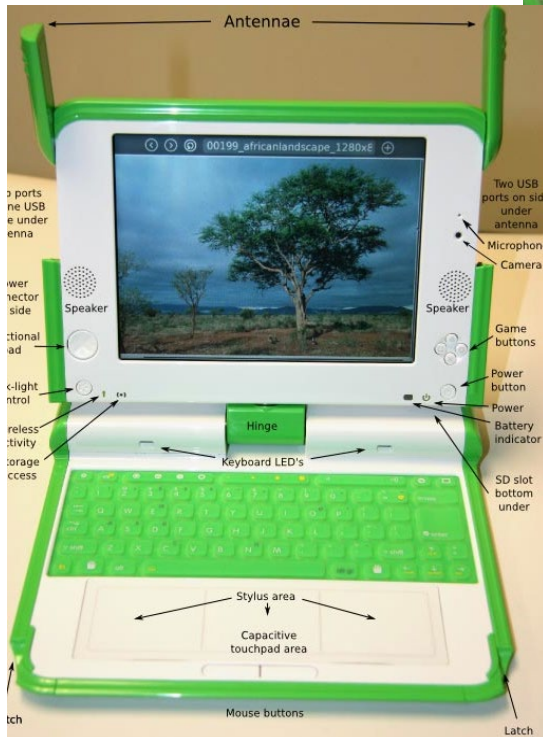
ARRFF

Learning as Immersion

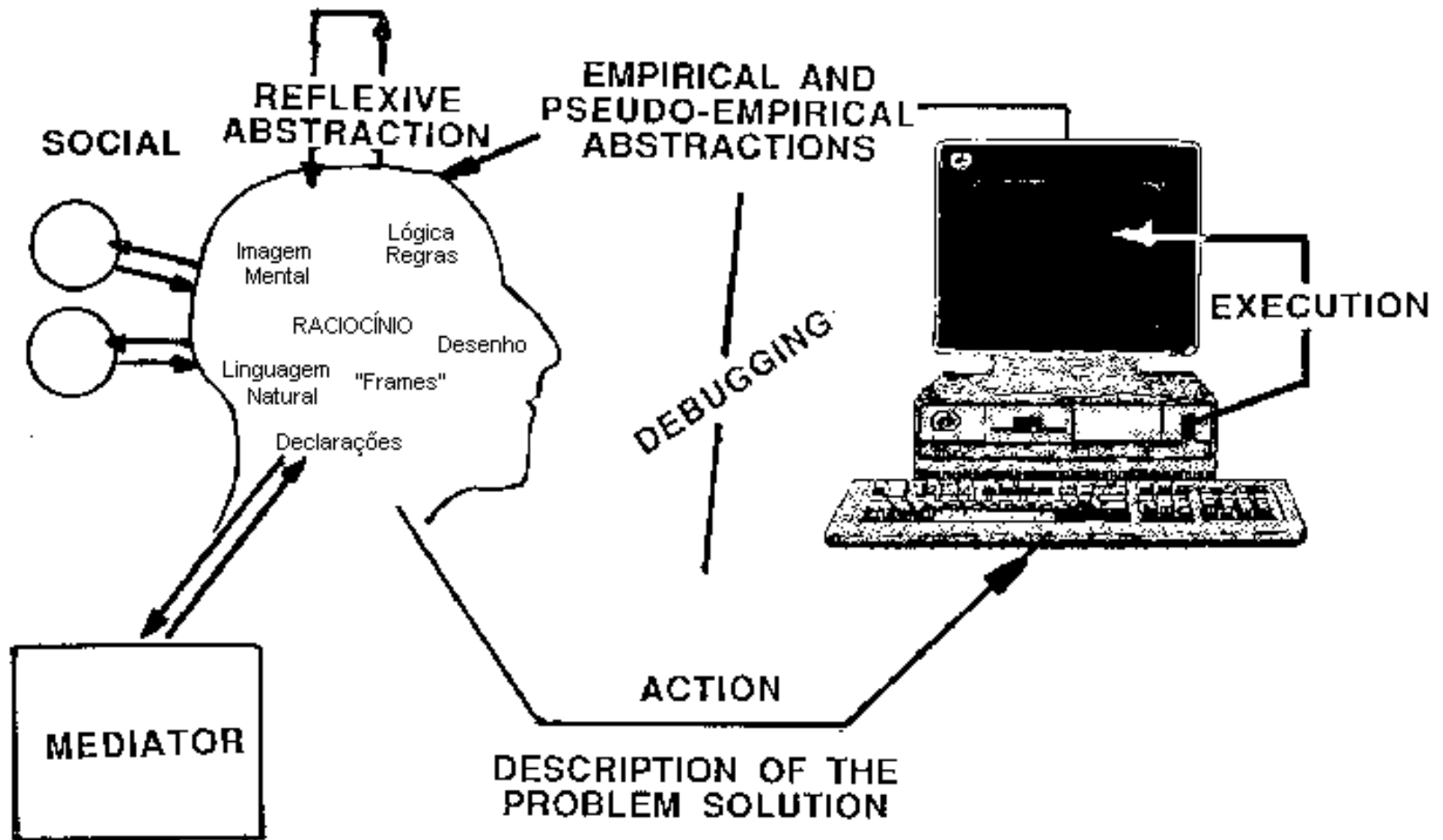


Image: <http://www.thehindu.com/education/article876093.ece>

Learning as Immersion



Constructionism



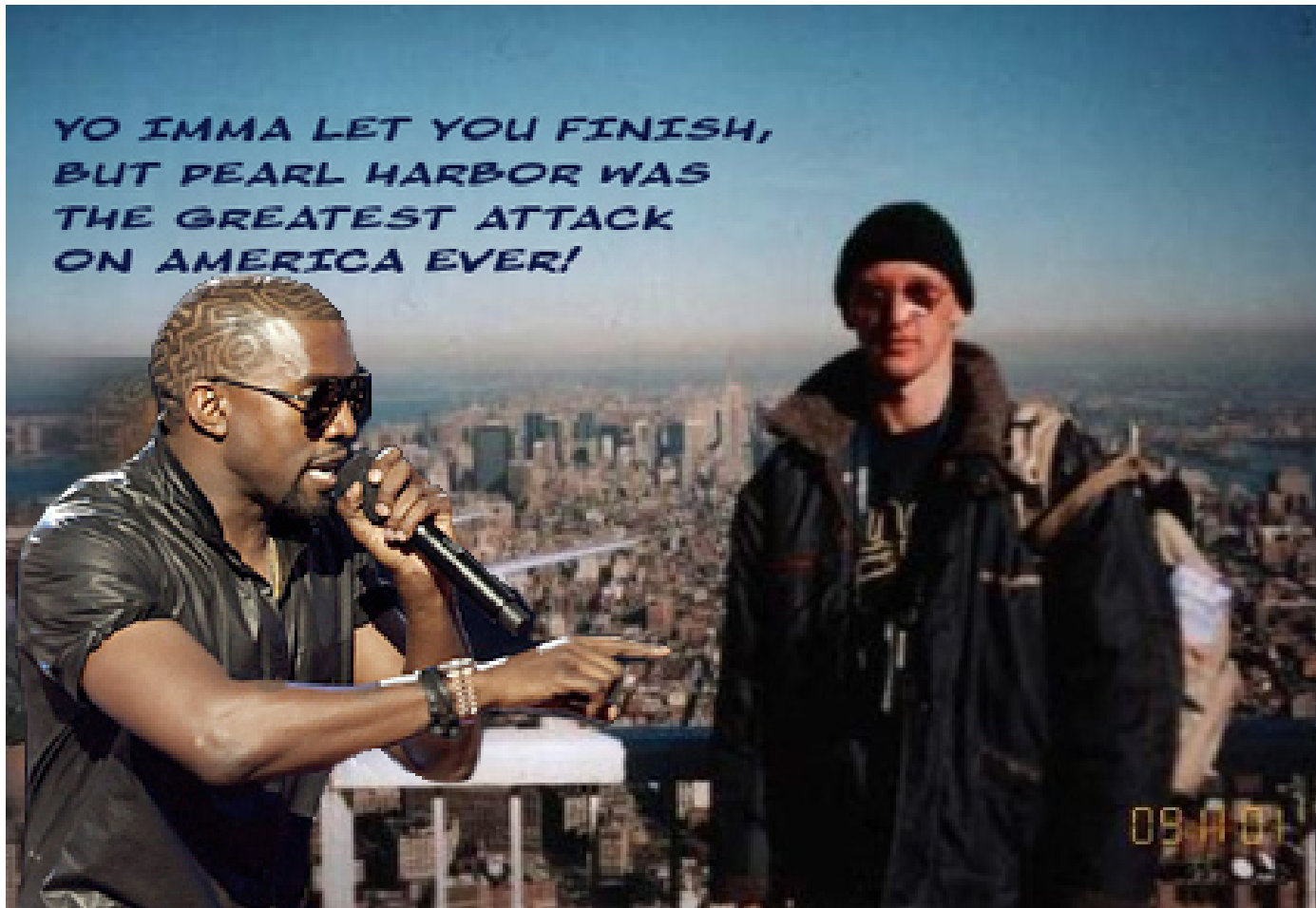
Speaking in LOLcats



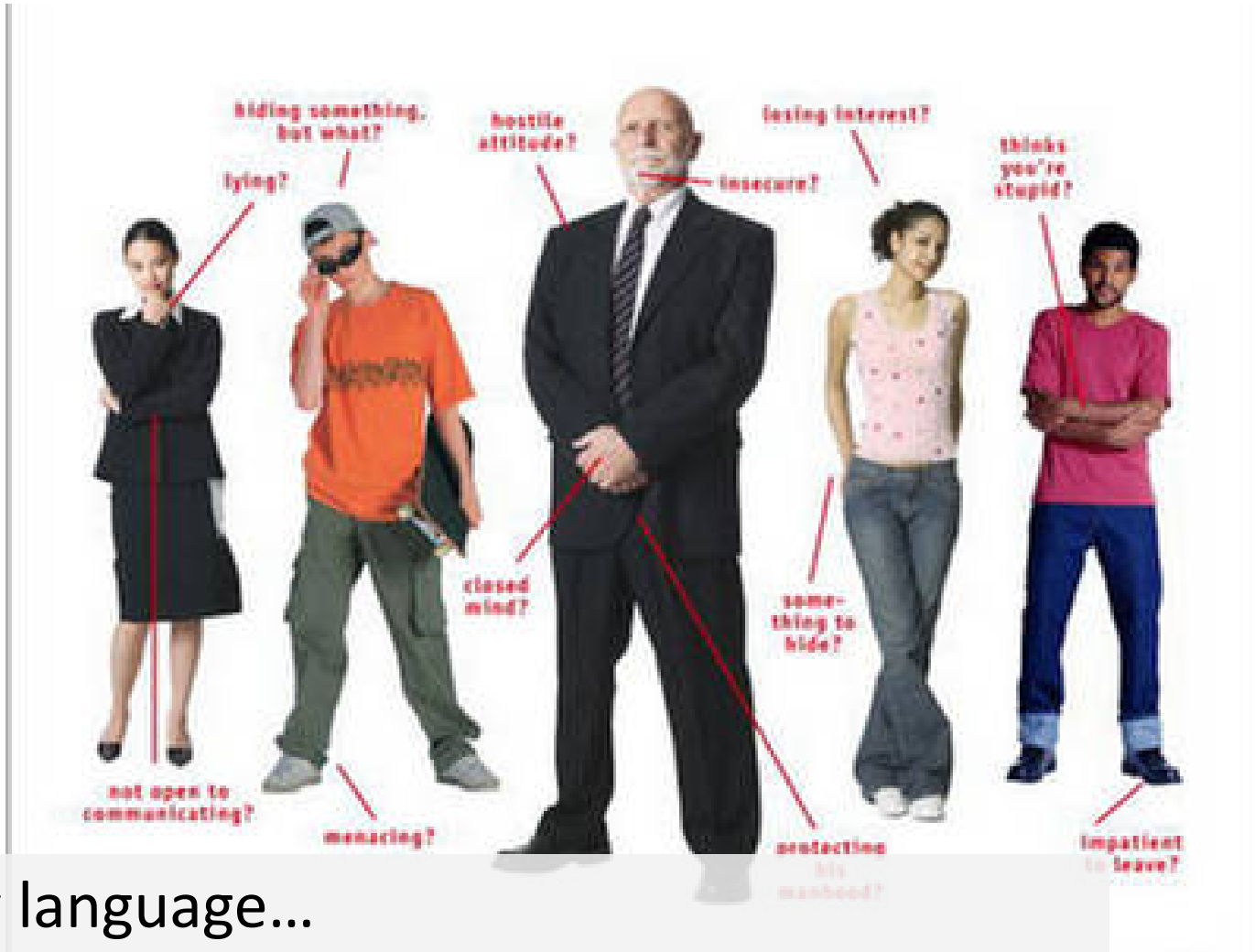
Speaking in LOLcats



Speaking in LOLcats



Languages of Learning



Body language...

Languages of Learning



Clothing, uniforms, flags, drapes...

Languages of Learning



Cave paintings...

Old Media, New Media



Changing conceptions... 0:53 / 2:12

Old Media, New Media

Conceptions Like:

- messages have a sender and a receiver
- words get meaning from what they represent
- truth is based on the real world
- events have a cause, and causes can be known
- science is based on forming and testing hypotheses

These, taken together, constitute, a static, linear, coherent picture of the world, the world as though it were a book or library

OERs as *Language*, not Content

- We have to stop treating online resources – including educational materials - as though they were ‘content’
- The people who actually *use* them have moved far beyond that
- These artifacts constitute a new *language*; they are (if you will) the *words* is a large, complex, post-linguistic vocabulary
- That’s why they need to be open

