What Constitutes Student Success?

Stephen Downes

Online Teaching Conference 2013

Long Beach, California

20 June 2013

The question I'd like to put today: what happens to courses when there are no more tests?

The course as a support system for a test

Two criteria for success:

- The student *finishes* the course, and

- A passing grade on the evaluation or test

The passion for *finishing*…

- "Finish your supper, there are starving children in…"
- "It ain't over 'till it's over…"
- "Giving up" on a book, "walking out" of a movie or a play

The passion for *testing*

- Outcomes based… - "The proof is in the pudding"
- The need for a resolution of competition – the "best"
- Getting the right answer – the whodunit, the victor

An alternative reality…

- To *taste* instead of simply *consuming*
- The idea of *experiencing* rather than merely *attending*
- *Browsing* rather than *absorbing* everything

The complexity of it all…

We *could not* eat all the food in the world – and we have multiple criteria for success in eating (taste, nourishment, safety…)
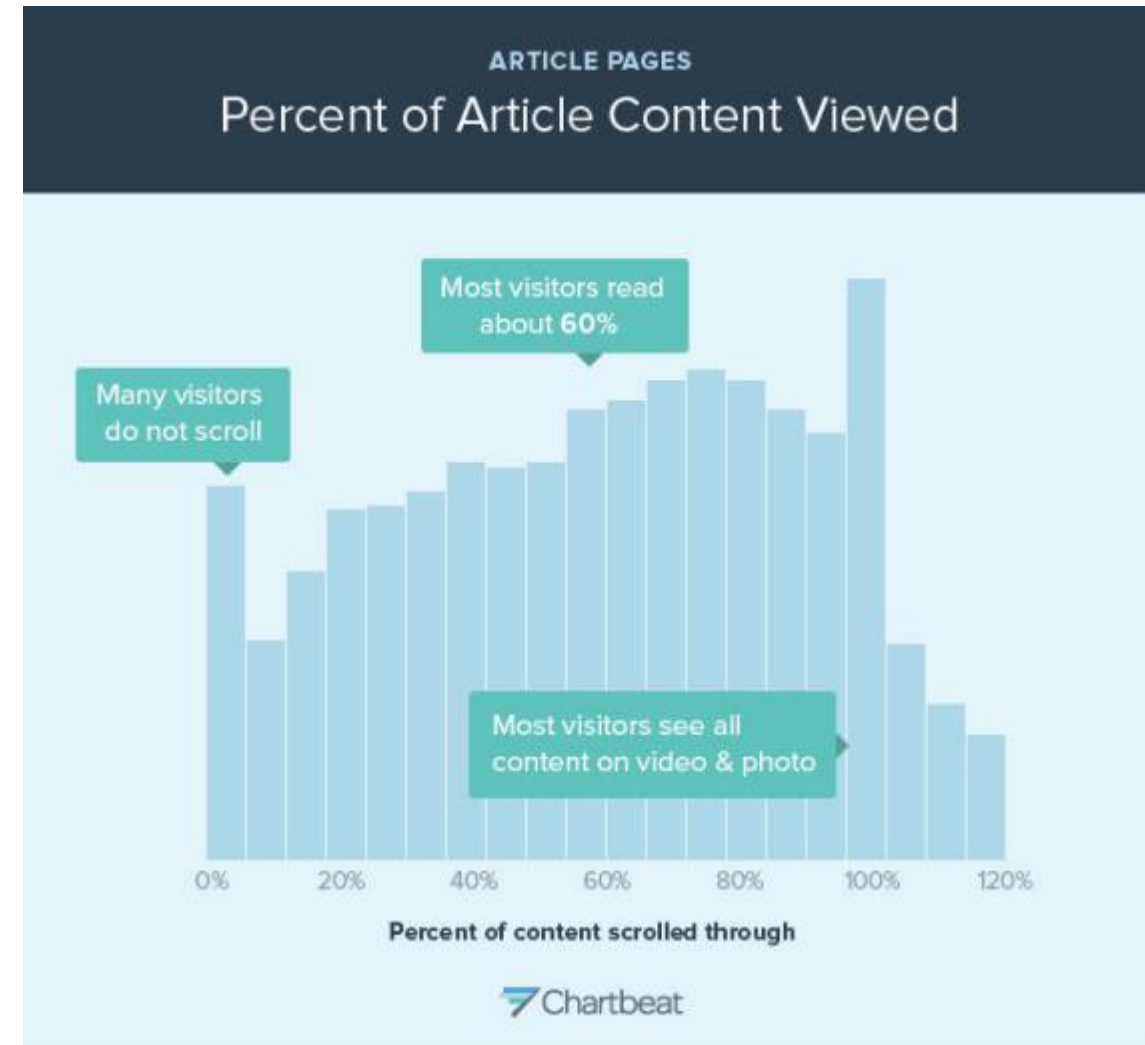
We *cannot* watch everything in a sport – not even in a single game – and even a win can be a 'bad game'

We *don't have time* to read all the books in a library, or all the articles in the NY Times – criteria for success include salience, interest and avocations, prurience…

ARTICLE PAGES
Percent of Article Content Viewed

Many visitors do not scroll

Most visitors read about 60%

Most visitors see all content on video & photo

Percent of content scrolled through

Chartbeat

The challenge...

- How do we *learn* in this alternative reality?
- How do we *know* this learning has been a success?

The First MOOC – CCK08

What are MOOCs

- Massive – by design
- Open – gratis and libre
- Online – vs. blended and wrapped
- Courses – vs. communities, websites, video collections, etc

