The role of open educational resources in personal learning environments

Stephen Downes
Saratoga Springs
April 29, 2011
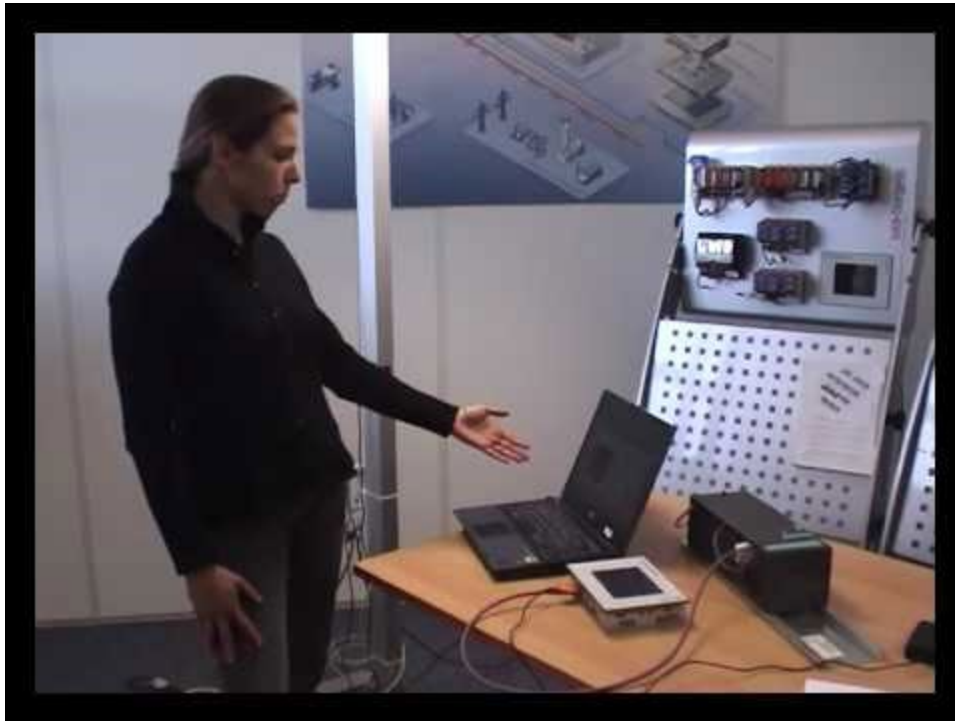
Have Network, Will Travel

1996

2006

One Laptop Per Child

2016?

"That's 40,000 books already delivered..."

"It is a press, certainly, but a press from which shall flow in inexhaustible streams...Through it, God will spread His Word. A spring of truth shall flow from it: like a new star it shall scatter the darkness of ignorance, and cause a light heretofore unknown to shine amongst men"

"A spring of truth shall flow from it"

http://www.gutenberg.org/

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

●Consonants:

ㄱ	ㄴ	ㄷ	ㄹ	ㅁ	ㅂ	ㅅ	ㅇ	ㅈ
\k,g\	\n\	\t,d\	\r,l\	\m\	\p,b\	\s,sh\	\ng\	\ch,j\
kiyok	niun	tikut	riul	mium	piup	siot	iung	chiut

ㅊ	ㅋ	ㅌ	ㅍ	ㅎ
\ch'\	\k'\	\t'\	\p',f\	\h\
ch'iut	k'iuk	t'iut	p'iup	hiut

●Vowels

ㅏ	ㅑ	ㅓ	ㅕ	ㅗ	ㅛ	ㅜ	ㅠ	ㅡ	ㅣ
\a\	\ya\	\eo\	\yeo\	\o\	\yo\	\u\	\yu\	\eu\	\ee\

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

Language, literacy, libraries

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

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

इंदिरा गाँधी राष्ट्रीय मुक्त विश्वविद्यालय
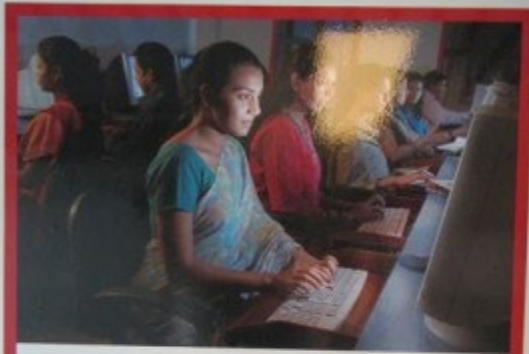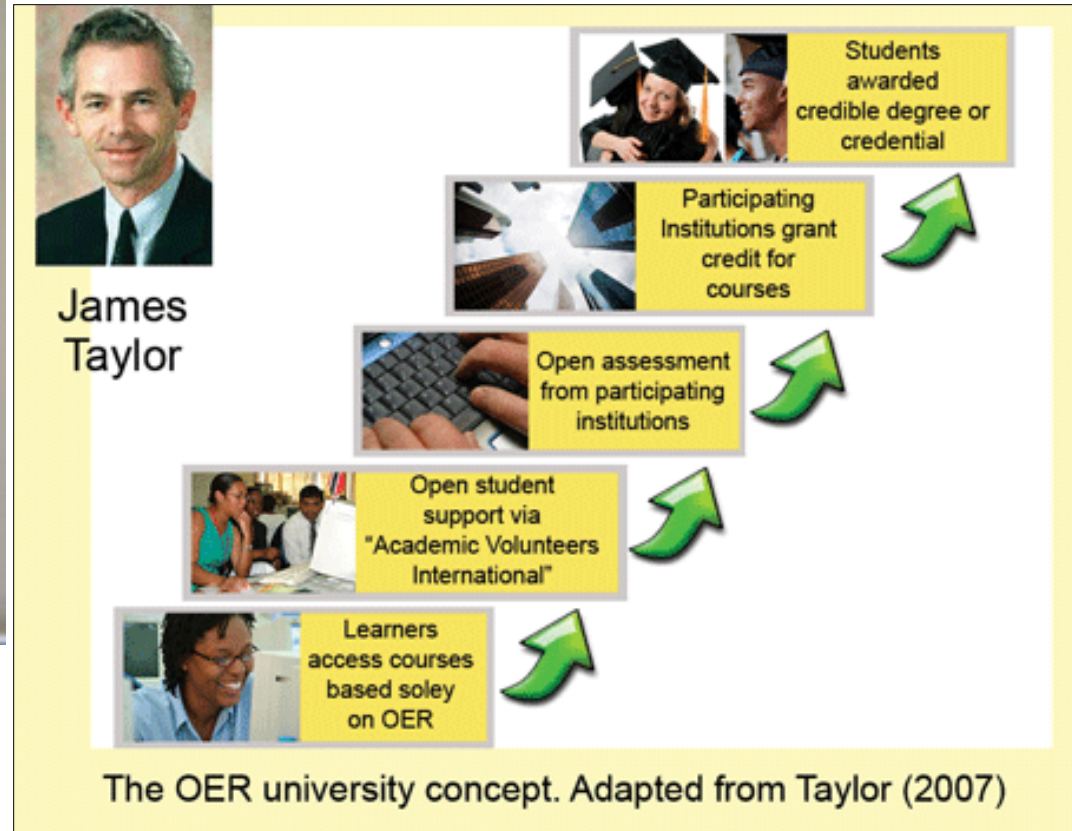
http://www.ignou.ac.in/

http://www.athabascau.ca/

The Idea of Open Learning…

Indian e-tutors generate $20 million annually, teaching American students. Do you see a world of potential? We do.
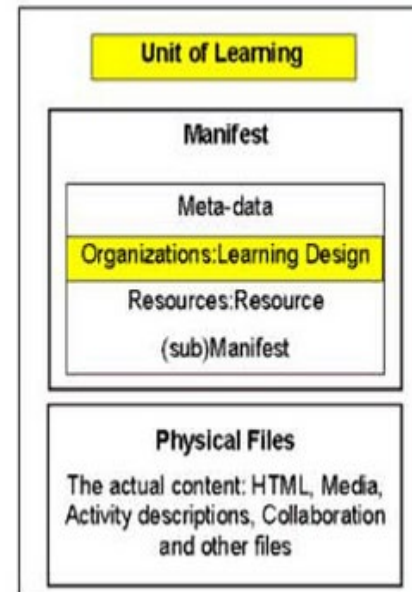
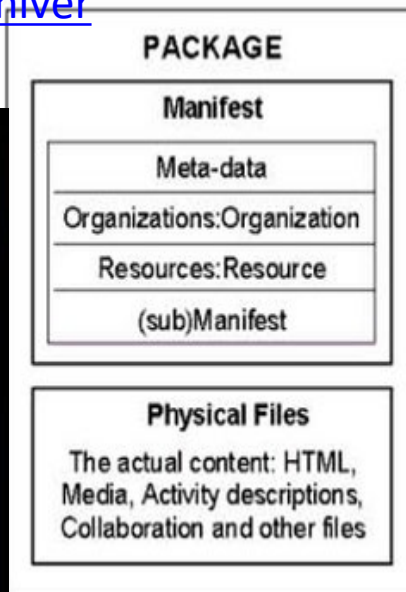Students awarded credible degree or credential

Participating Institutions grant credit for courses

Open assessment from participating institutions

Open student support via "Academic Volunteers International"

Learners access courses based soley on OER

James Taylor

The OER university concept. Adapted from Taylor (2007)

Phases of Openness?

Free Learning Content?

MERLOT RDN ICONEX Harvey Project ZaidLearn
UT OCW JHSPH OCW SciQ MIT OCW
eGranary Digital Library CLOE Wikipedia
Gutenberg Project PEOI W3Schools Fathom Archive
CAREO WOW!
Connexions USU OCW Tufts OCW
OOPS Open Yale Courses
WebJunction Lydia Global Reposi...

PACKAGE

Manifest

Meta-data

Organizations:Organization

Resources:Resource

(sub)Manifest

Physical Files

The actual content: HTML, Media, Activity descriptions, Collaboration and other files

Unit of Learning

Manifest

Meta-data

Organizations:Learning Design

Resources:Resource

(sub)Manifest

Physical Files

The actual content: HTML, Media, Activity descriptions, Collaboration and other files

Open Educational Resources

Open Educational Resources

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

Open Educational Resources
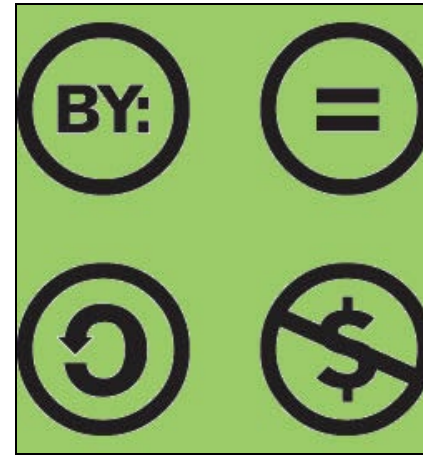
The idea is to create a mid-range of licenses between
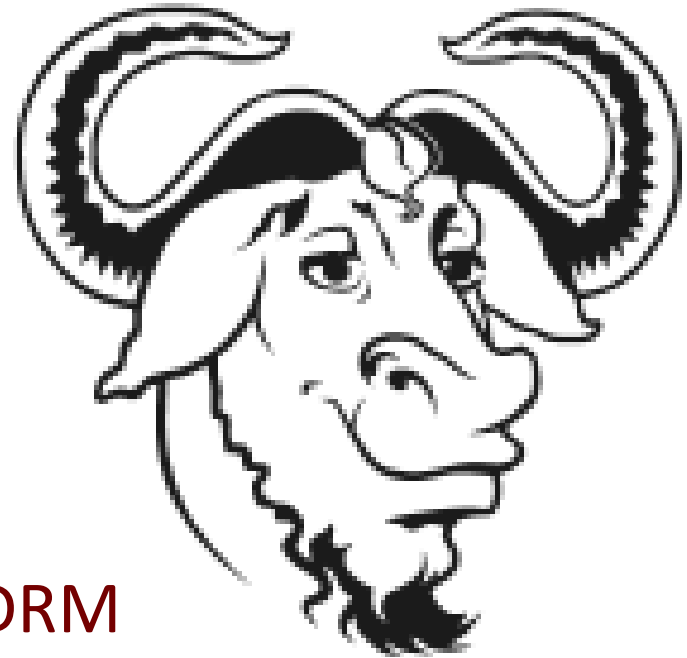Copyright and public domain - "some rights reserved"

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 Licensehttp://opencontent.org/openp

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

David Wiley

http://opencontent.org/blog/

Open Courseware

Open Courseware

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   CNXML
http://cnx.org/content/col10522/latest/

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

"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

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."
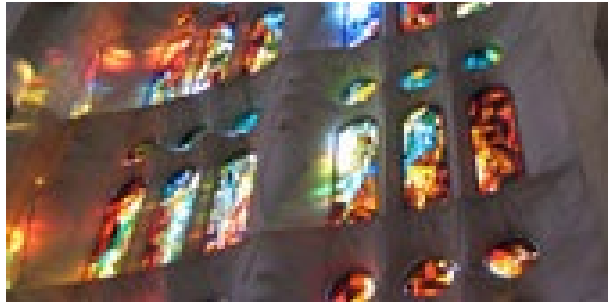
Open Courseware