Understanding New Media

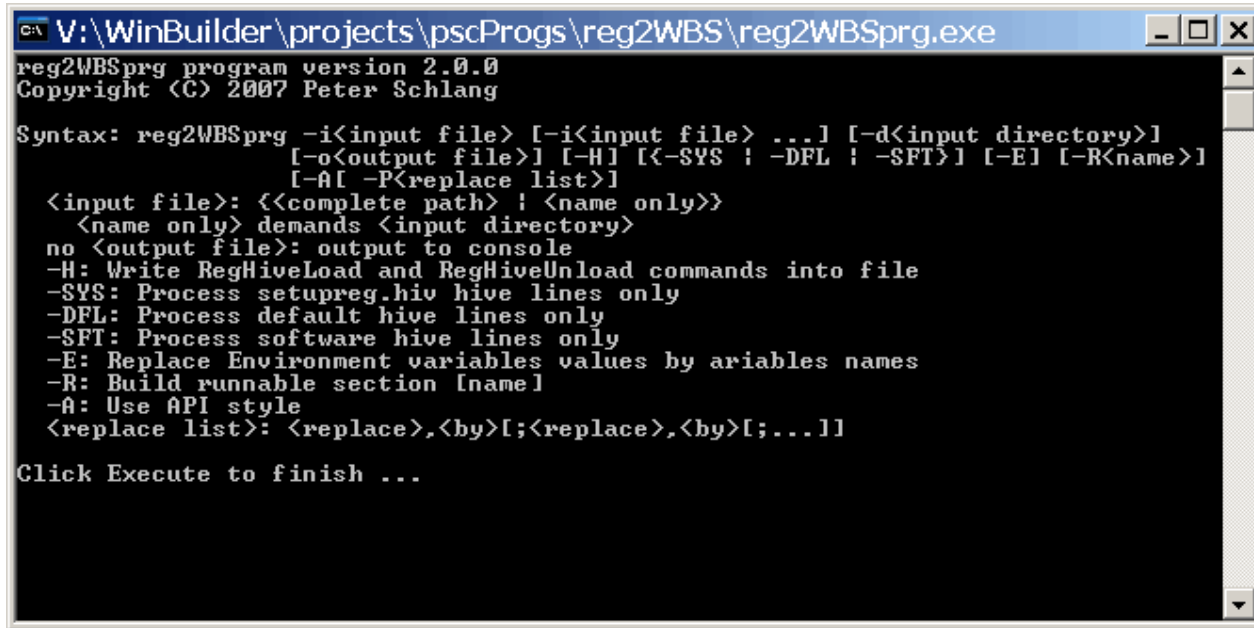
Morris, Derrida and a little Lao Tzu

Syntax	Cognition
Semantics	Context
Pragmatics	Change

We need this frame because if we aren't looking for these things, we just won't see them.

Syntax

Not just rules and grammar



```
C:\V:\WinBuilder\projects\pscProgs\reg2WBS\reg2WBSprg.exe
reg2WBSprg program version 2.0.0
Copyright (C) 2007 Peter Schlang

Syntax: reg2WBSprg -i [-i ...] [-d]
          [-o] [-H] [[-SYS | -DFL | -SFT]] [-E] [-R<name>]
          [-A] [-P<replace list>]

```

Forms: archetypes? Platonic ideals?

Rules: grammar = logical syntax

Operations: procedures, motor skills

Patterns: regularities, substitutivity (eggcorns, tropes)

Similarities: Tversky - properties, etc


Semantics


theories of truth / meaning / purpose / goal

[[SEMANTICS]]

of a structure

By Tom 7

[[]] = carrot

[[]] = bowling pin

<http://www.cs.cmu.edu/~tom7/csnotes/fall02/semantics.gif>

- Sense and reference (connotation and denotation)
- Interpretation (Eg. In probability, Carnap - logical space; Reichenbach - frequency; Ramsey - wagering / strength of belief)
- Forms of association: Hebbian, contiguity, back-prop, Boltzmann
- Decisions and decision theory: voting / consensus / emergence