cMOOCs vs xMOOCs

- xMOOCs – the Big Elite Universities Way
  - Collections of centralized resources
  - Mass events (like videos, live events)
  - Automated grading etc.
- cMOOCs – the Connectivist Way
  - Based on community, conversation, culture
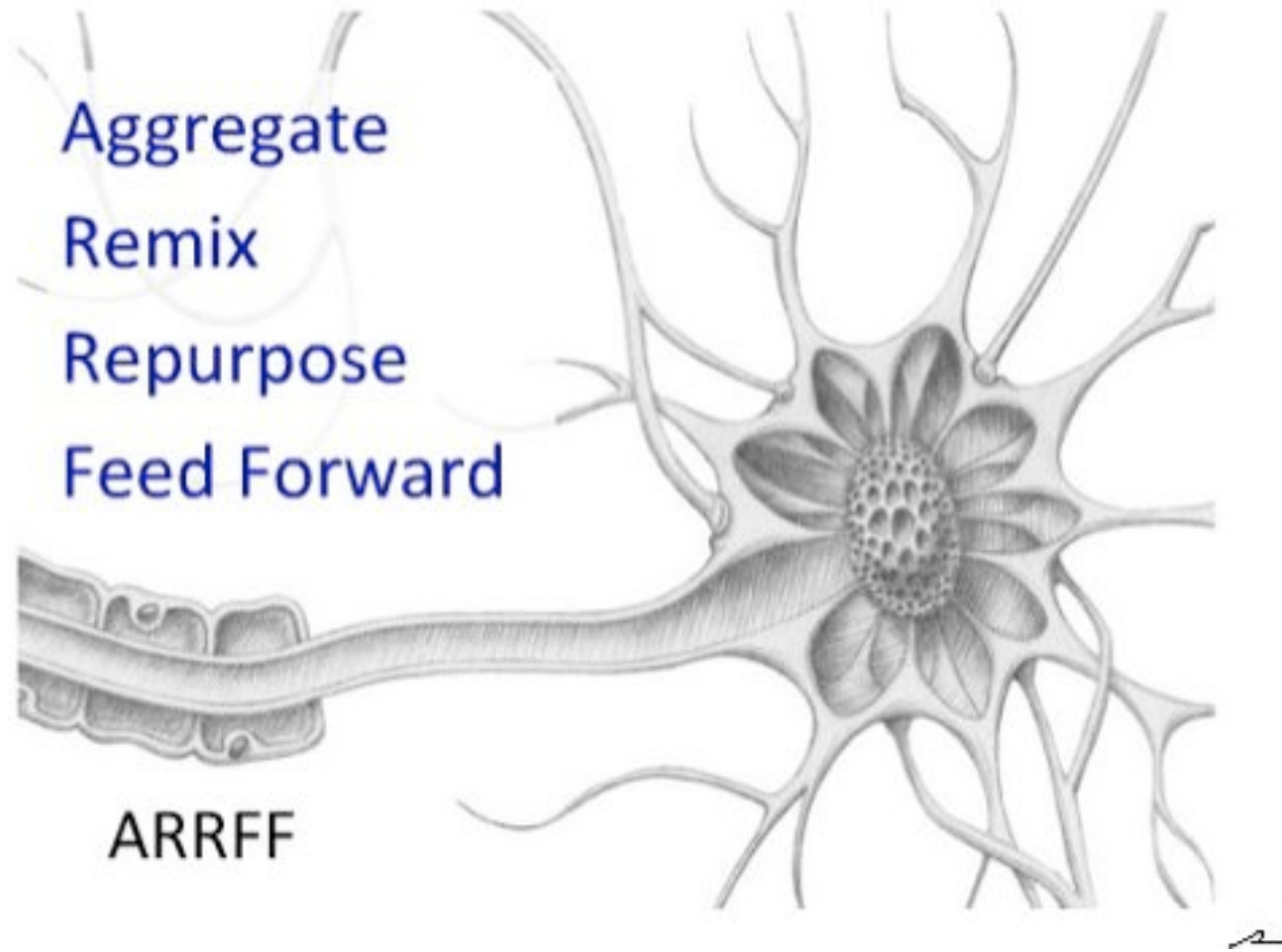 - Most importantly, are *distributed*

The Connected Application
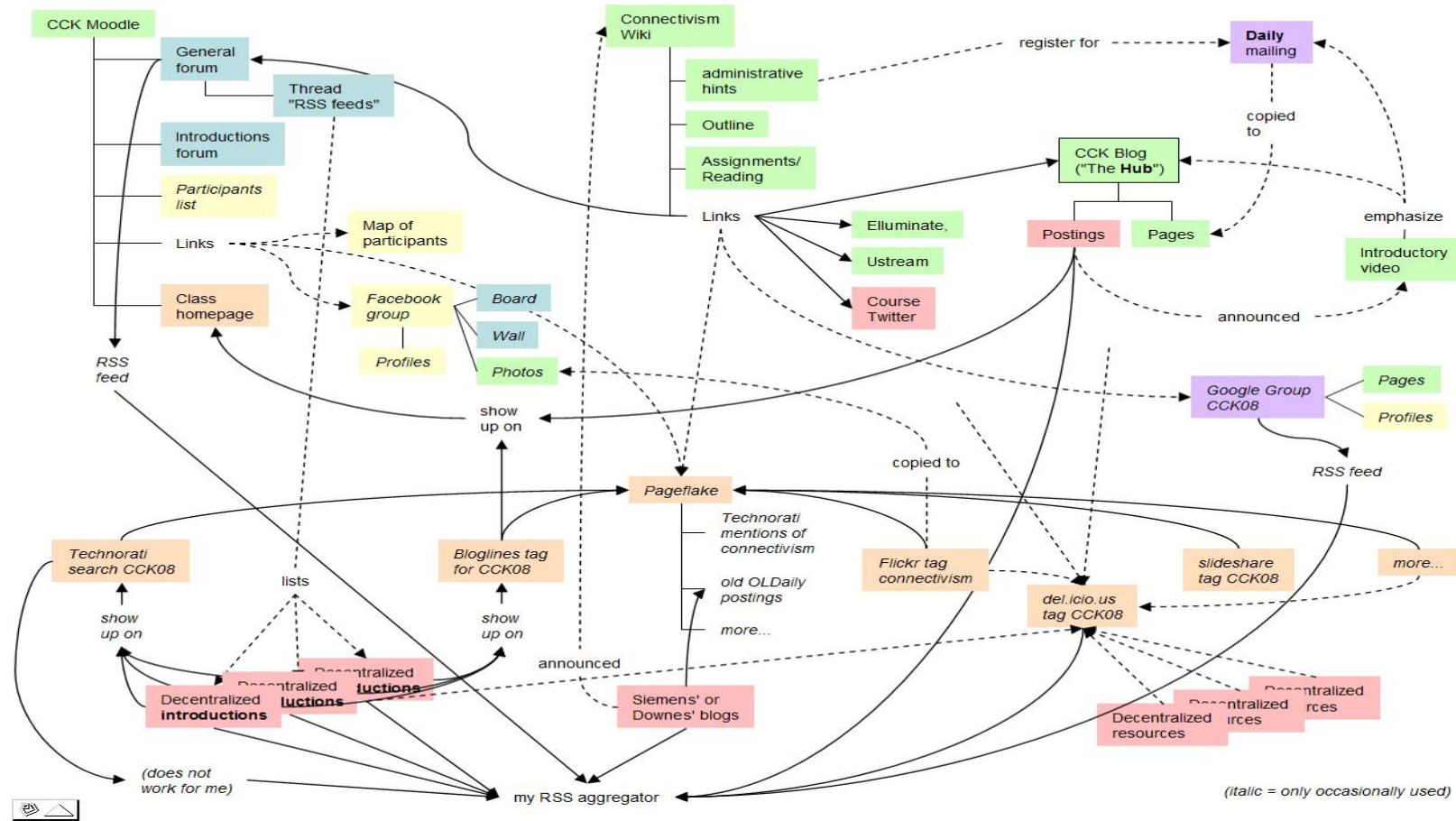
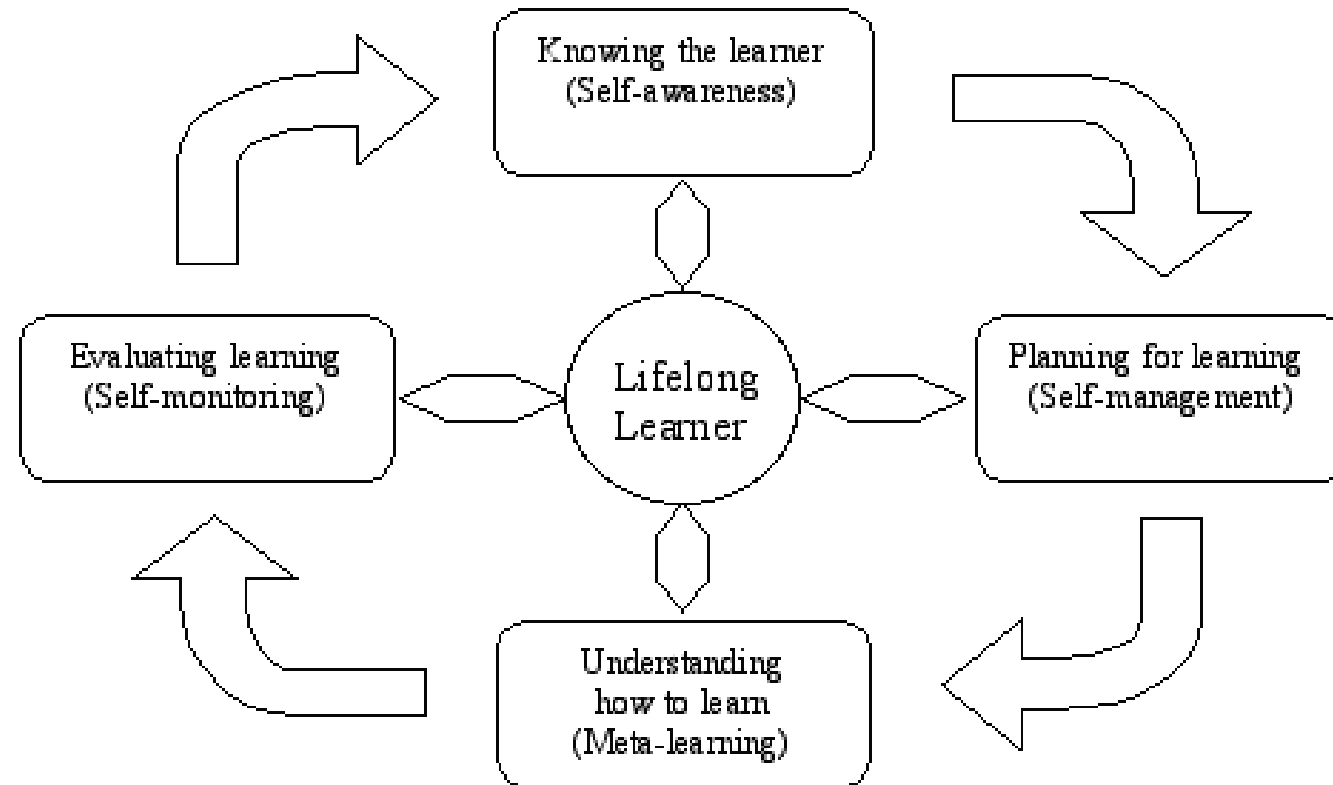Design principles of the MOOC – autonomy, diversity, openness, interactivity