GLOBE

http://globe-info.org/

ARIADNE
edna Online
LORNET
MERLOT
NIME

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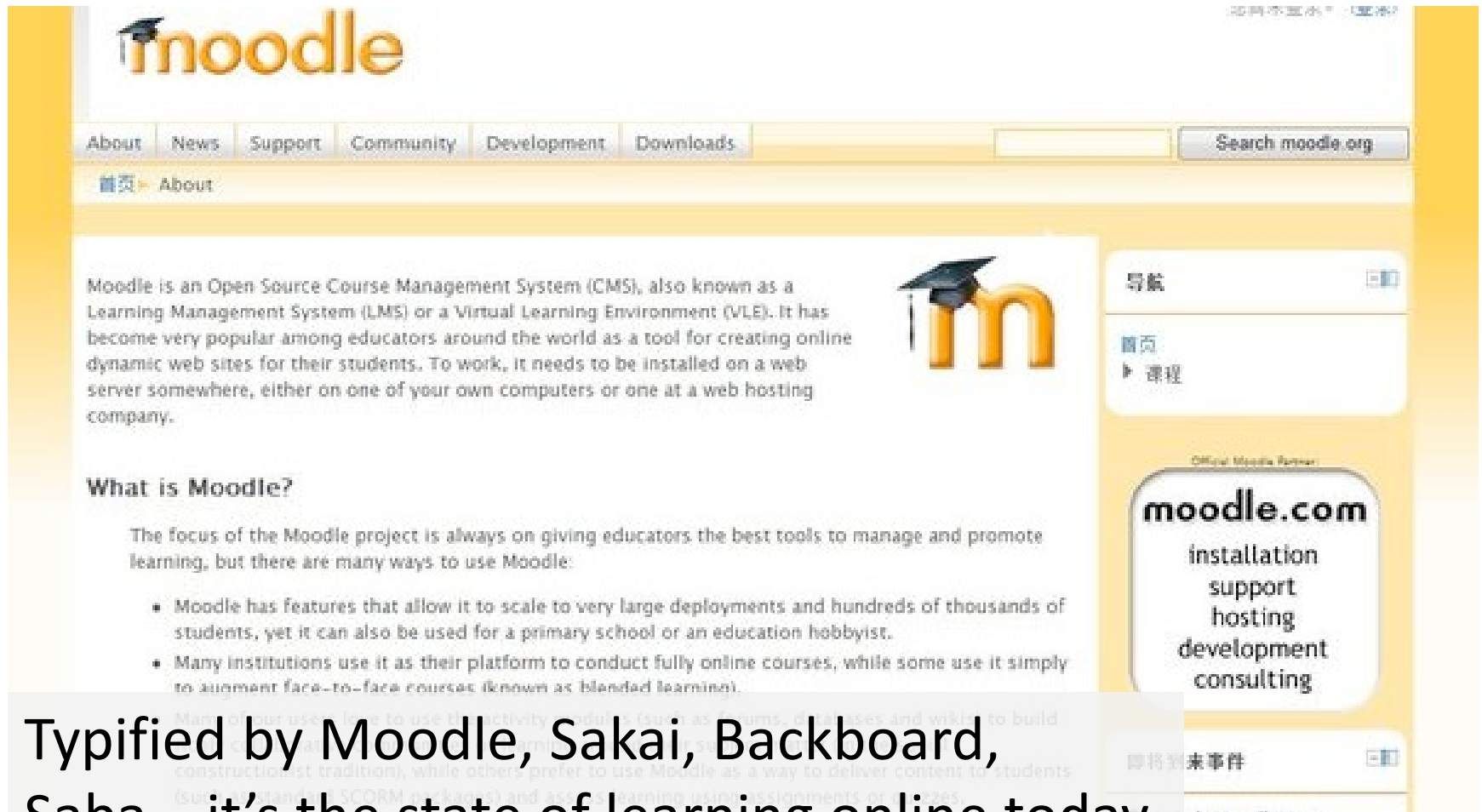
Typified by Moodle, Sakai, Backboard, Saba... it's the state of learning online today

The LMS

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

The LMS

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

The Idea of the PLE
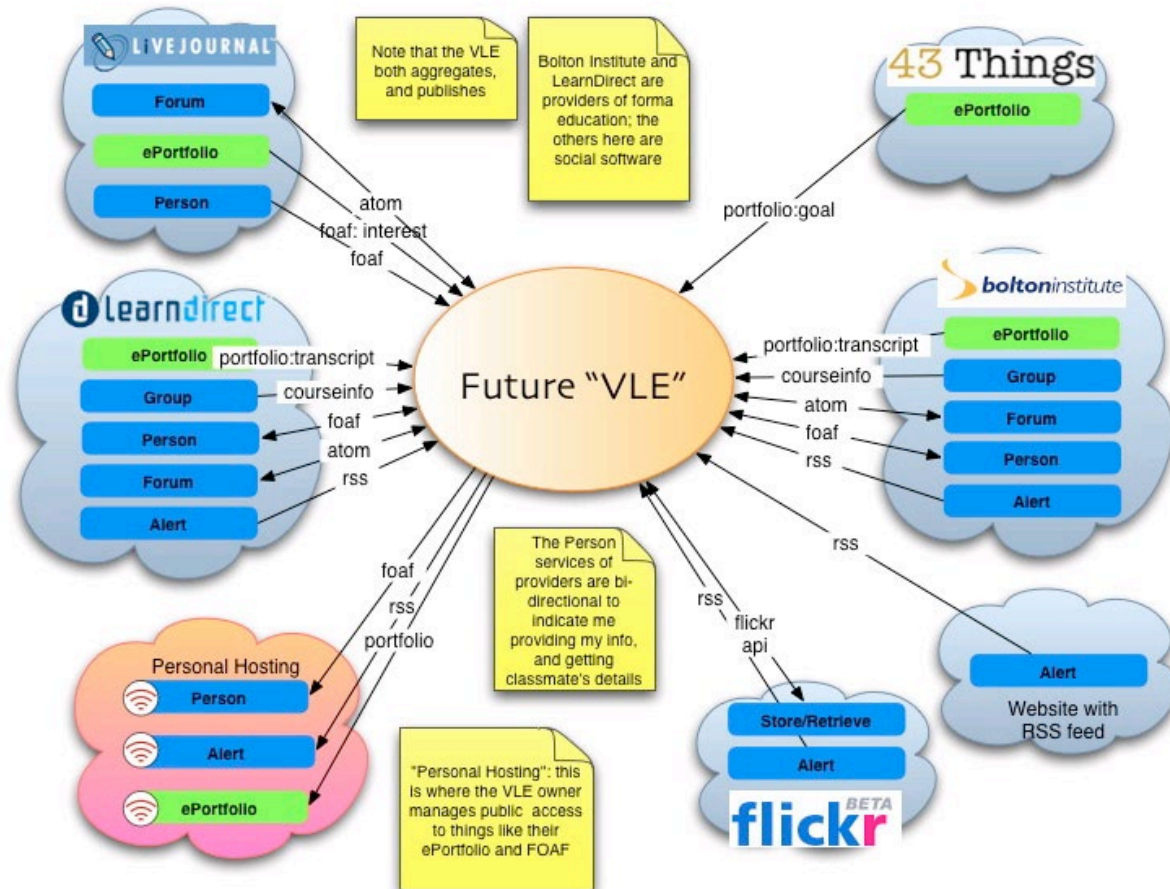
Aggregation and Remixing
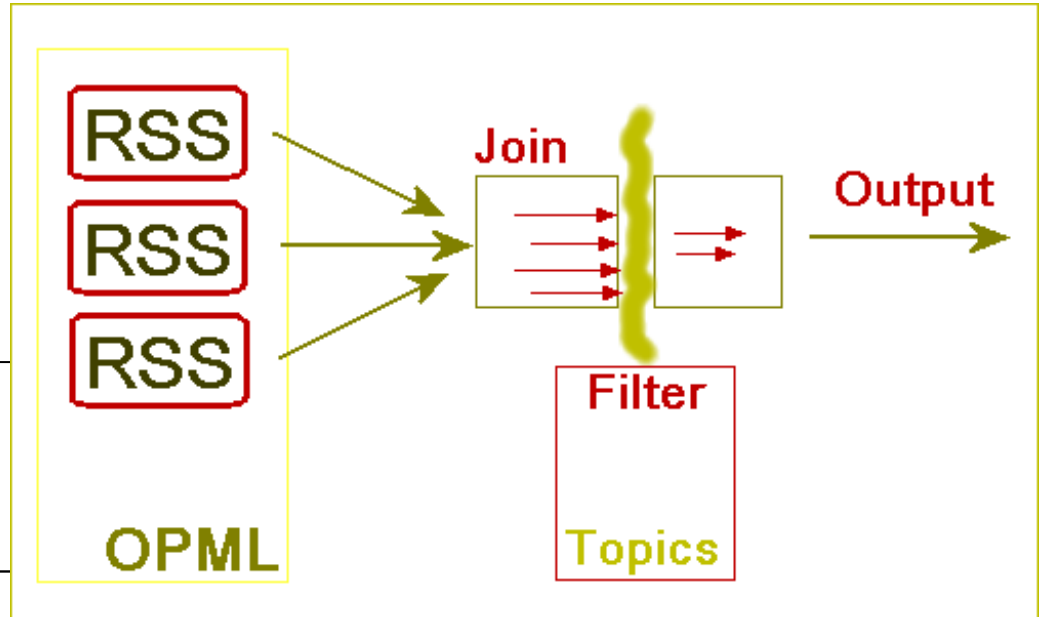
MyGlu

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)

RSS
RSS
RSS

OPML

Join

Filter

Topics

Output

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

gRSShopper
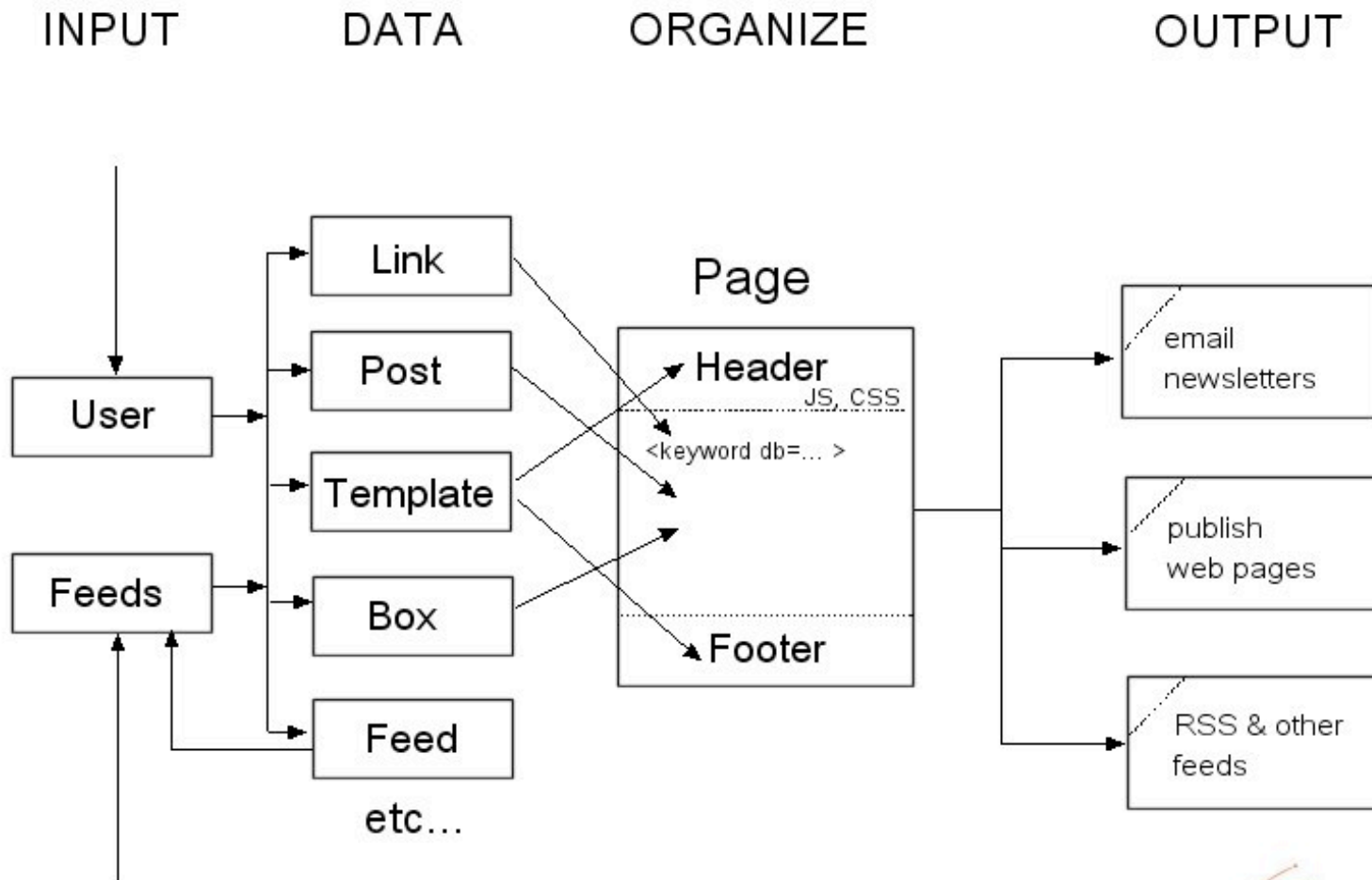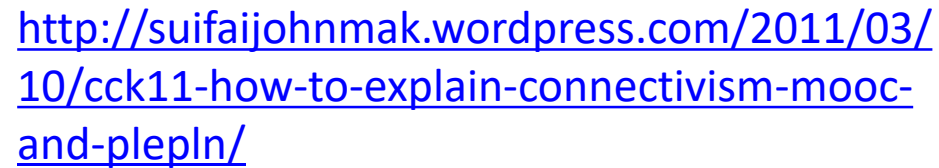
The Connectivism Courses
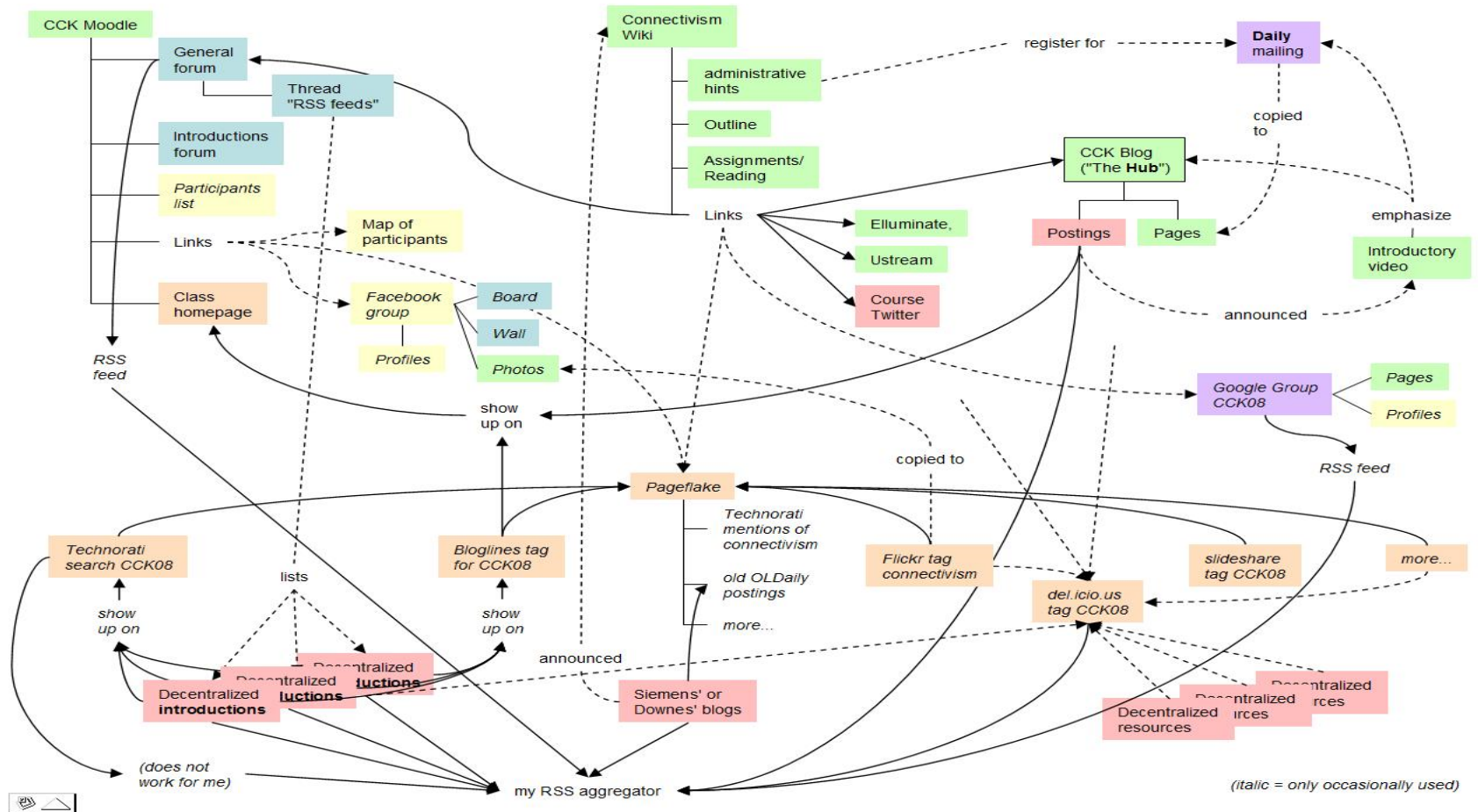
The Connectivism Courses