Pragmatics

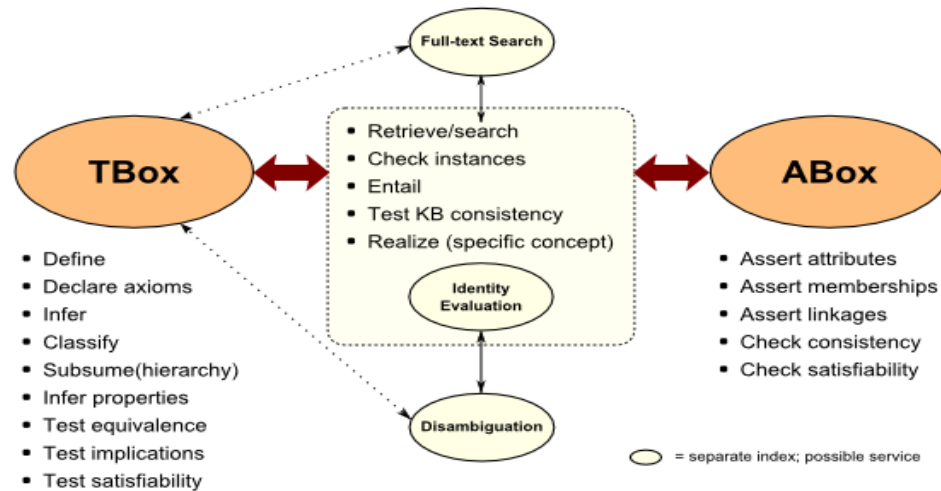
use, actions, impact



- Speech acts (J.L. Austin, Searle) assertives, directives, commissives, expressives, declarations (but also - harmful acts, harassment, etc)
- Interrogation (Heidegger) and presupposition
- Meaning (Wittgenstein - meaning is use)

Cognition

reasoning, inference and explanation



<http://www.mkbergman.com/category/description-logics/>

- description - X (definite description, allegory, metaphor)
- definition - X is Y (ostensive, lexical, logical (necess. & suff conds), family resemblance - but also, identity, personal identity, etc)
- argument - X therefore Y - inductive, deductive, abductive (but also: modal, probability (Bayesian), deontic (obligations), doxastic (belief), etc.)
- explanation - X because of Y (causal, statistical, chaotic/emergent)

Context

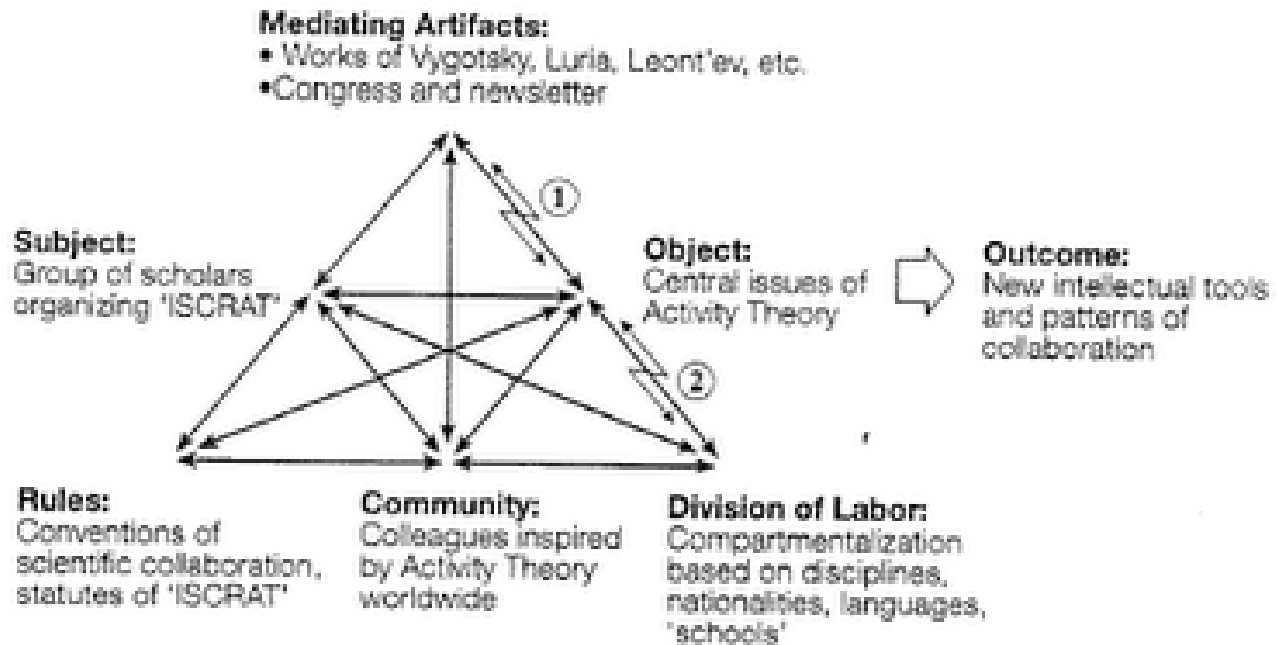
placement, environment



<http://www.occasionbasedmarketing.com/what-it-is>

- explanation (Hanson, van Fraassen, Heidegger)
- meaning (Quine); tense - range of possibilities
- vocabulary (Derrida); ontologies, logical space
- Frames (Lakoff) and worldviews

Change



- relation and connection: I Ching, logical relation
- flow: Hegel - historicity, directionality; McLuhan - 4 things
- progression / logic -- games, for example: quiz&points, branch-and-tree, database
- scheduling - timetabling - events; activity theory / LaaN