http://itforum.coe.uga.edu/paper92/paper92.html
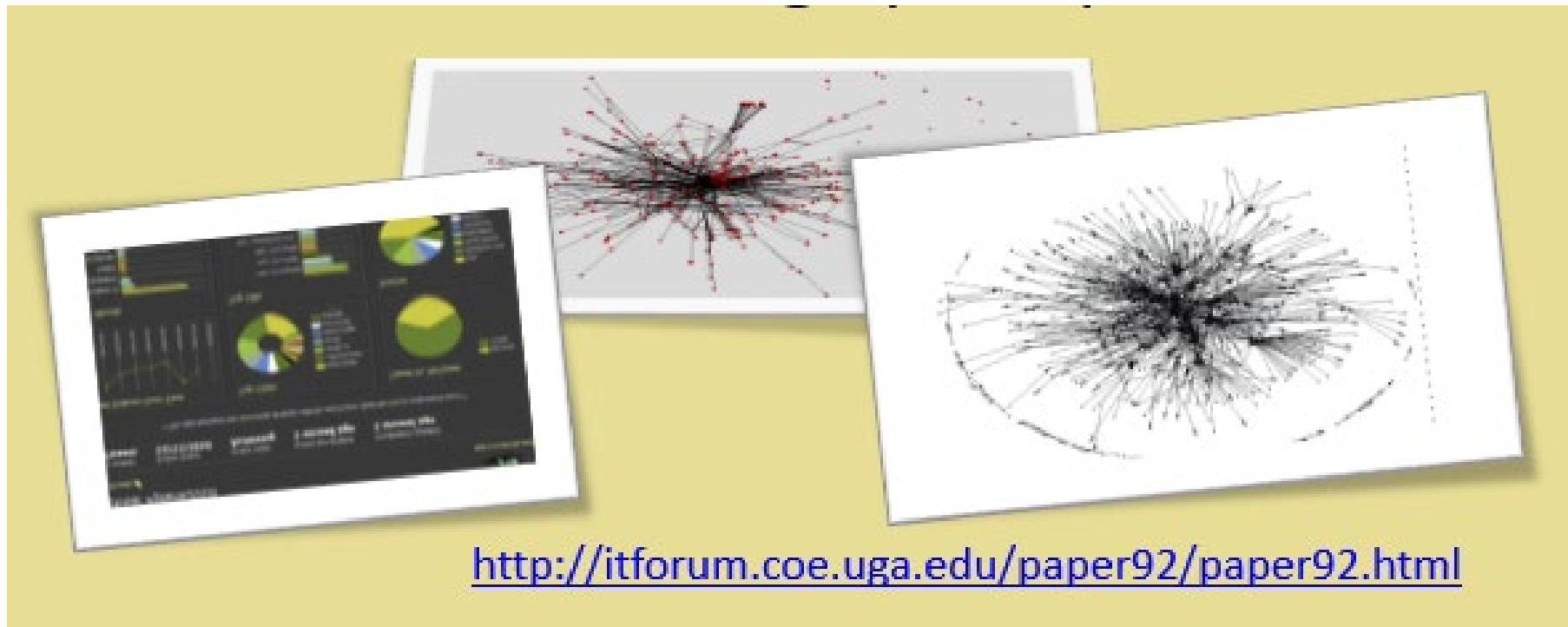
Pedagogy of the MOOC – aggregate, remix, repurpose, feed forward

Aggregate
Remix
Repurpose
Feed Forward

ARRFF

What do we think of when we think of life-long learning? Classrooms?

Knowing the learner
(Self-awareness)

Planning for learning
(Self-management)

Lifelong Learner

Evaluating learning
(Self-monitoring)

Understanding how to learn
(Meta-learning)

We think of life-long learning as an ongoing process, not a static event.

Image, adapted from Garrison, Barbara Stäuble http://otl.curtin.edu.au/professional_development/conferences/tlf/tlf2005/refereed/stauble.html

Gibbs' Reflective Cycle (1988 adaptation of Kolb)

Description
(what happened)

Feelings
(what were you
thinking and feeling?)

Action Plan
(if it arose again,
what would you do?)

Evaluation
(what was good and bad
about the experience?)

Conclusion
(what else could
you have done?)