The Connectivism Courses

Our Experience
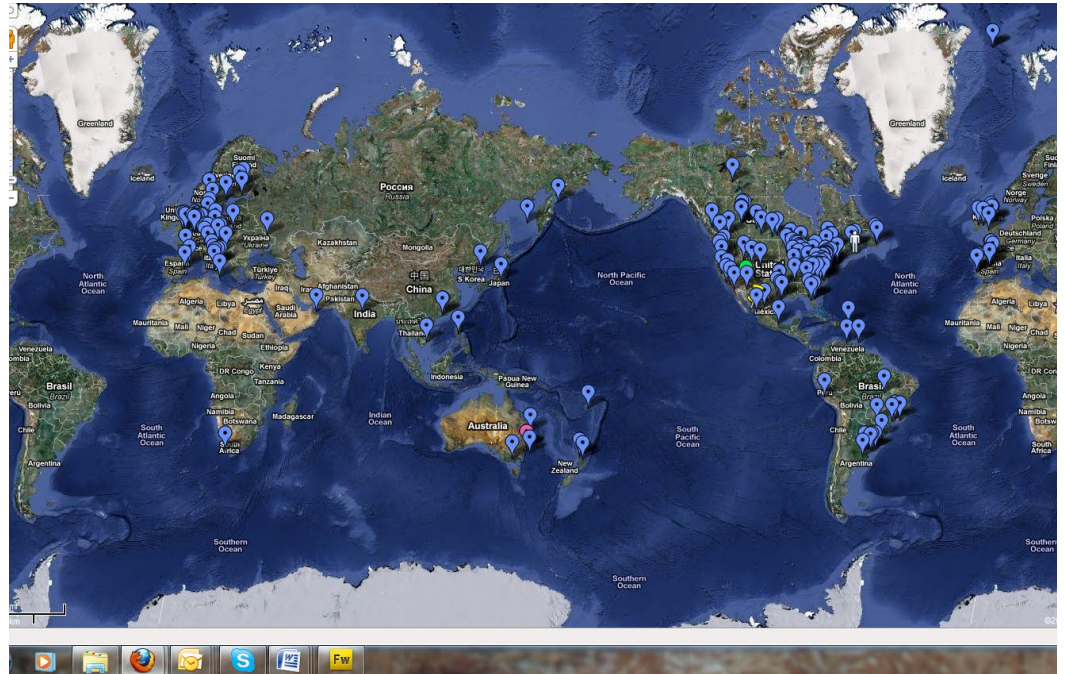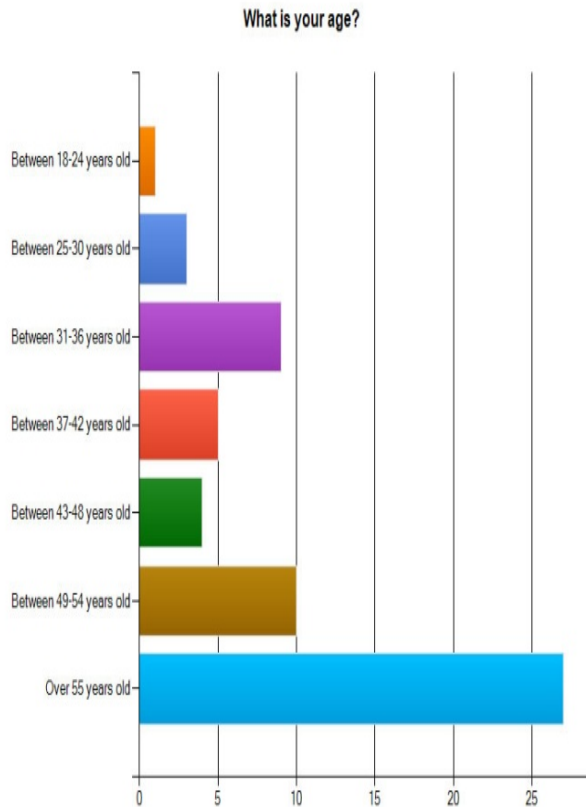
Kop and Fournier,
Connecting the Dots,
CIDER, 2011

Our Experience

PLENK Analytics
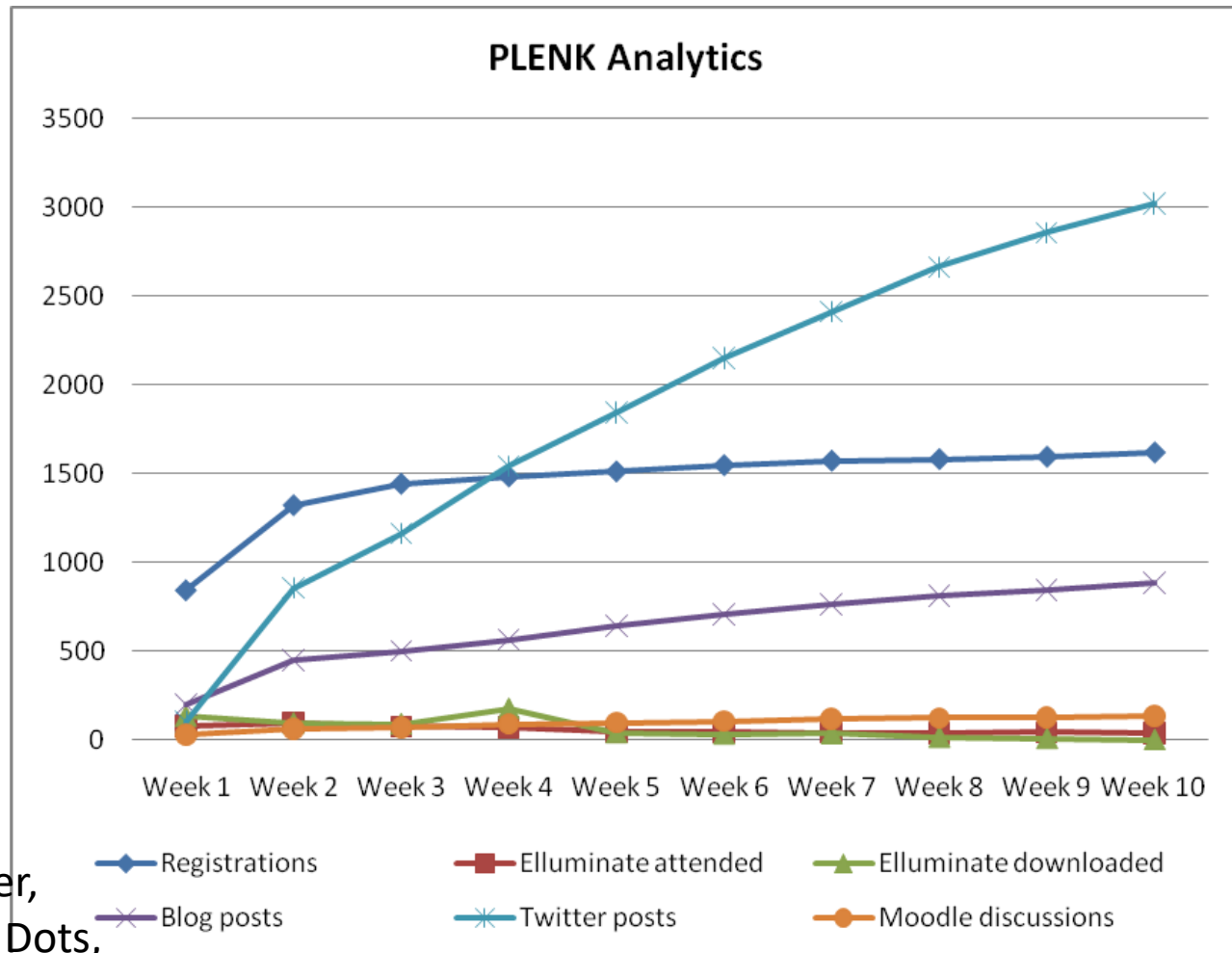
Kop and Fournier,
Connecting the Dots,
CIDER, 2011

PLENK participation rates

Our Experience
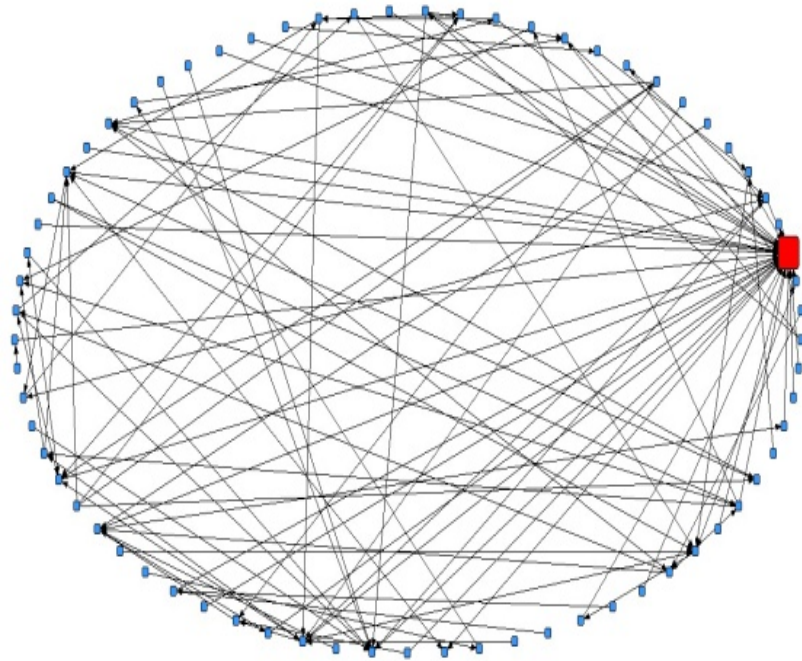
The complex network a facilitator's post generated

Kop and Fournier,
Connecting the Dots,
CIDER, 2011
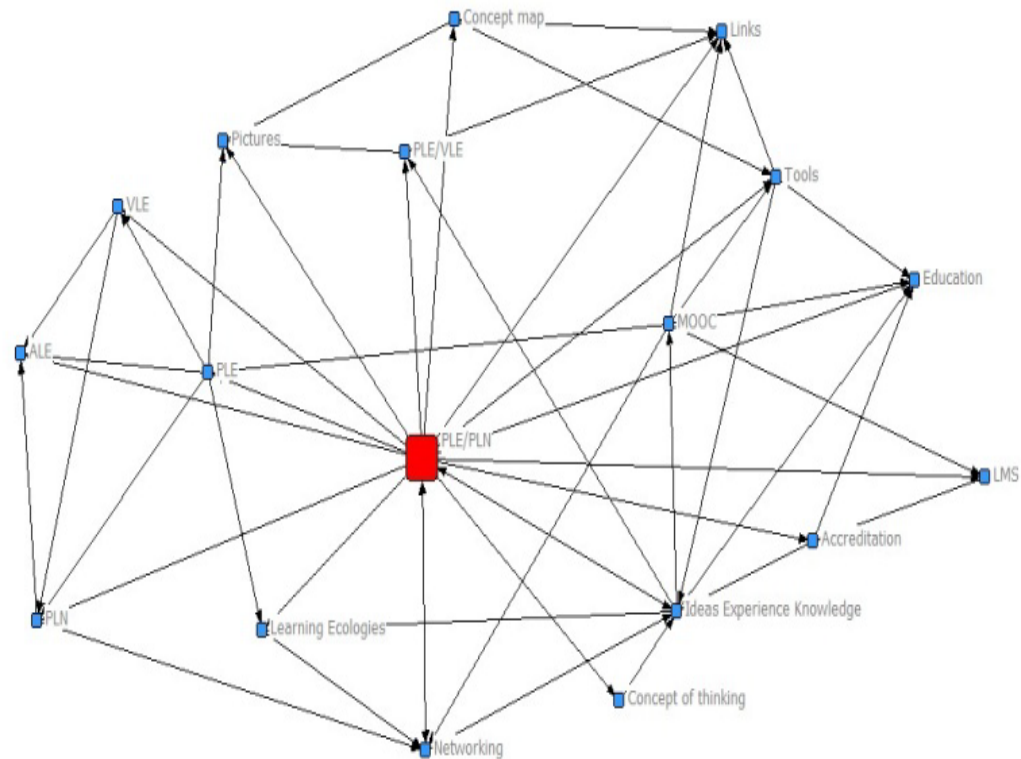
Relationships between topics in a discussion in week 1