21st Century ~~Skills~~ Languages



http://spotlight.macfound.org/btr/entry/new_media_literacies/

The 'skills' described by Jenkins and others
performance, simulation, appropriation, etc -
are actually *languages* and should be
understood in terms of these six dimensions

21st Century Language

Languages Elements	Performance	Simulation	Appropriation
Syntax			
Semantics			
Pragmatics			
Cognition			
Context			
Change			

Example: Performance - Syntax

<p>Languages</p> <p>Elements</p>	<p>Performance (the ability to adopt alternative identities for the purpose of improvisation and discovery)(subcategories?)</p>
<p>Syntax:</p> <ul style="list-style-type: none">- Forms- Rules- Operations- Patterns- Similarities	<ul style="list-style-type: none">- Presentation acting, method acting- “Know your lines” etc http://filmtvcareers.about.com/od/gettingthejob/a/GJ_Actor_Tips.htm- Stanislavski’s system (etc...) http://en.wikipedia.org/wiki/Stanslavski%27s_system- Ritual Performance (etc.) http://www.let.rug.nl/koster/papers/JHP.Koster2.Edit.pdf- Comparing Tales (etc.) http://artsedge.kennedy-center.org/content/2343/

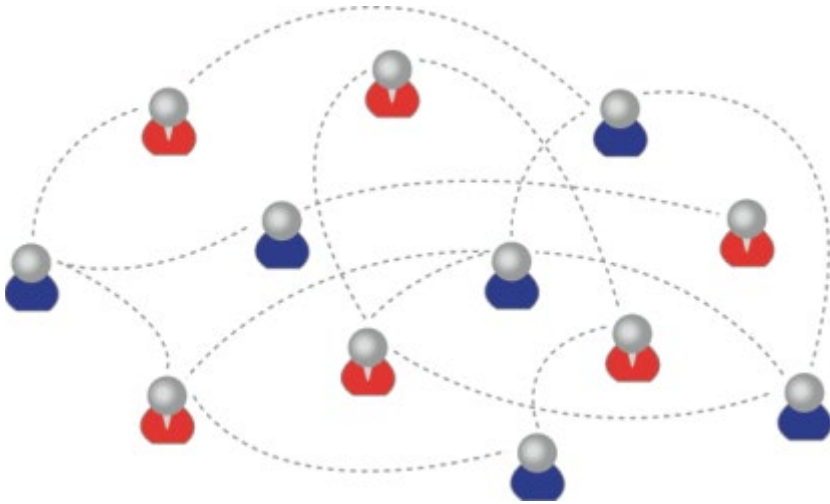
Assessment and Analytics

It makes no sense to rely on quizzes and tests



- Big Data, Web of Data, Semantic Web, RSS, Geo, FOAF...
- Mash-ups, APIs, the Cloud, Social Network