Analysis
(what sense can you
make of the experience?)
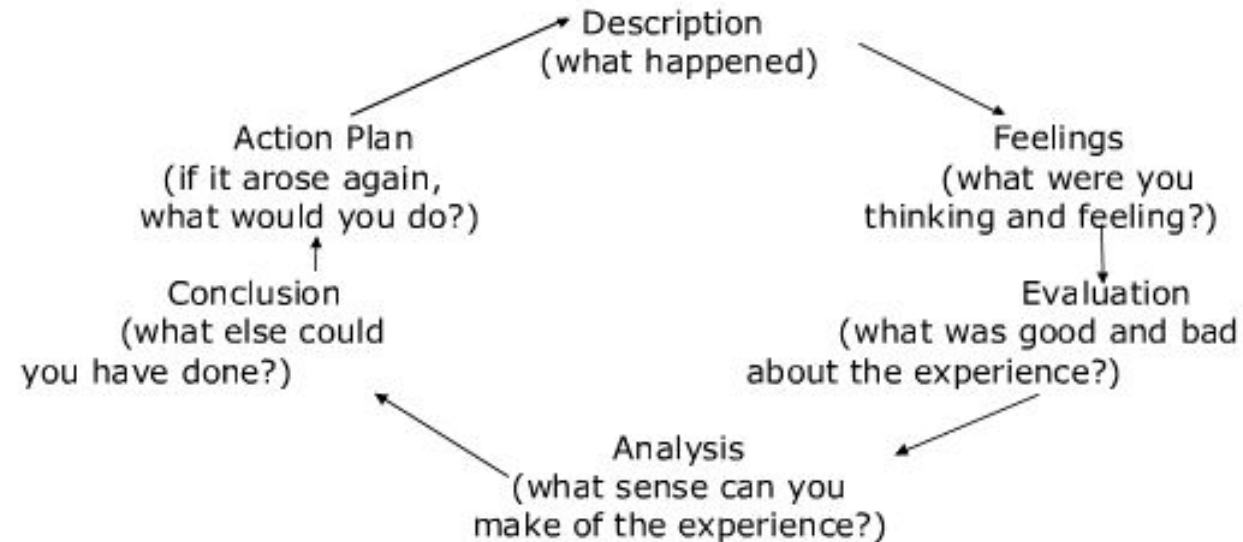
We think of learning as an active process where we try things out and make sense of the experience

Image: http://annekcam.blogspot.ca/2011/09/reflecting-on-e-learning-theories-and.html
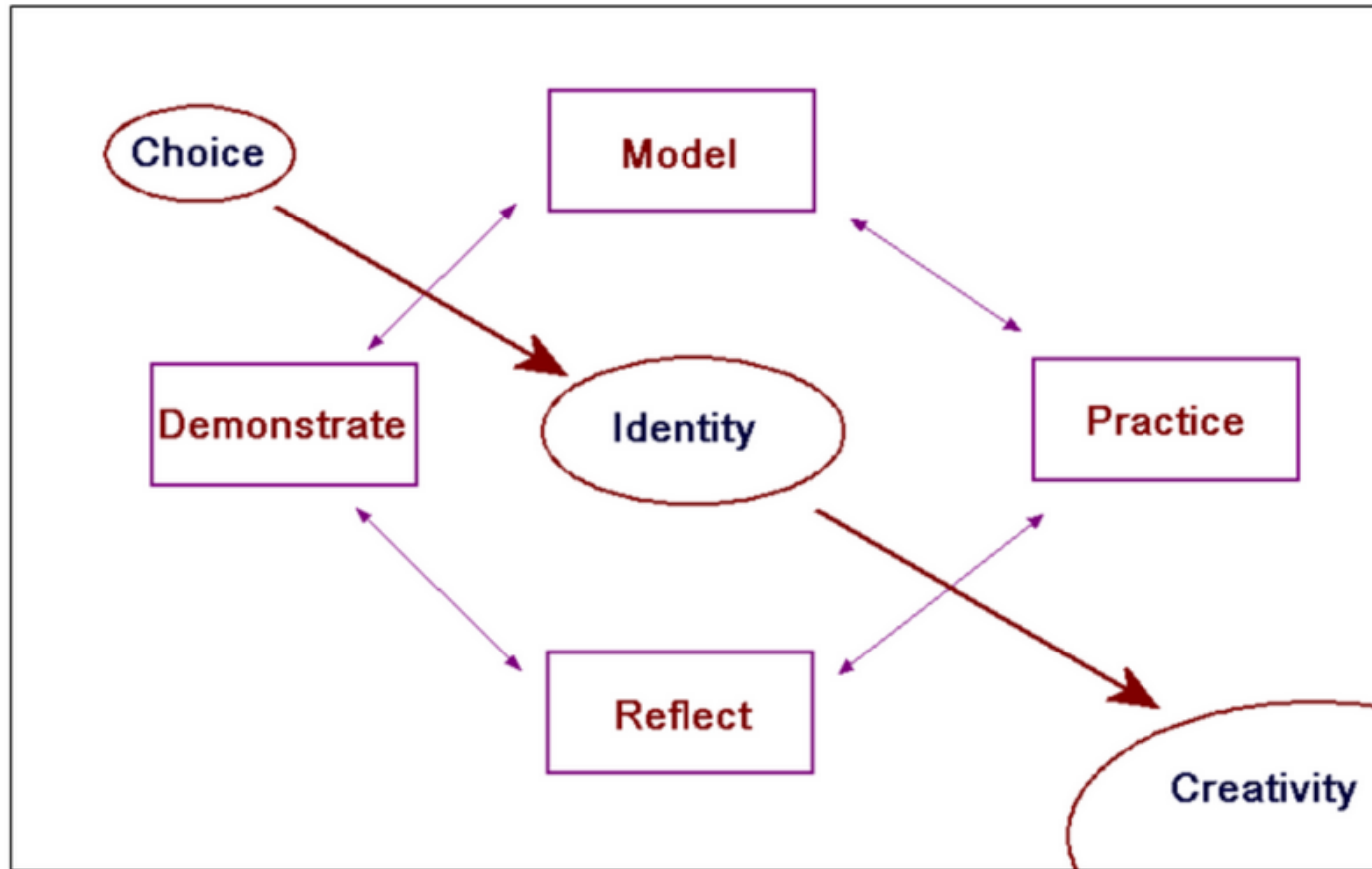