Our Experience

•Plenkers in Twitter
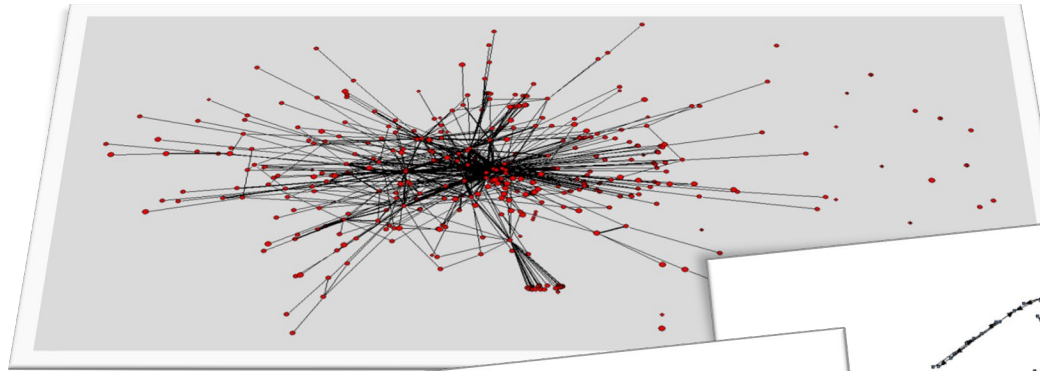
Tweets for a week: Tweets, retweets, replies

Kop and Fournier,
Connecting the Dots,
CIDER, 2011

35

Our Experience

Twitter PLENK connections to hash-tag networks
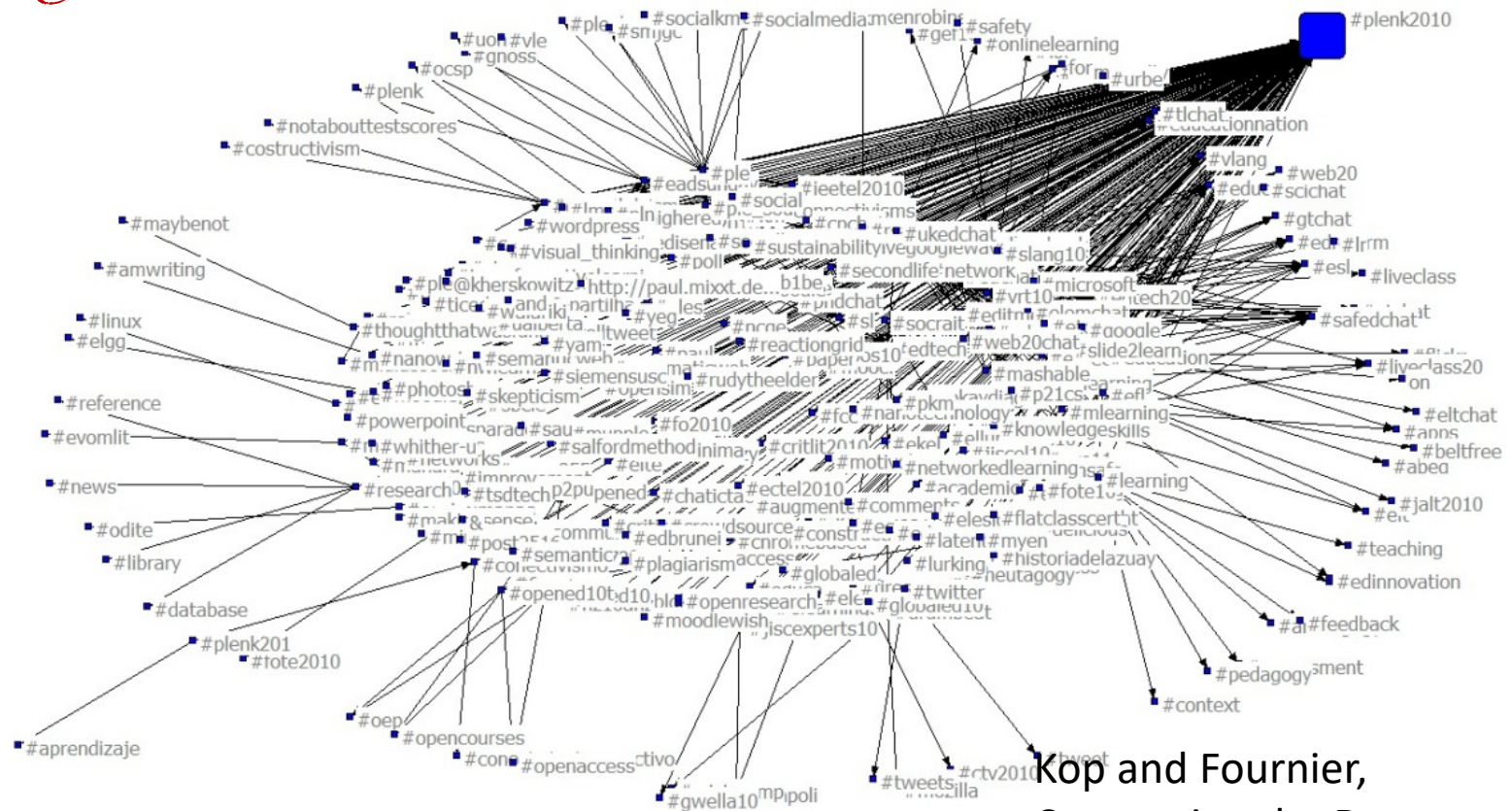
#tags related to Twitter posts in the PLENK Daily - six weeks duration

Kop and Fournier, Connecting the Dots, CIDER, 2011

Knowledge Transfer

Image: http://stat.kompasiana.com/files/2010/07/knowledgetransfer.jpg

The Induction Model

INFO

INDIVIDUALLY CONSTRUCTED
INDEPENDENT - PERSON

Filtering
Validation
Synthesis
Presentation
Customization

MAKE
SENSE
BY

Sharing
Connecting
Exchanging
Giving &Receiving
Feedback
Debating

INTERPERSONAL CONNECTION
SOCIALLY CONSTRUCTED

Personal and Social Growth

KNOWLEDGE
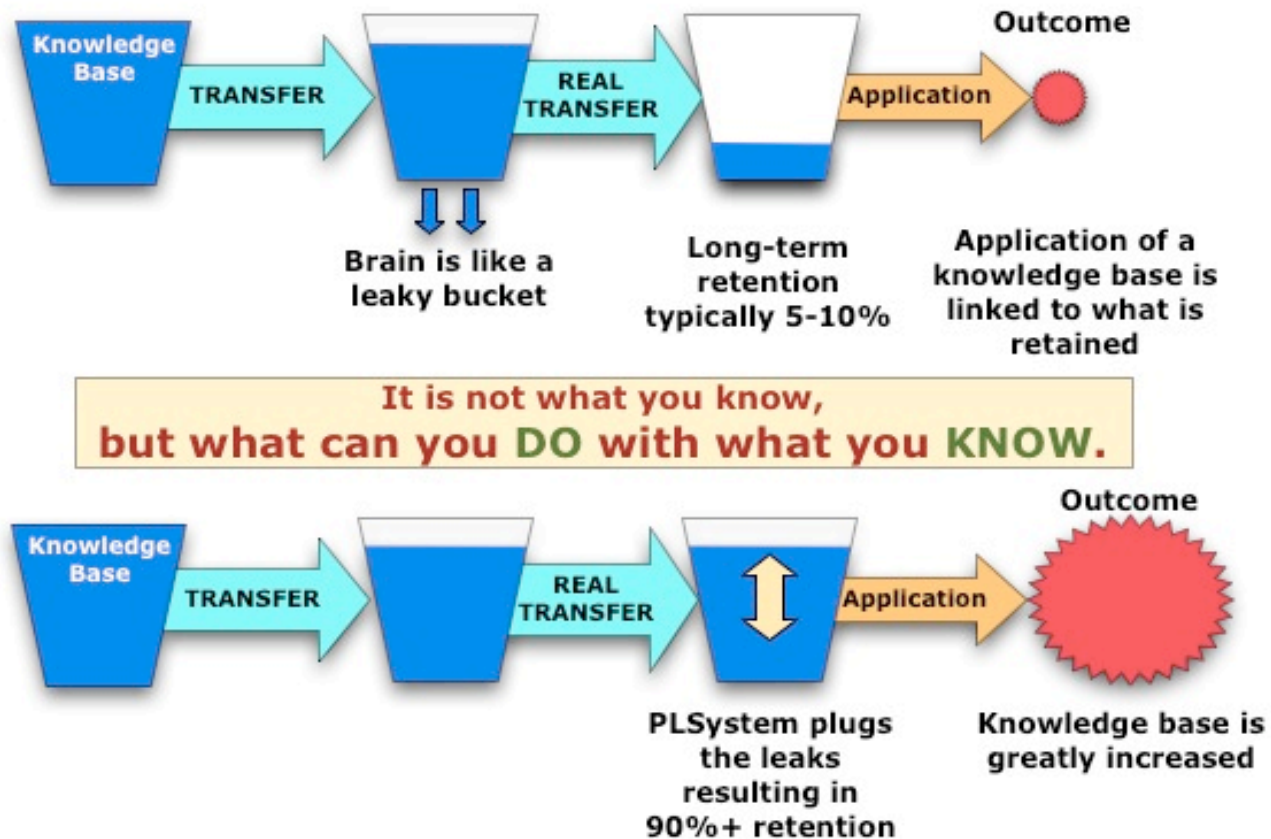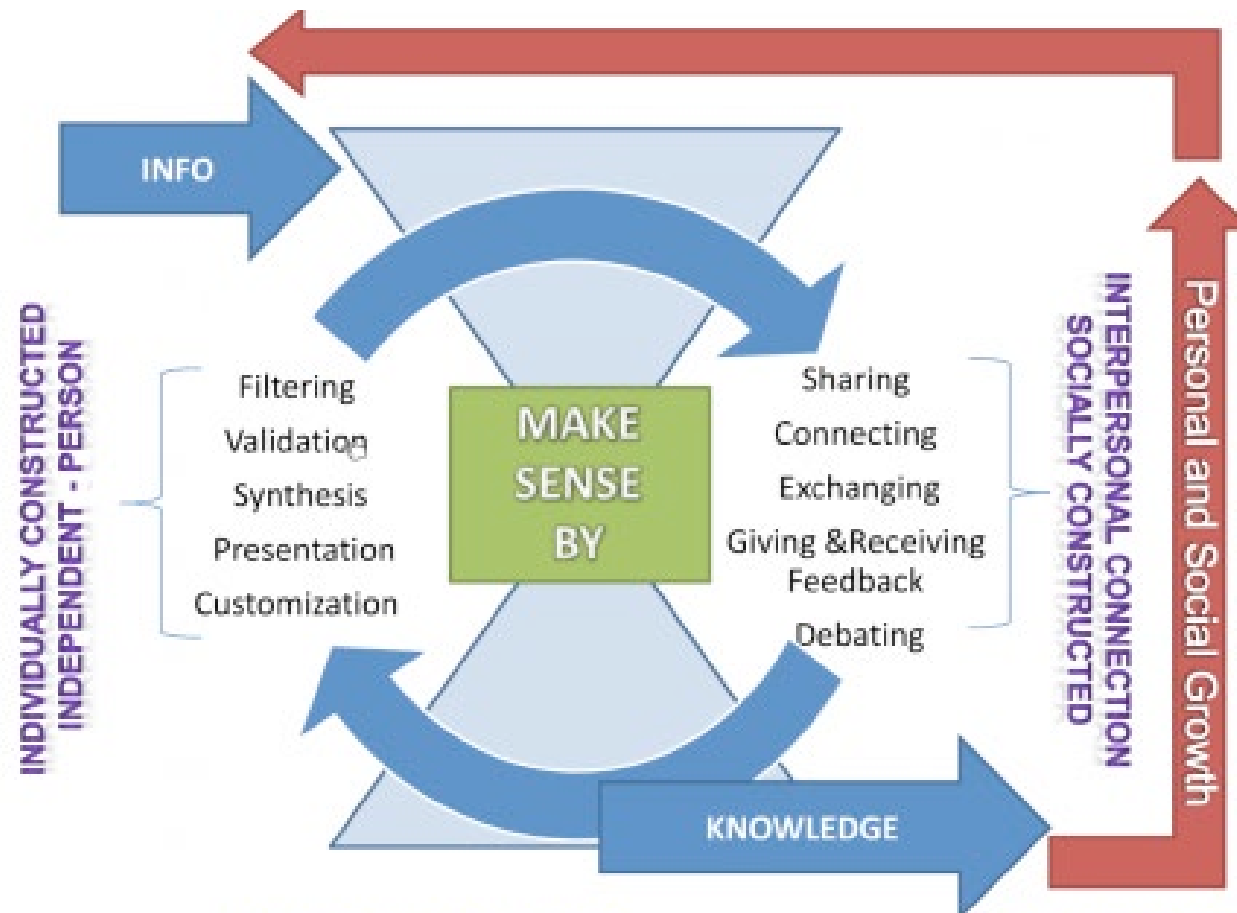
Silvia Andreoli http://saandreoli.wordpress.com - Inspired by Harold Jarche http://www.jarche.com/
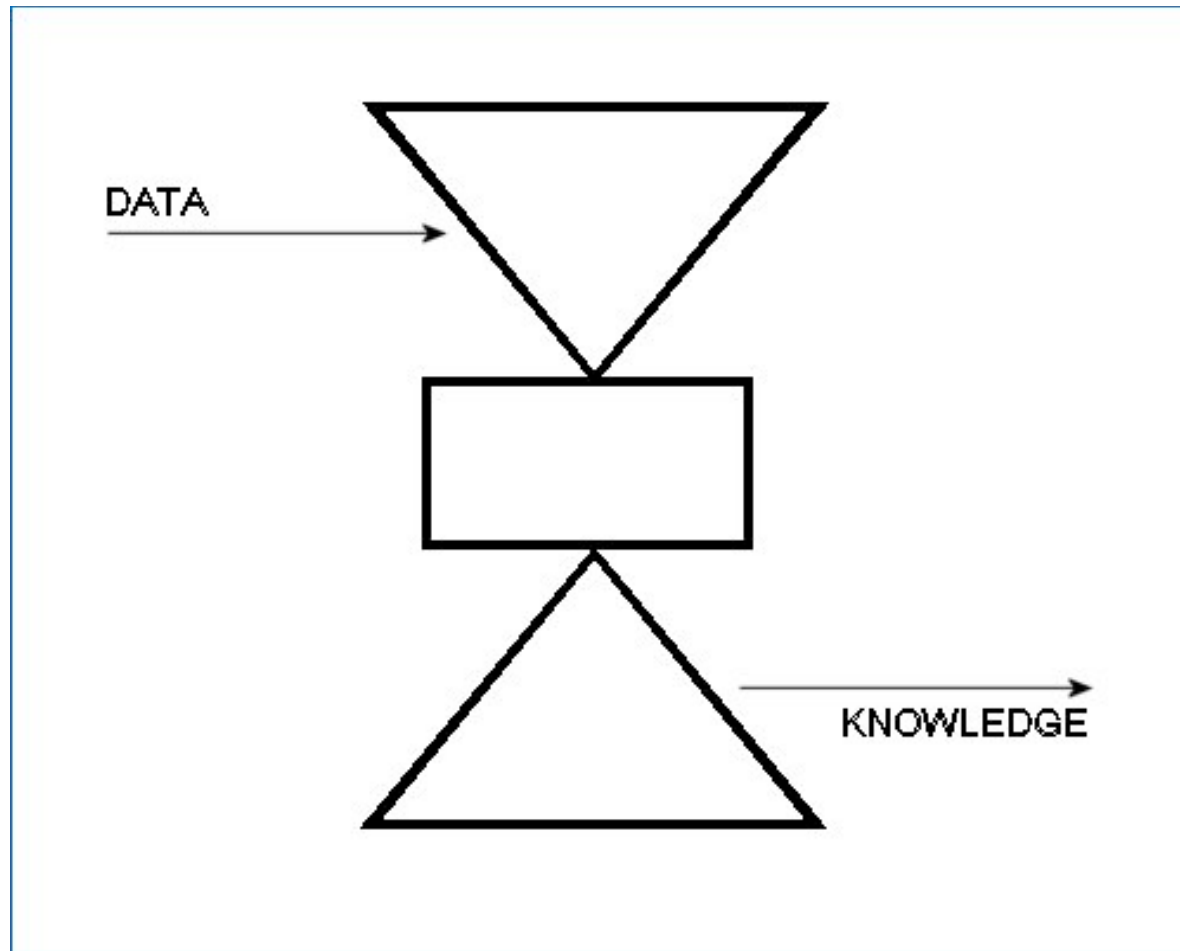
The Induction Model