Personal Knowledge



We are using one of these

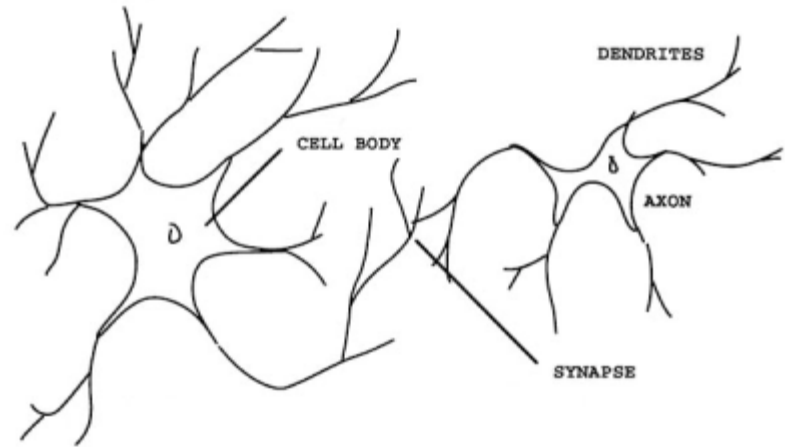


Figure 1. Biological Neuron

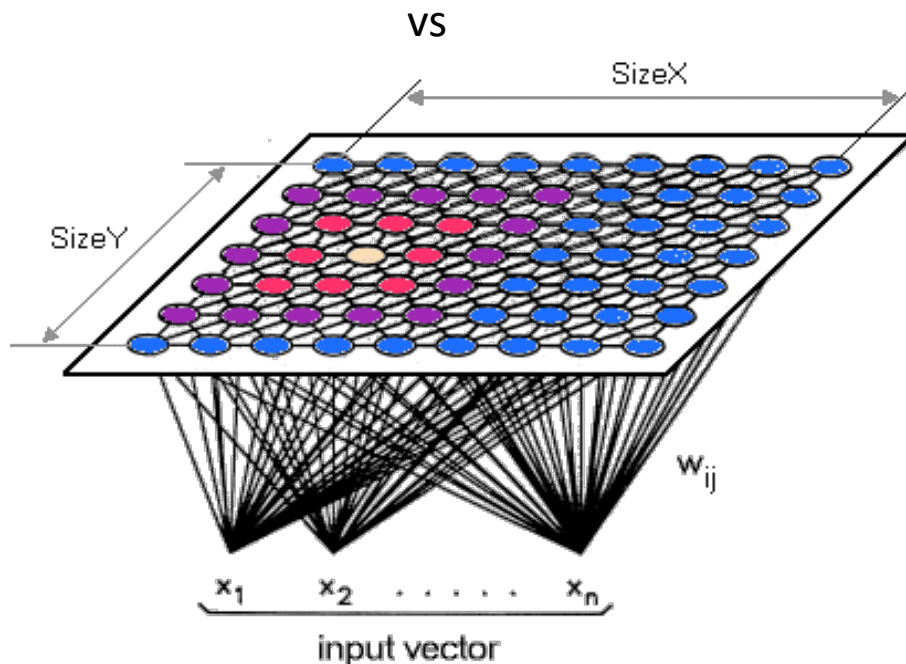
To create one of these

Personal knowledge consists of *neural* connections, not facts and data

Learning Outcomes

Simple vs complex – text vs network

“Paris is the capital of France”



Learning Outcomes

It is the difference between:

- ‘Knowing’ that ‘Paris is the capital of France’ or even some sort of ‘knowing how’ (these are *external* definitions of this knowledge) and
- What it *feels like* to have geographical knowledge; what it *feels like* to be a speaker of a language

Learning a discipline is a *total state* and not a collection of specific states

Learning Outcomes

- Learning a discipline is a *total state* and not a collection of specific states
- It is obtained through *immersion* in an environment rather than acquisition of particular entities
- It is expressed functionally (can you perform ‘as a geographer’ ?) rather than cognitively (can you state ‘geography facts’ or do ‘geography tasks’ ?)

Learning Outcomes

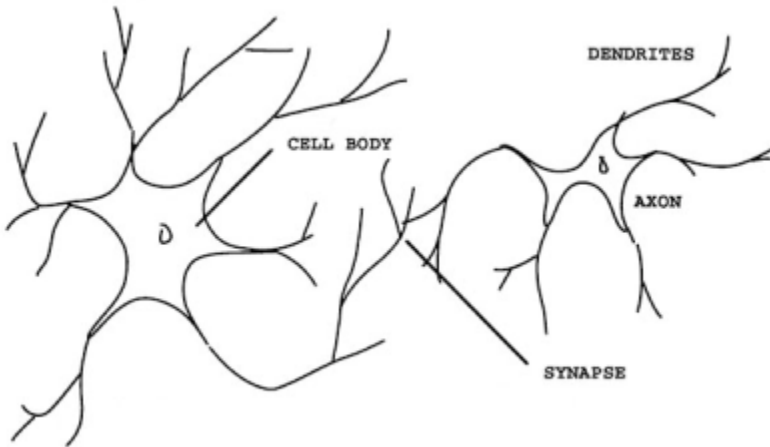
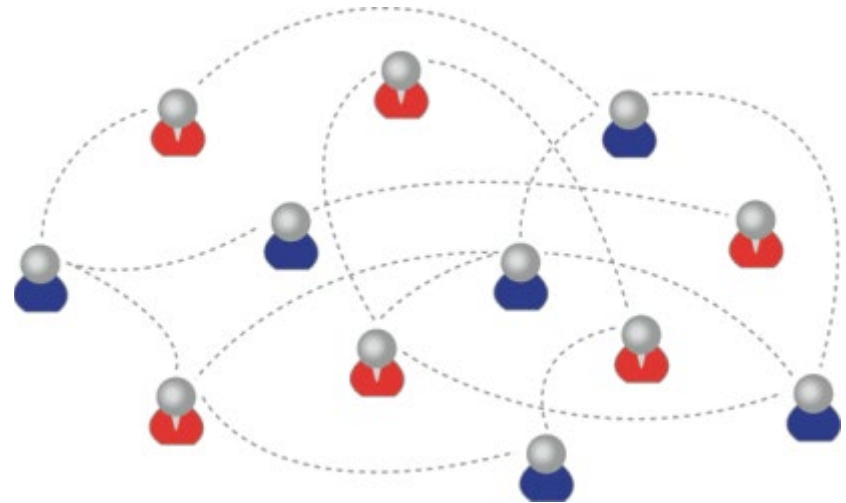


Figure 1. Biological Neuron

We recognize this



By performance in this

There are not specific bits of knowledge or competencies, but rather, personal capacities
(more on this later)

Success Factors

- What sort of decentralized network will best support learning-as-growth?