To teach is to model and demonstrate, to learn is to practice and reflect
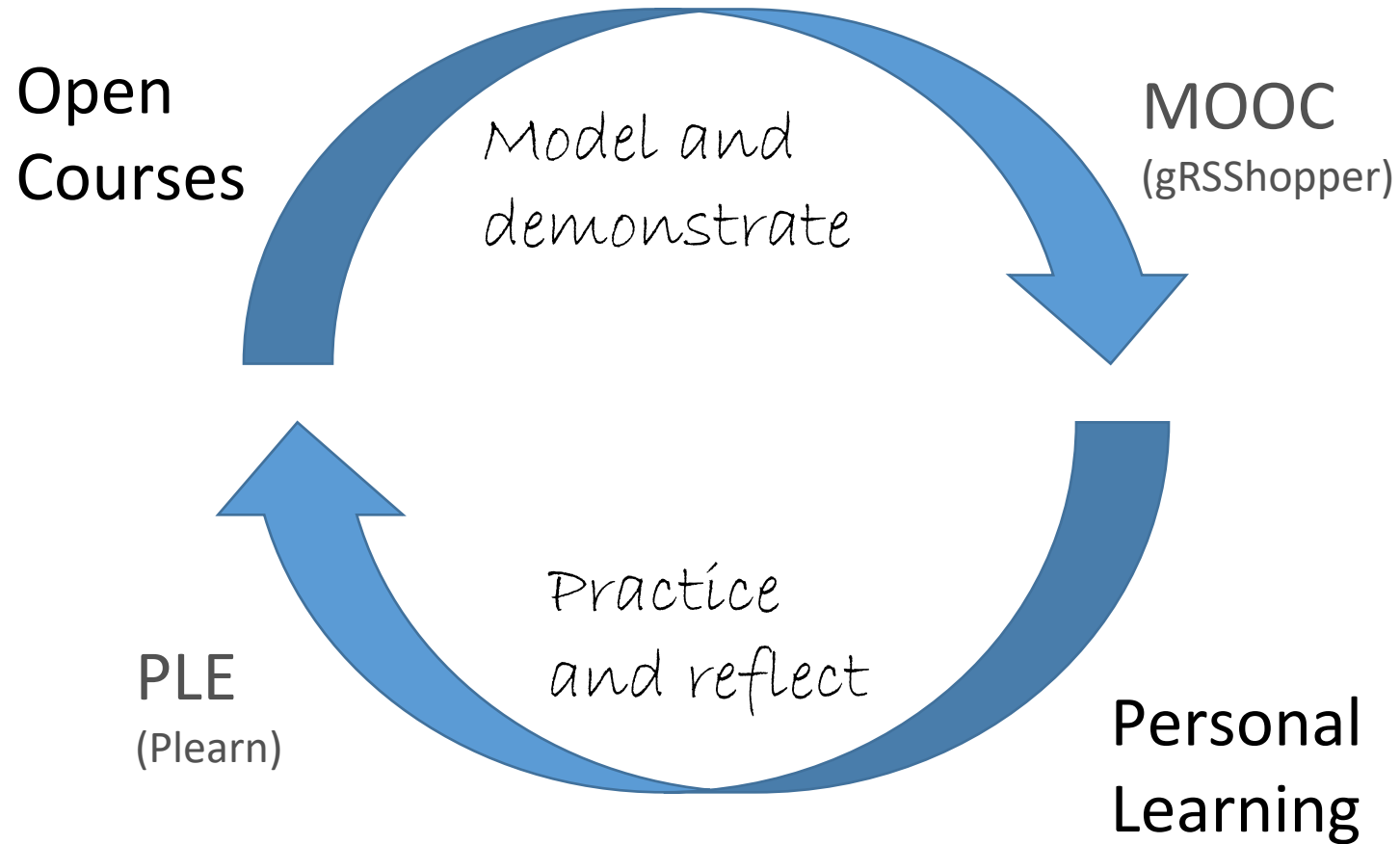
There are two sides to the learning equation; this presentation is focused on learning
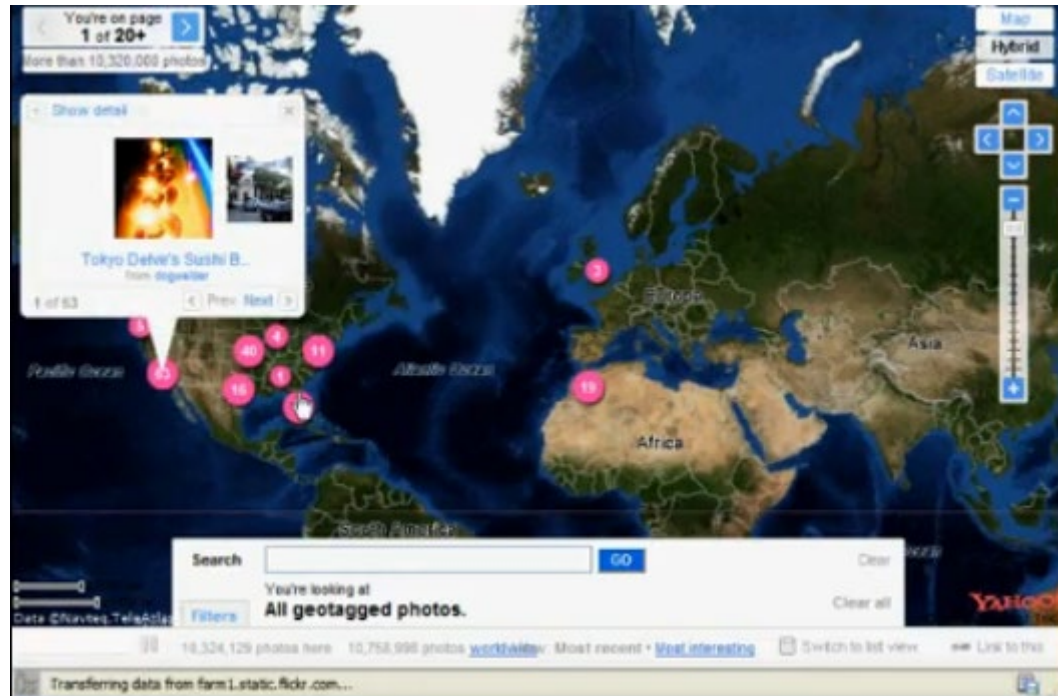
Image, adapted from Garrison, Barbara Stäuble http://otl.curtin.edu.au/professional_development/conferences/tlf/tlf2005/refereed/stauble.html