The Induction Model

DATA

KNOWLEDGE

Transmission Model
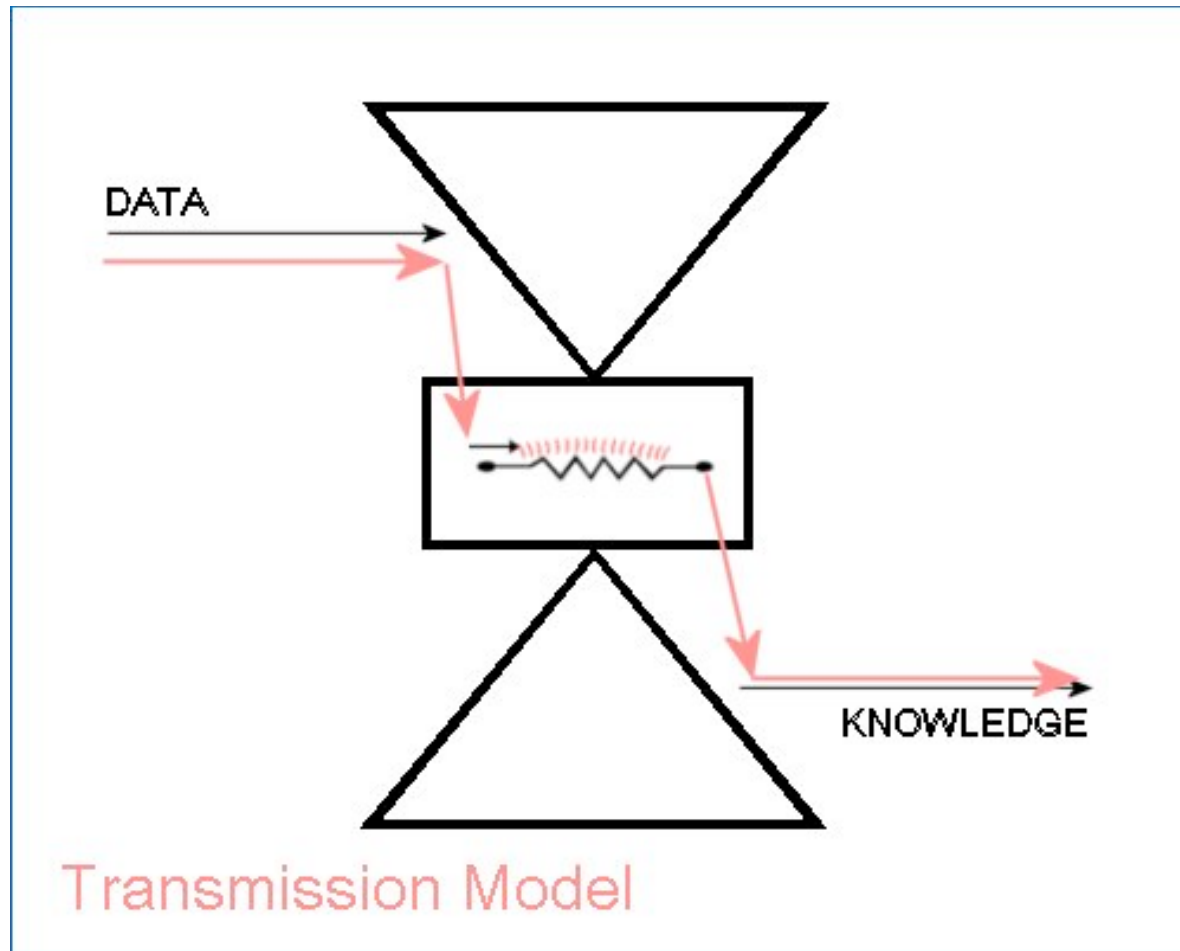
The Induction Model
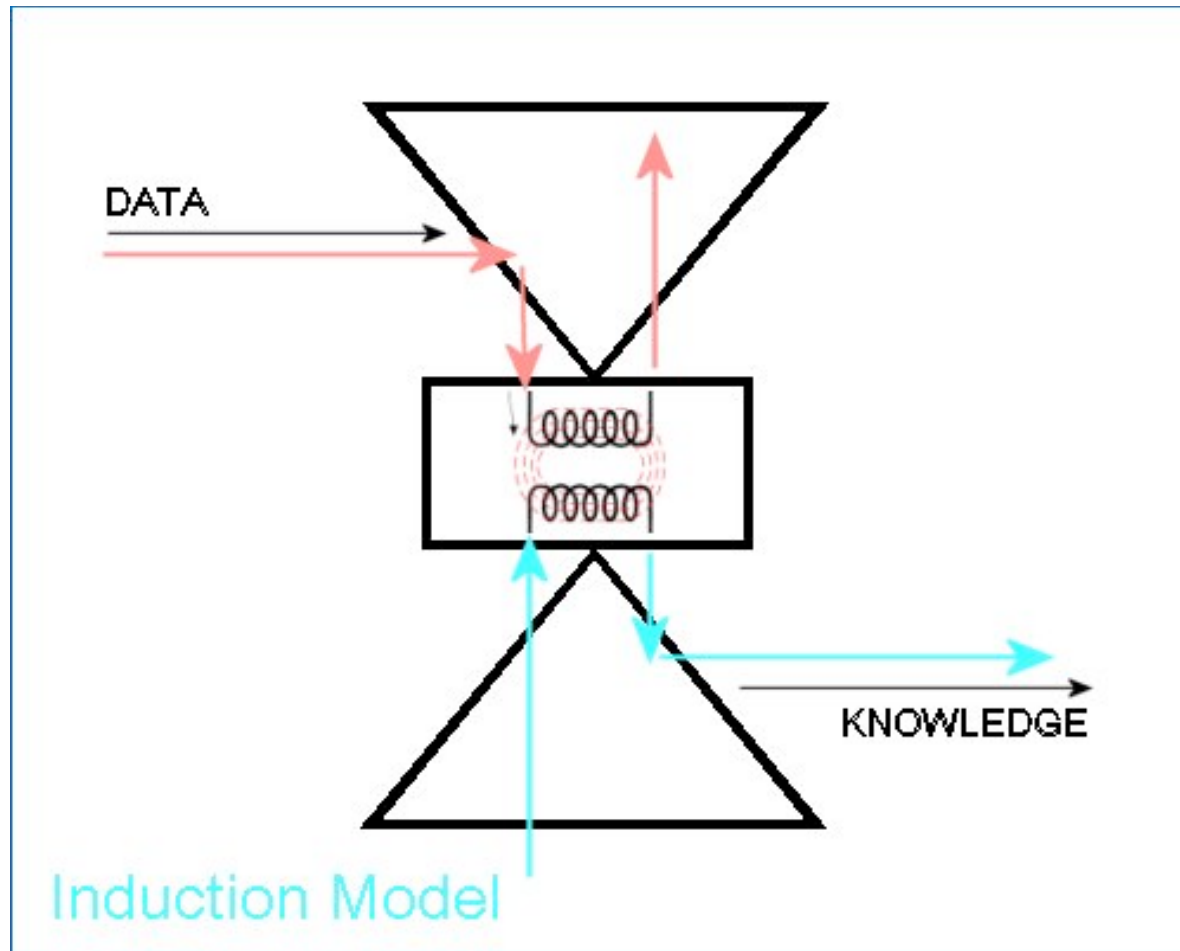
Connectivism

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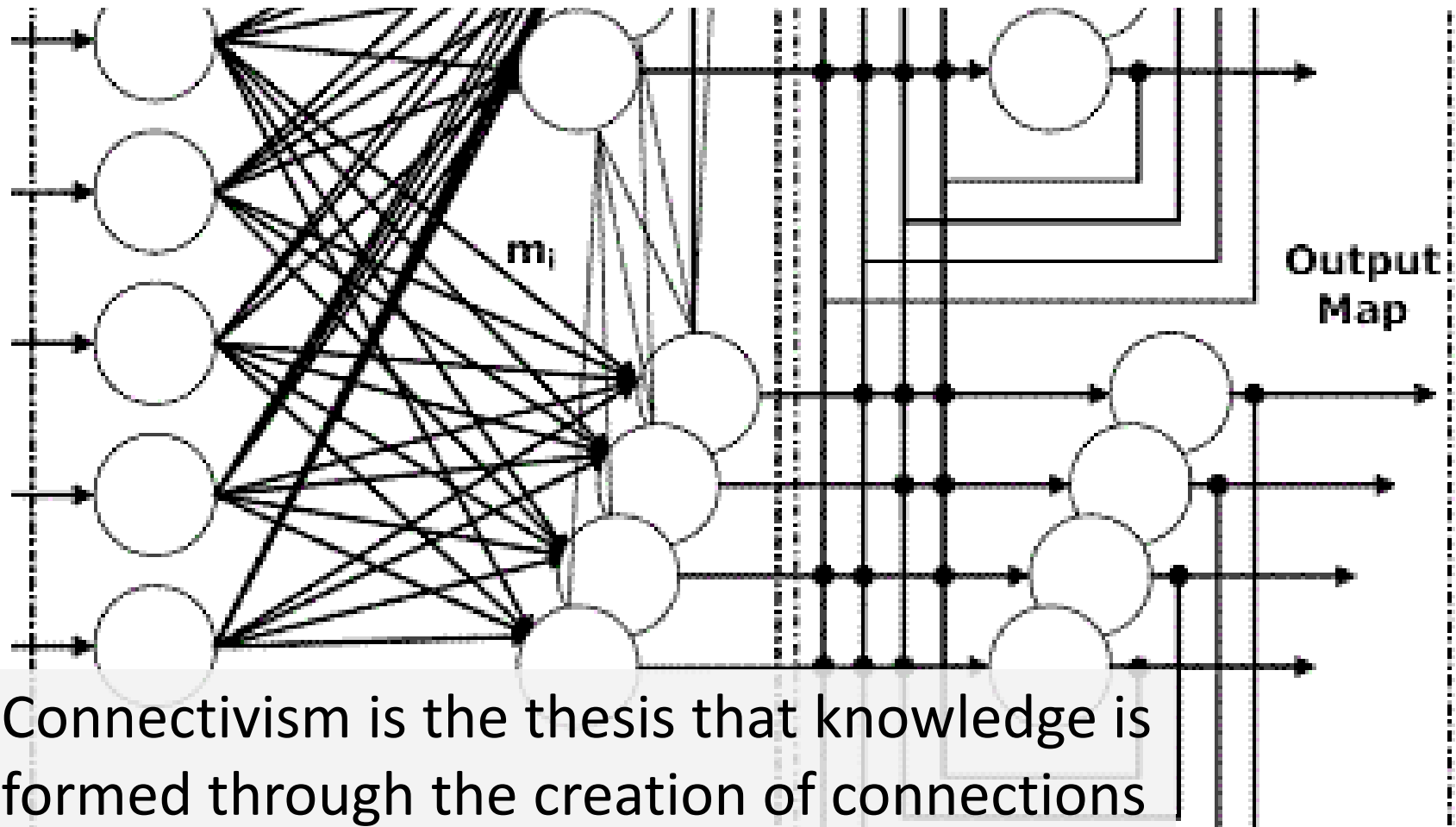
Connectivism