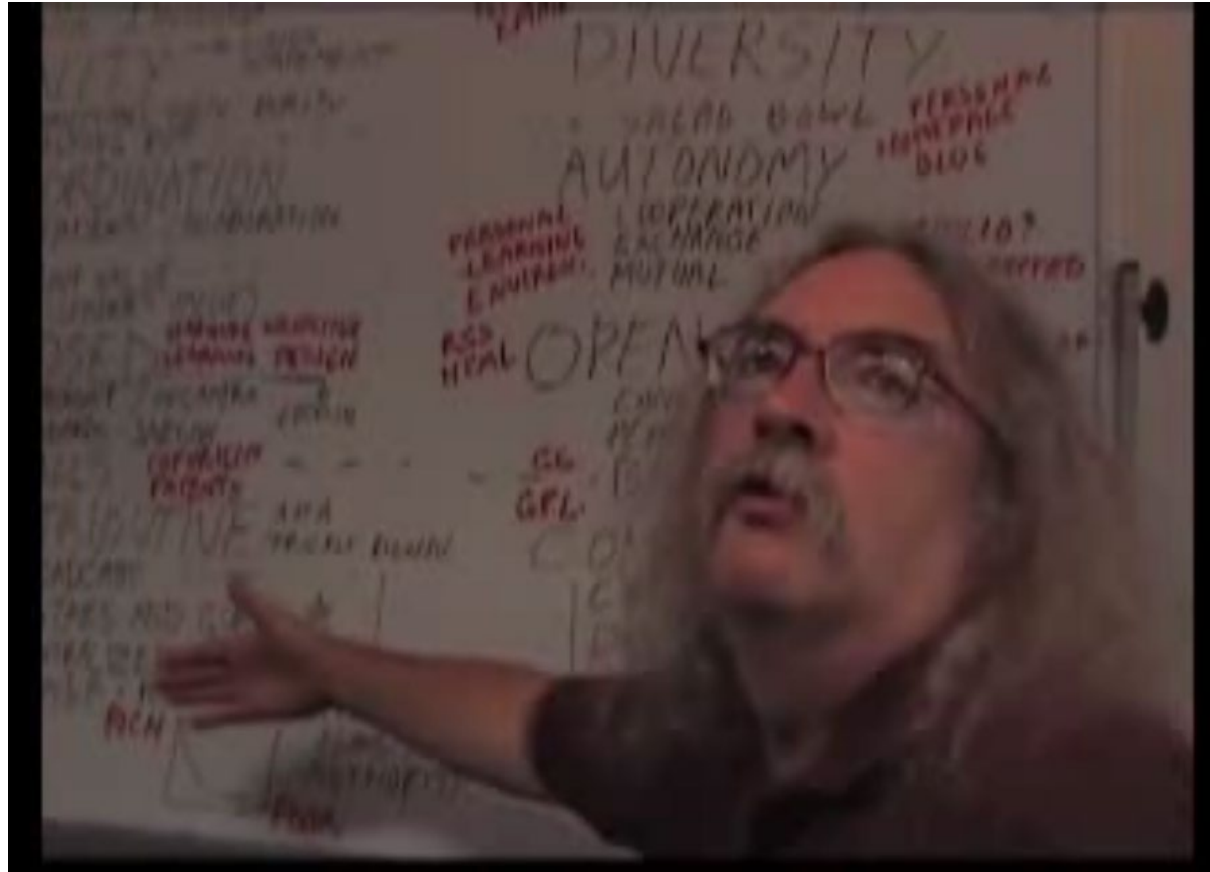


Network Democracy



Image: <http://www.iiav.nl/eazines/web/WomenLearningPartnership/2007/No17/learningpartnership/programfocus-print=1.htm>

Network Democracy



<http://video.google.com/videoplay?docid=-4126240905912531540#>

Diversity

- You need a mixture of materials – you cannot grow organically from carbon alone, or water alone



Openness

- Closed systems become stagnant
- Raw materials are depleted
- The system becomes clogged with the 'creative product' of its members



Autonomy

- The simple cloning of entities does not allow for progress or development
- Each individual entity must manage its own growth in its own way



Interactivity

- A system cannot grow unless its parts interact – flowers need bees, cows need grain, beavers need trees
- Growth is created not by accumulation but by *flow*, by constant activation and interaction





<http://www.youtube.com/watch?v=X0il0pgTUx0>

- <http://www.downes.ca>
- Free Learning

Stephen Downes