In this presentation, I invite you to think about how *you* learn

Image: http://sarahgraphic.wordpress.com/2008/03/

What is knowledge?

What 'Knowing' Is...

the knowledge is in the network

Old: universals
– rules
– categories

New: patterns
– similarities
– coherences

the knowledge *is* the network

The Machine is Us/ing Us - http://www.youtube.com/watch?v=NLlGopyXT_g&noredirect=1

Emergence

- How we perceive patterns of connectivity
  - Take the actual connections, and interpret them as a distinct whole
  - Take the distinct whole, and interpret as a set of connections
- As Hume would say, our 'perception' of a causal relationship between two events is more a matter of 'custom and habit' than it is of observation.
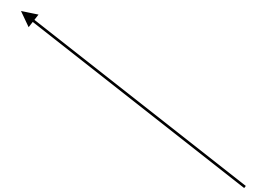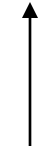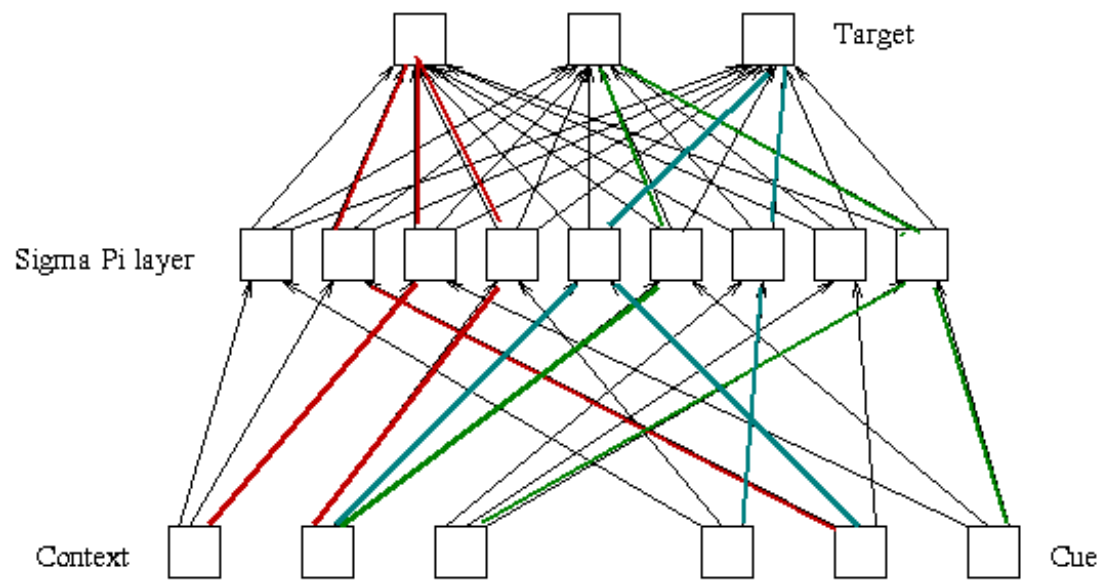
stands for?