- 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…

CONNECTED=
ENGAGED

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
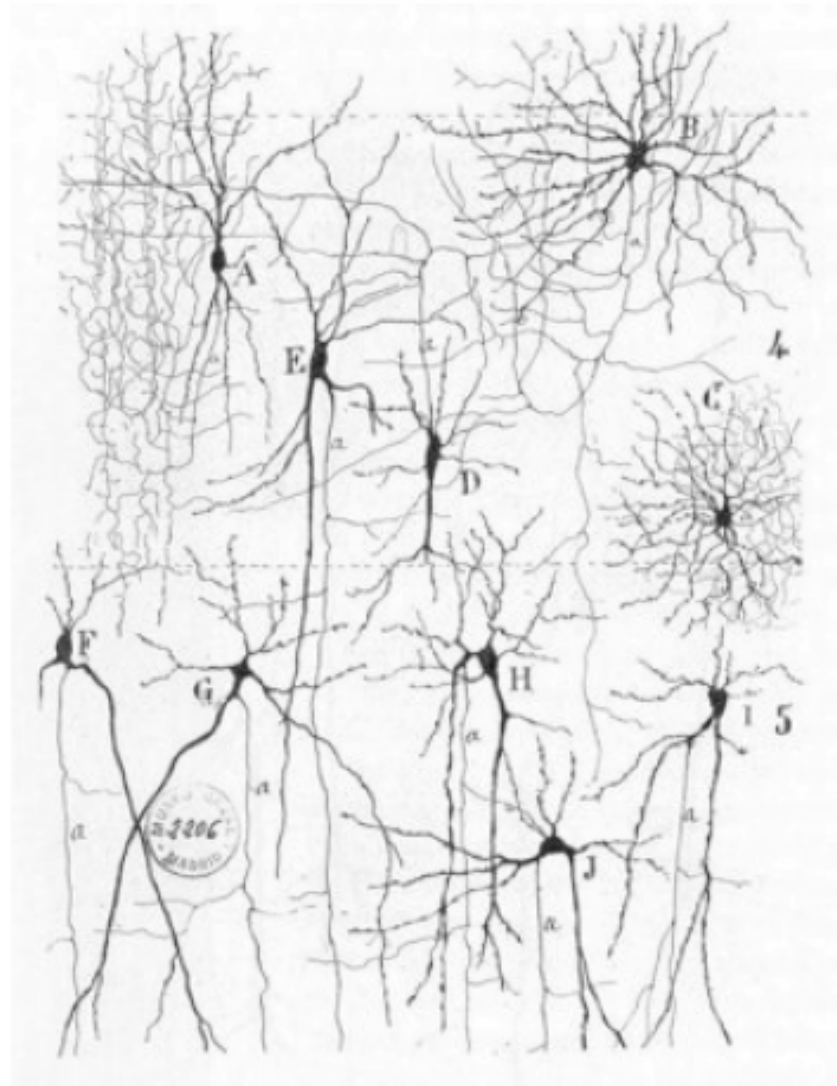
Aggregate

Remix

Repurpose
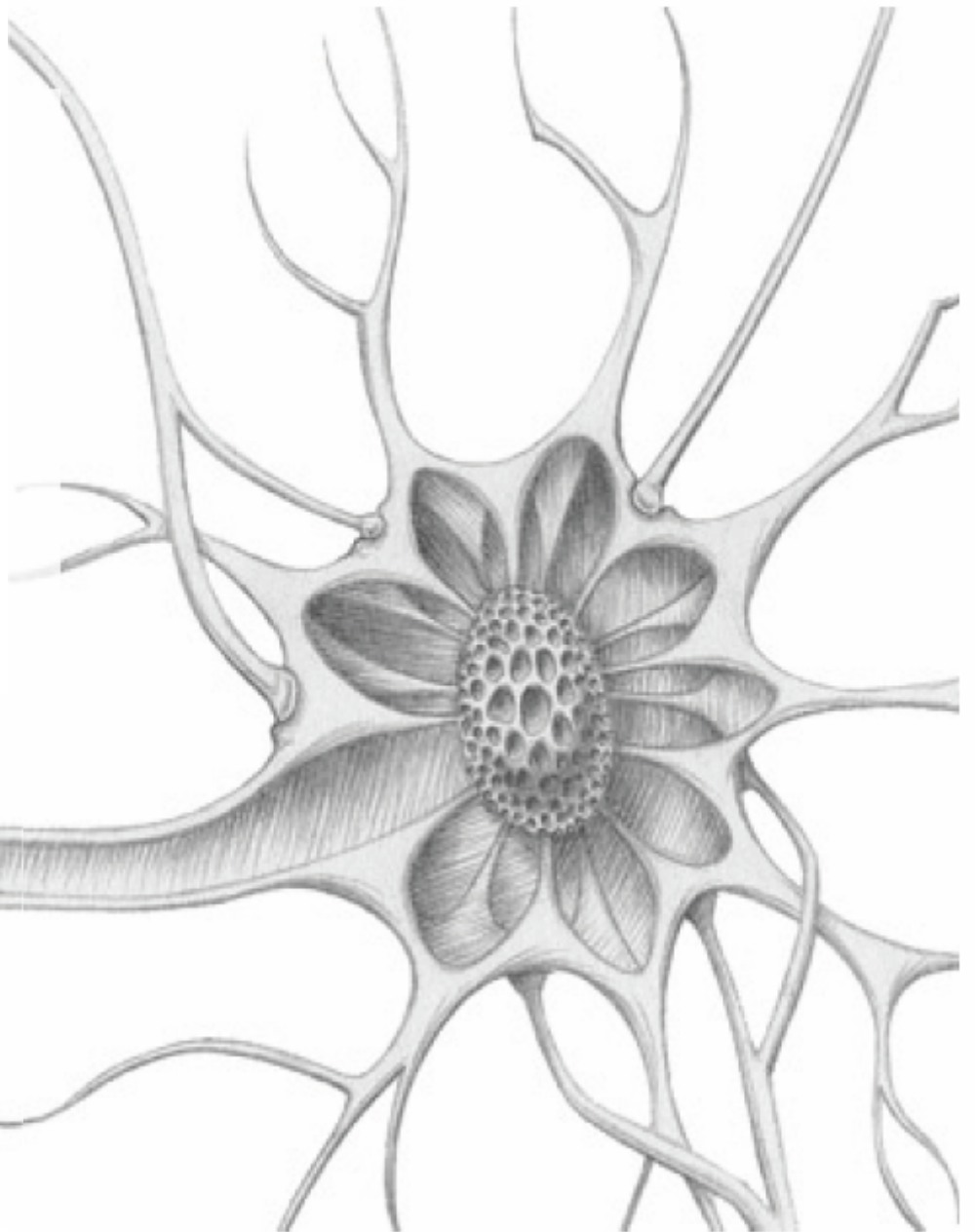
Feed Forward

ARRFF

Learning as Immersion

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

Learning as Immersion

Image: http://one.laptop.org/

Constructionism

Image: http://eurologo.web.elte.hu/lectures/valente.htm
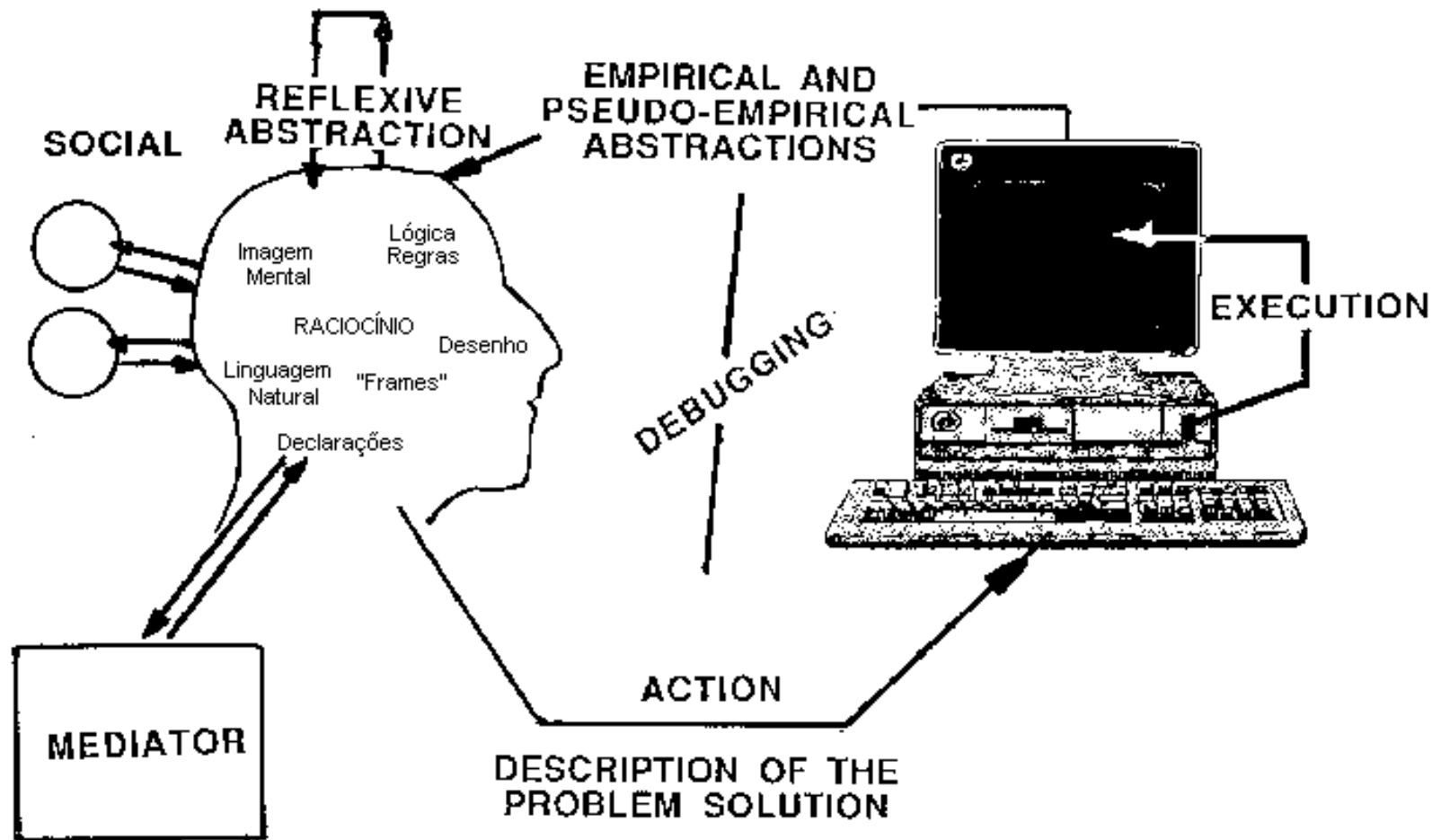
Speaking in LOLcats

Speaking in LOLcats

Speaking in LOLcats

Languages of Learning

Body language…

Languages of Learning

Clothing, uniforms, flags, drapes…

Languages of Learning
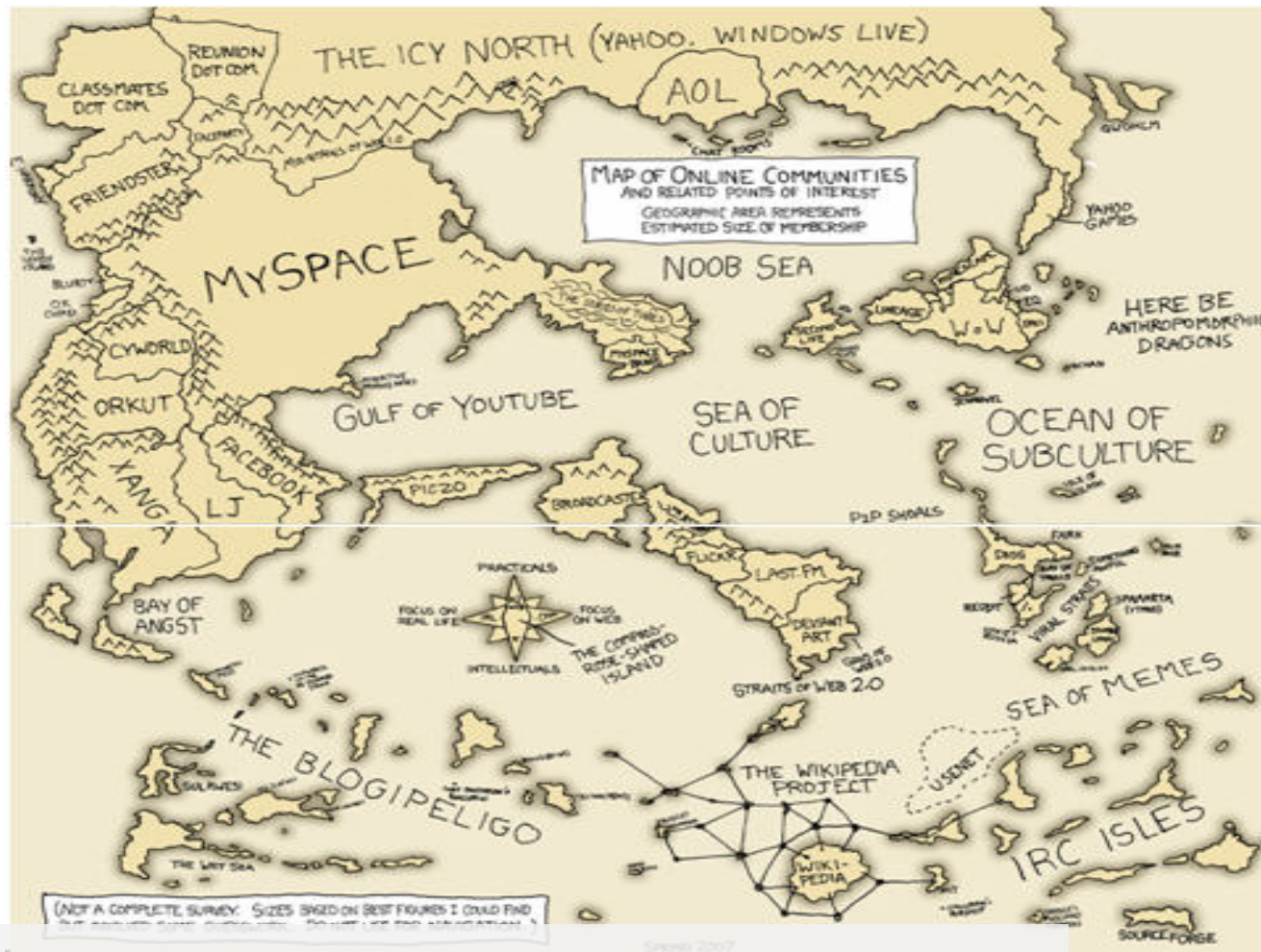
Maps, diagrams, graphics…