Target

Sigma Pi layer

Context

Cue
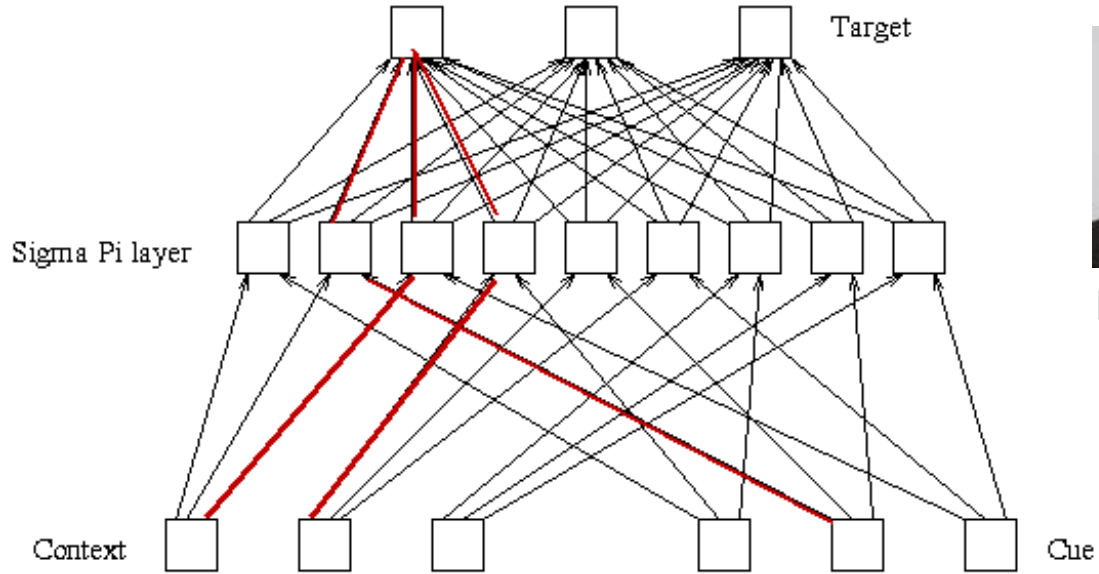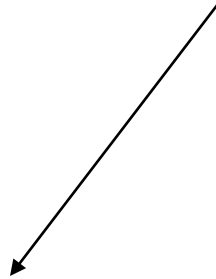
Hopfield

Or is caused by?
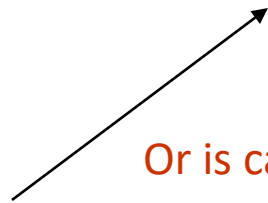
Distributed Representation

= a pattern of connectivity

Target

Sigma Pi layer

Context

Cue

Meaning

- Traditionalist theories – 'meaning' is the state of affairs represented or described

- But what about 'redness', or '17', or 'power law?' (Or 'one' as in 'one tree', 'one puppy', 'one couch'?)

- These are *complex* phenomena we can't simply grasp
  - They are composed of the organization of low-level non-meaningful entities
  - We need to experience multiple phenomena multiple times

Organization

  - Personal knowledge: The organization of neurons
  - Public Knowledge: The organization of artifacts

- A common underlying logic: graph theory, connectionism, social network theory, etc.

- If a human mind can come to 'know', and if a human mind is, essentially, a network, then any network can come to 'know', and for that matter, so can a society.
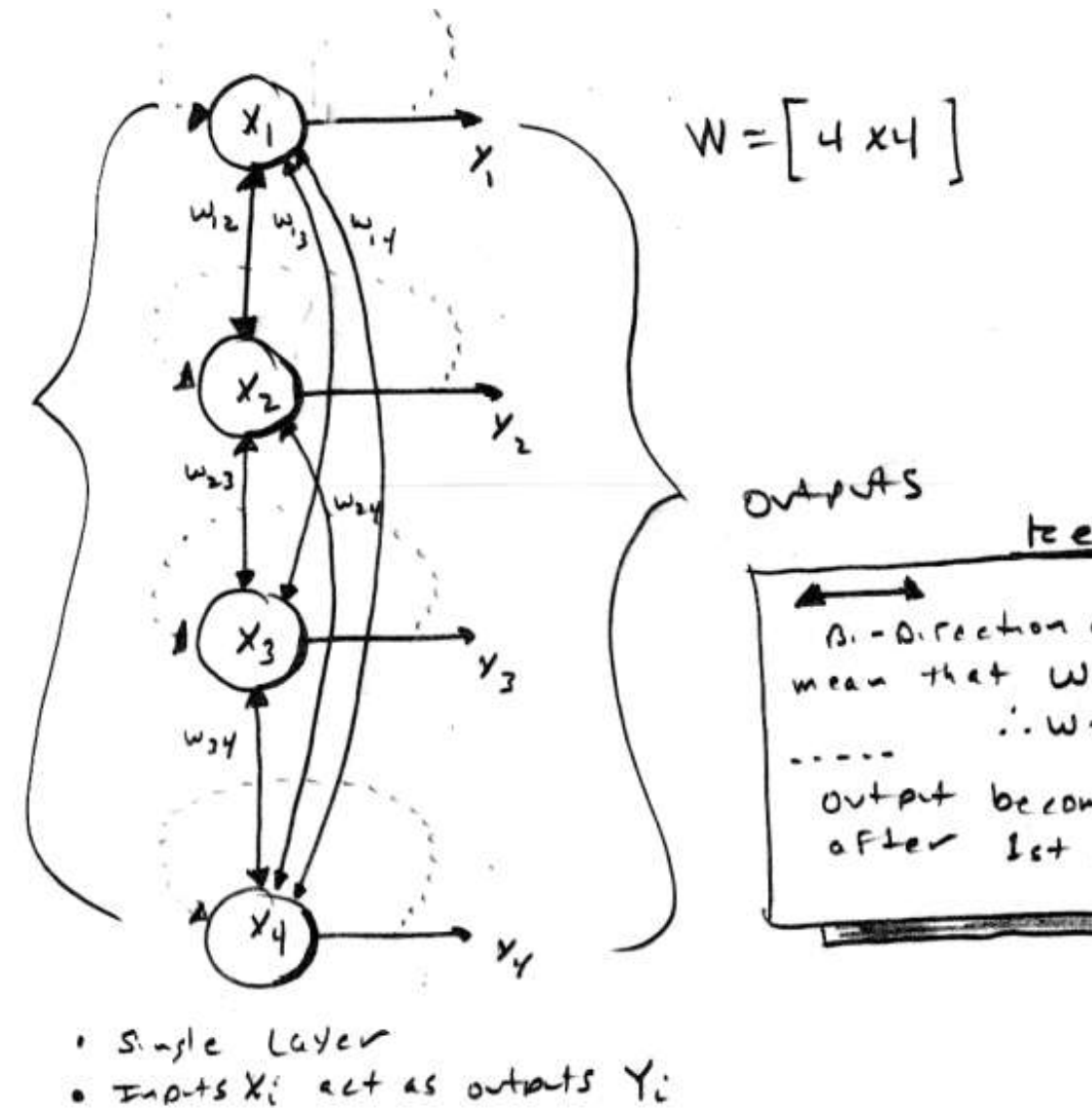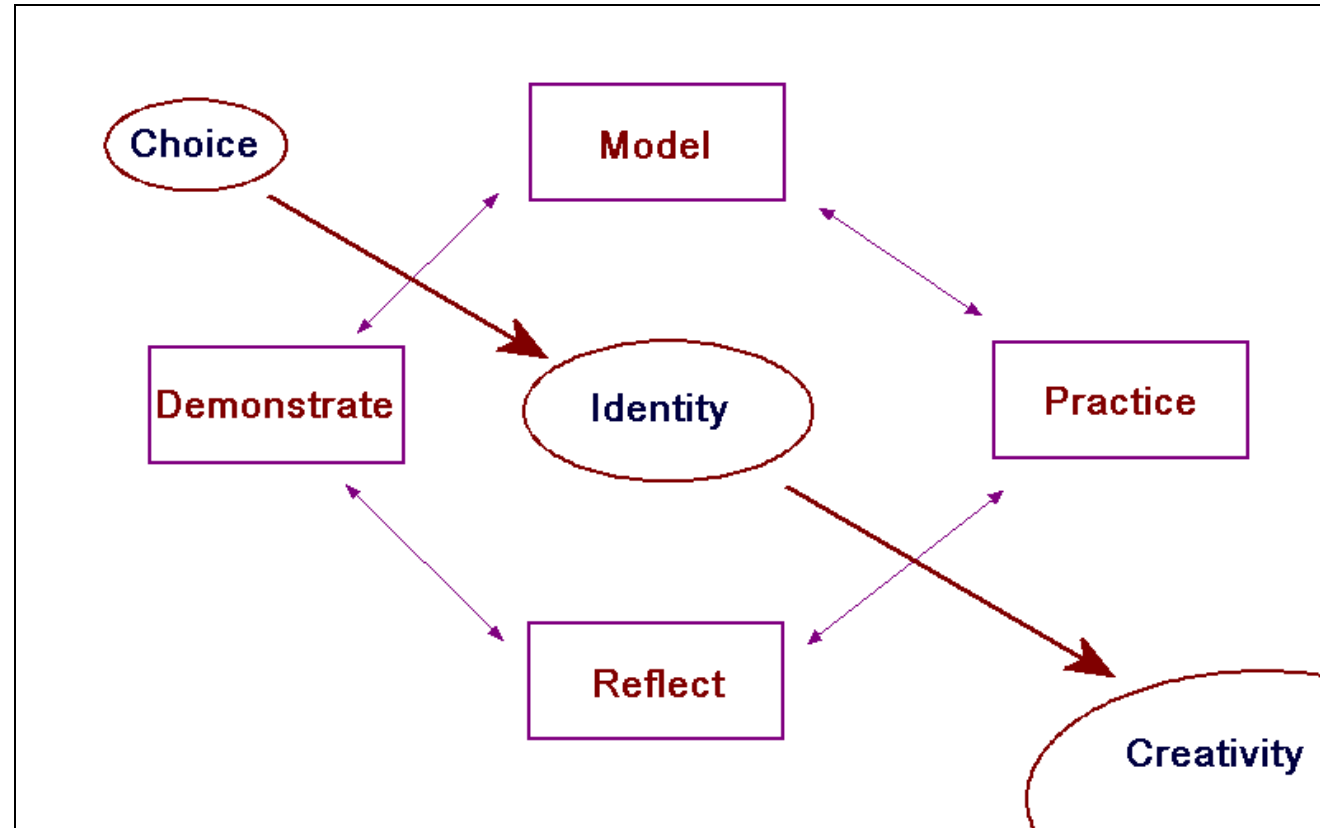
What is learning?