Languages of Learning

Cave paintings…

Old Media, New Media
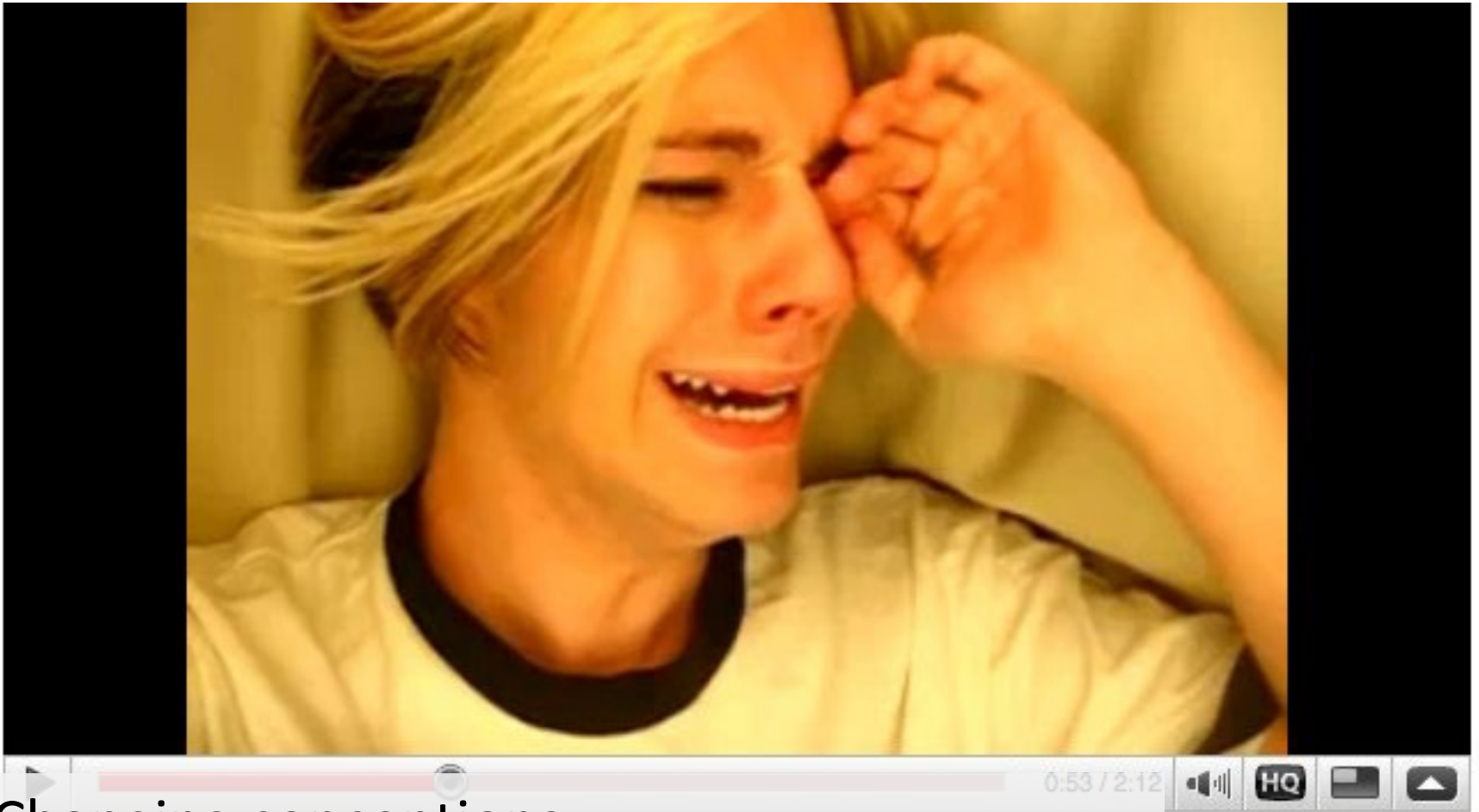
Changing conceptions…

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
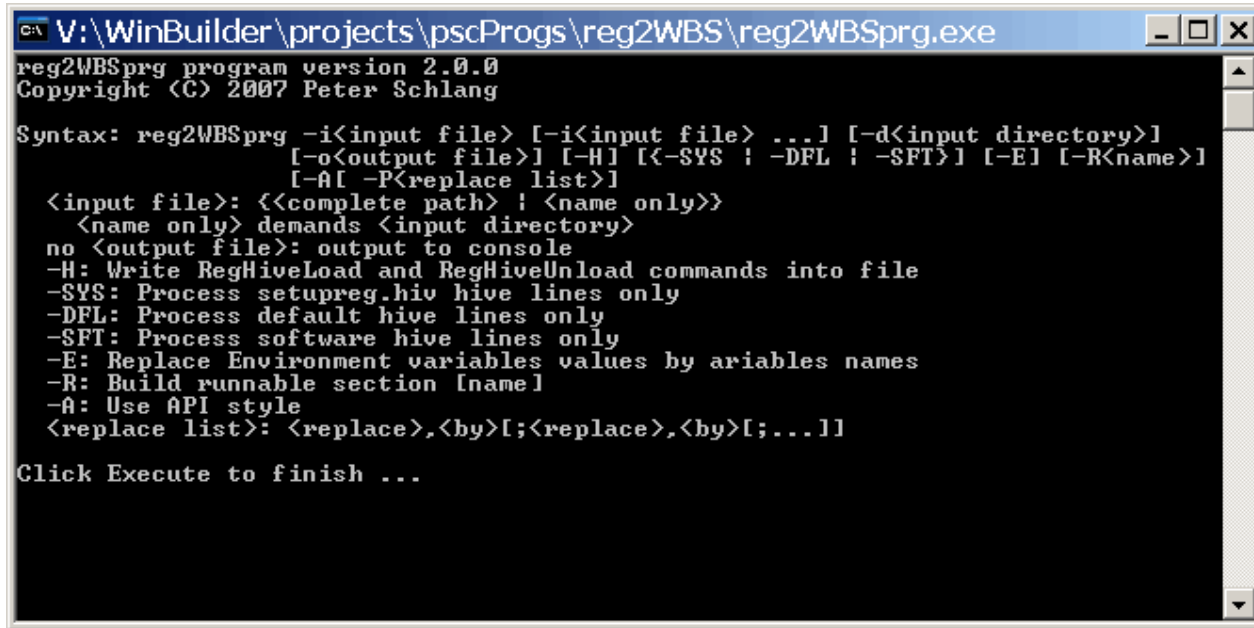
Morris, Derrida and a little Lao Tzu

Syntax	Cognition
Semantics	Context
Pragmatics	Change
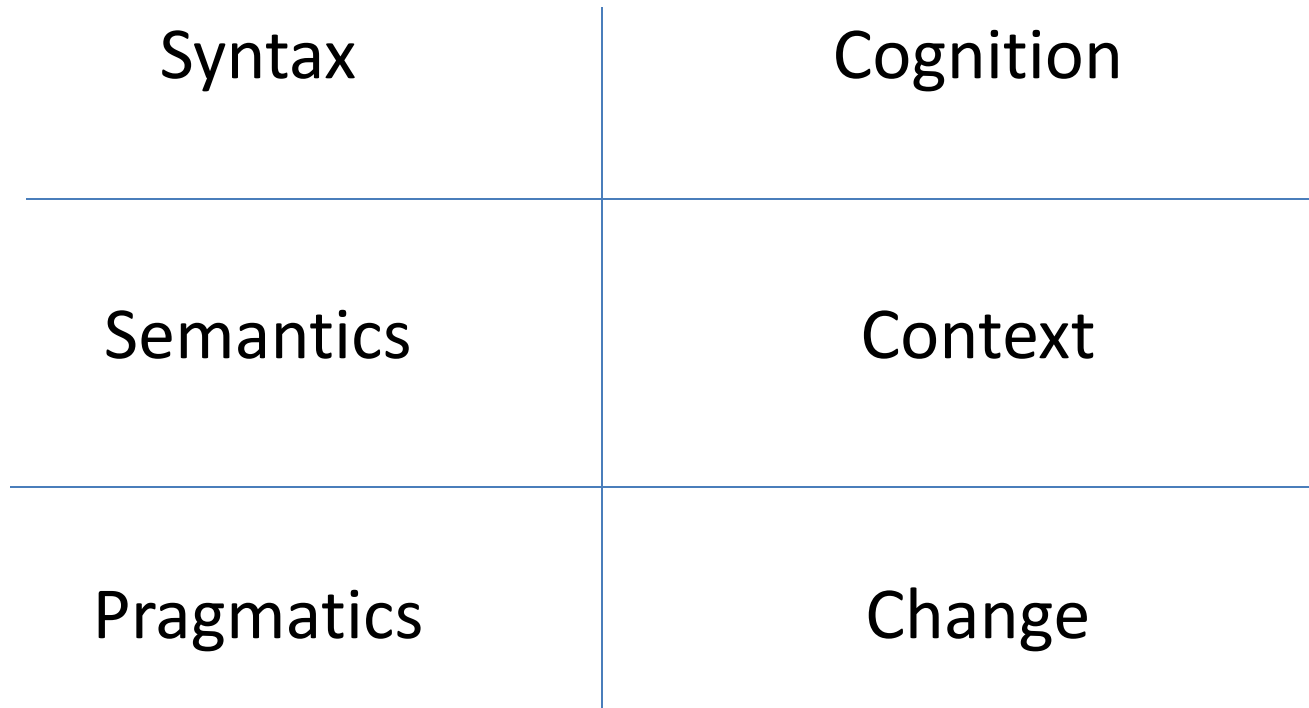
We need this frame because if we aren't looking for these things, we just won't see them.

Syntax

Not just rules and grammar


```
V:\WinBuilder\projects\pscProgs\reg2WBS\reg2WBSprg.exe

reg2WBSprg program version 2.0.0
Copyright (C) 2007 Peter Schlang

Syntax: reg2WBSprg -i<input file> [-i<input file> ...] [-d<input directory>]
                   [-o<output file>] [-H] [<-SYS | -DFL | -SFT>] [-E] [-R<name>]
                   [-A[ -P<replace list>]
  <input file>: <<complete path> | <name only>>
    <name only> demands <input directory>
  no <output file>: output to console
  -H: Write RegHiveLoad and RegHiveUnload commands into file
  -SYS: Process setupreg.hiv hive lines only
  -DFL: Process default hive lines only
  -SFT: Process software hive lines only
  -E: Replace Environment variables values by ariables names
  -R: Build runnable section [name]
  -A: Use API style
  <replace list>: <replace>,<by>[;<replace>,<by>[;...]]

Click Execute to finish ...
```

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

$$[[\quad]] = carrot$$

$$[[\quad]] = bowling pin$$

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
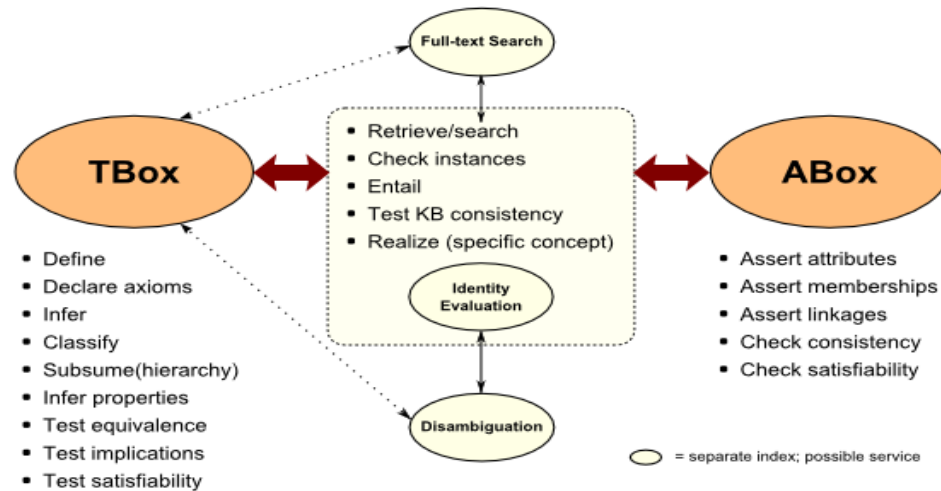
- description - X (definite description, allegory, metaphor)

- 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

Instrumental — Eating to **get things done**

Savoring — Engaging in food **for the sake of pleasure** or entertainment

Inspirational — **Epicenter of trends;** incubator of things to savor in the future

INCREASING SOPHISTICATION

- Price sensitivity
- Iconic experience
- Quick and easy
- Moderation
- Positive nutrition
- Absence of negatives
- Functional benefits

- Freshness
- Flavor distinction
- Narrative
- Local
- Seasonal
- Street
- Culinary tradition
- Culinary assistance

- Small craft production
- Heirloom / heritage
- Knowledge
- Passion
- Technoemotional
- Slow

Instrumental — Savoring — Inspirational

ENERGY DRINK: RED BULL

COFFEE: STARBUCKS

WINE: TINY FRENCH VINTNER

http://www.occasionbasedmarketing.com/what-it-is
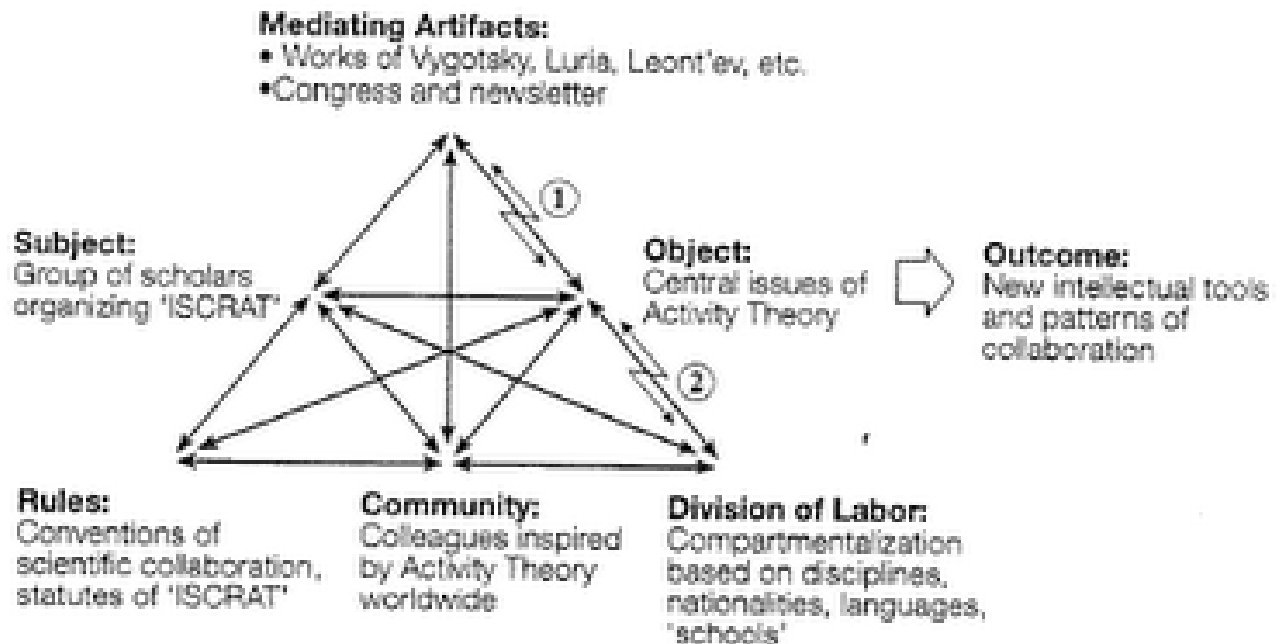
- explanation (Hanson, van Fraassen, Heidegger)
- meaning (Quine); tense - range of possibilities
- vocabulary (Derrida); ontologies, logical space
- Frames (Lakoff) and worldviews

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

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

| Languages / Elements	Performance (the ability to adopt alternative identities for the purpose of improvisation and discovery)(subcategories?)
Syntax: - Forms - Rules - Operations - Patterns - Similarities	- 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/Stanislavski%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
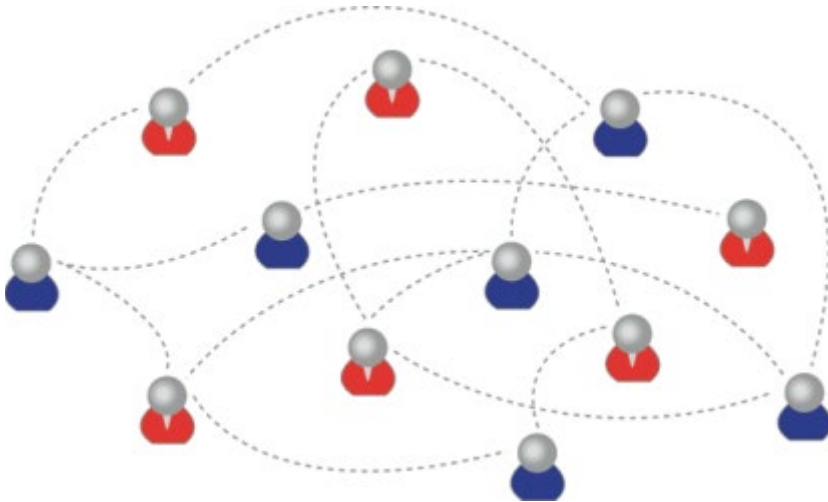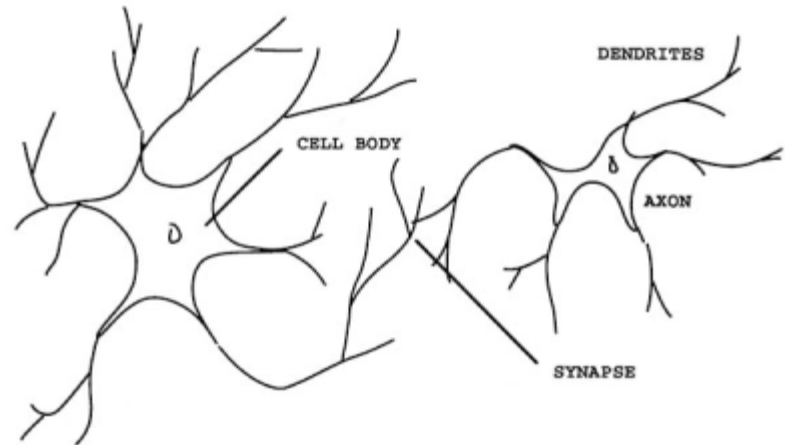

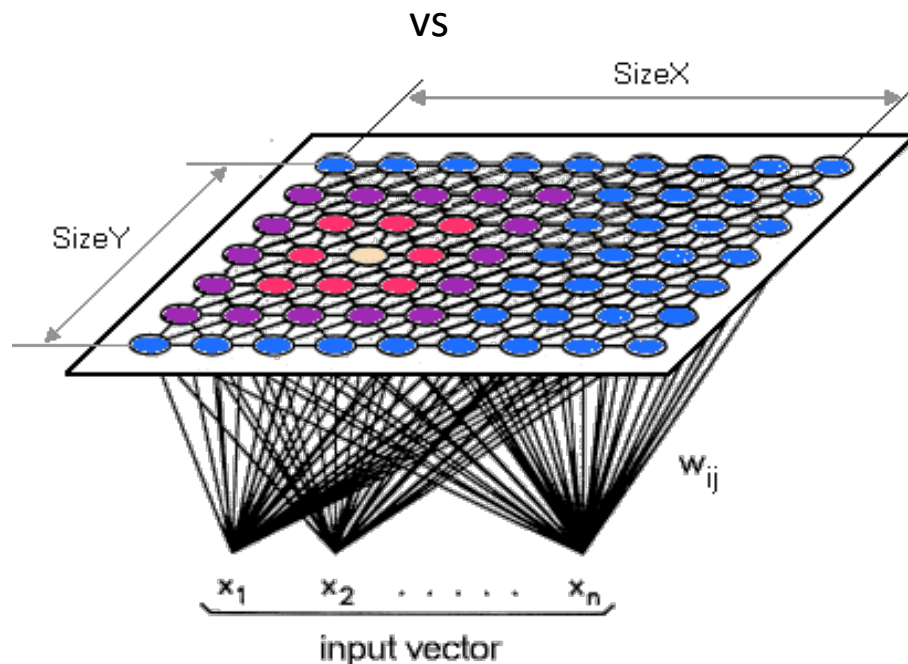We are using one of these

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`"

vs

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

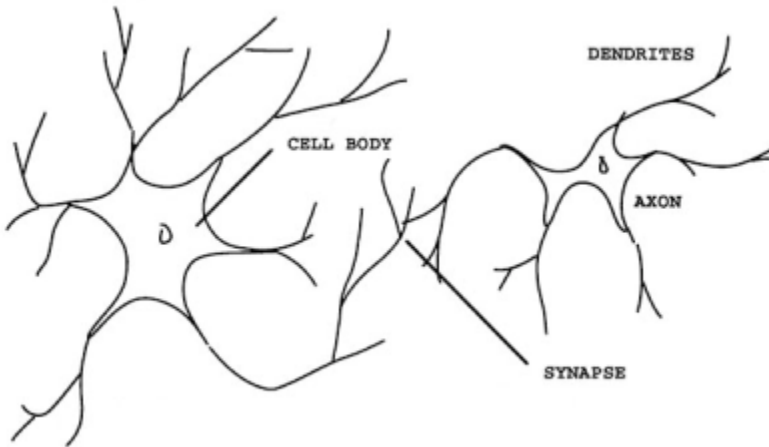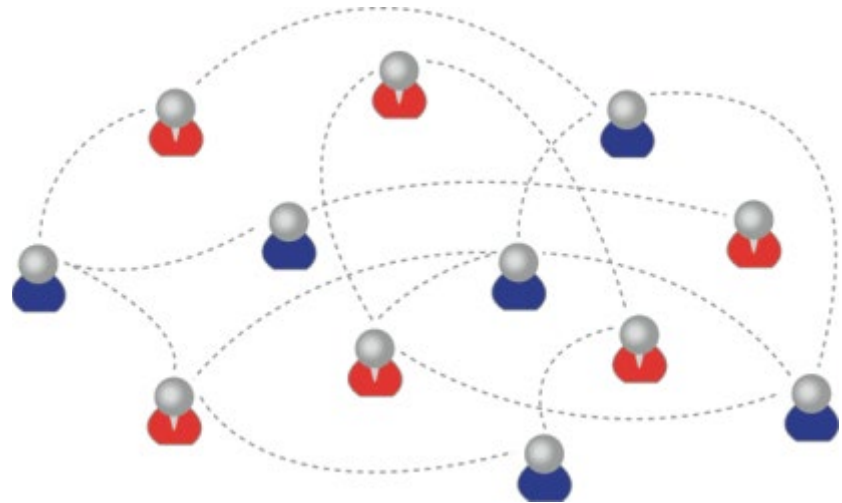

Figure 1. Biological Neuron

We recognize this

By perfomance in this

There are not specific bits of knowledge or competencies, but rather, personal capacities

(more on this later)

Success Factors

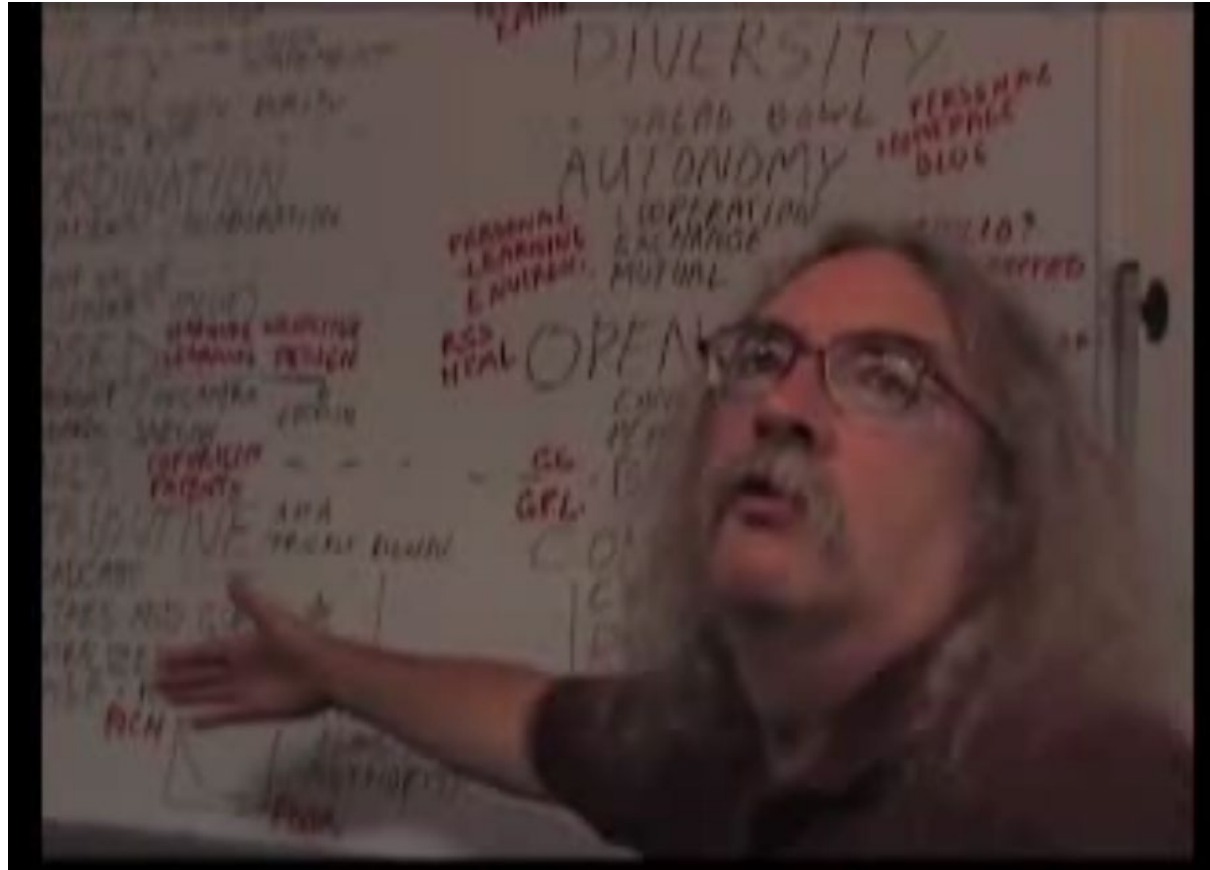- What sort of decentralized network will best support learning-as-growth?

Network Democracy

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

Network Democracy

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 grown 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.downes.ca
- Free Learning

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