Learning Theories
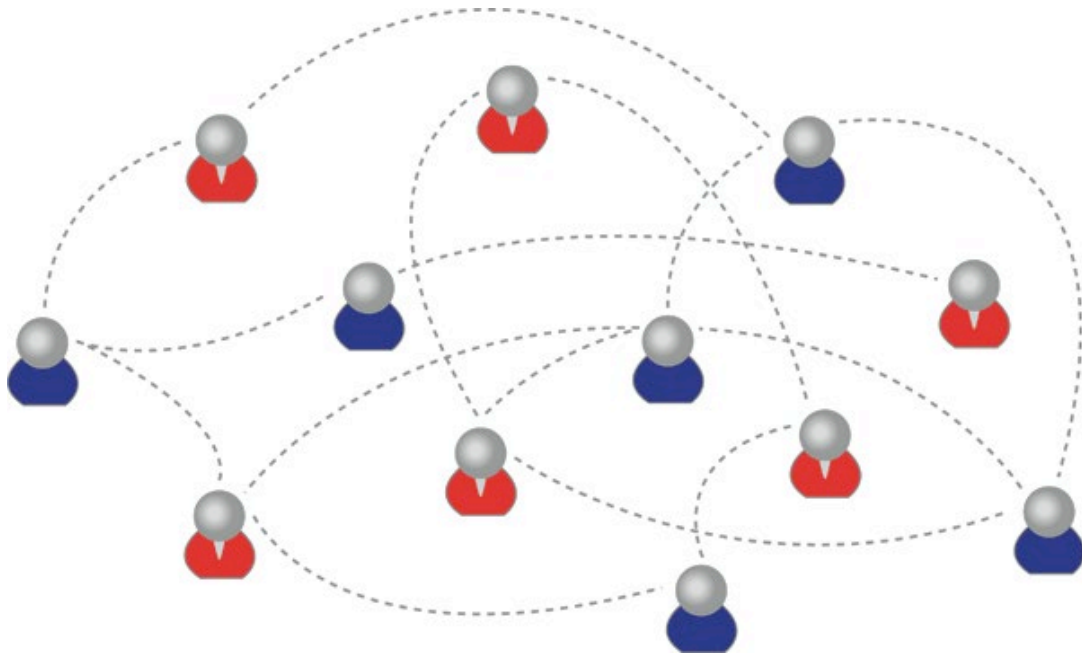
Network Learning…

- Hebbian associationism
  - based on concurrency

- Back propagation
  - based on desired outcome

- Boltzman
  - based on 'settling', annealing

'Downes Theory' of Pedagogy

Personal Learning

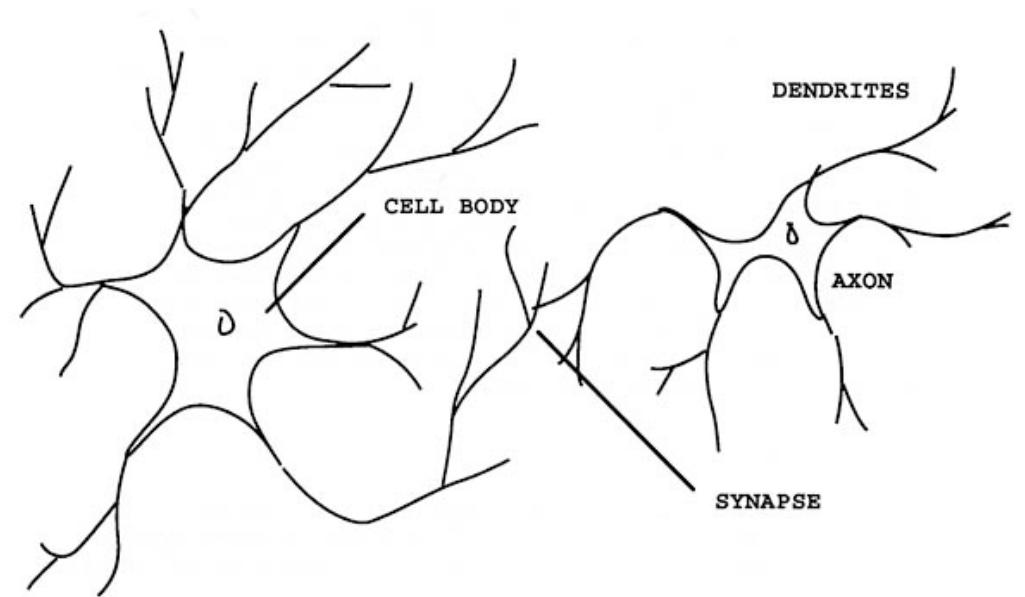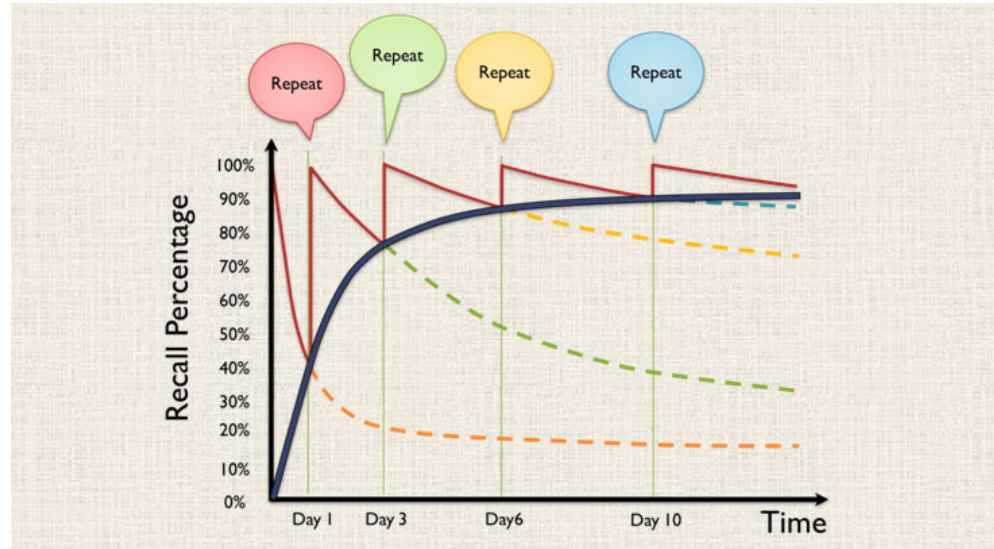We are using one of these
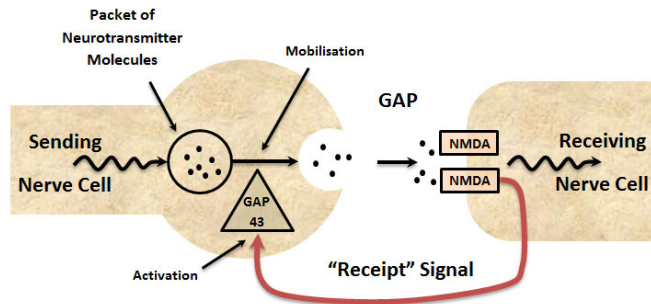

DENDRITES

CELL BODY

AXON

SYNAPSE

Figure 1. Biological Neuron

To create one of these

Developing personal knowledge is more like *exercising* than like inputting, absorbing or remembering

Keep in mind *how* we learn: repeated exposure, formation of habits
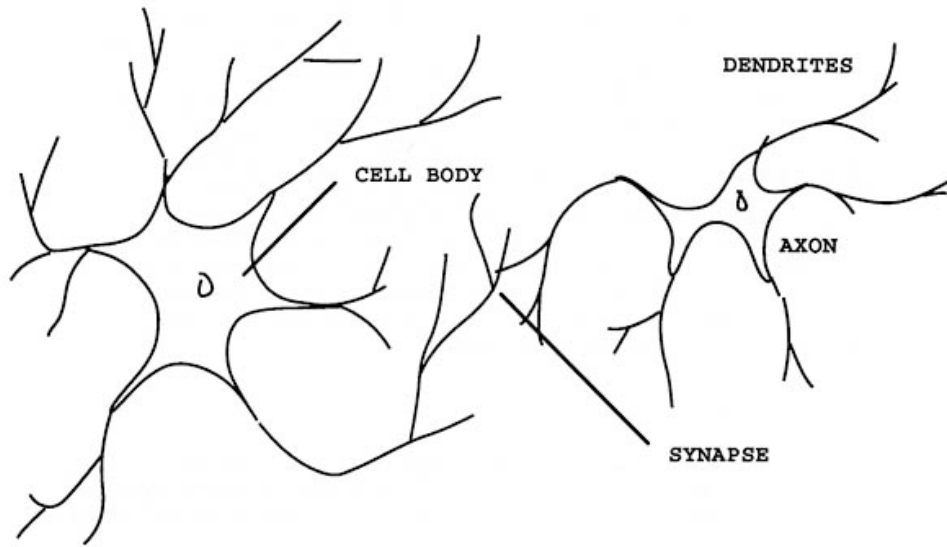
What is it to 'finish' exercising?
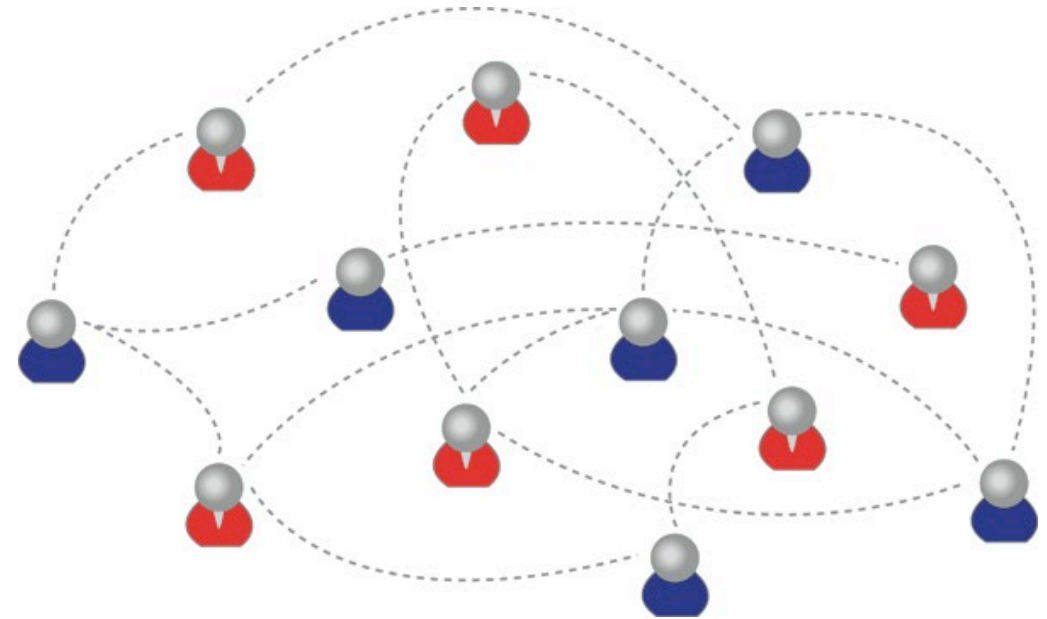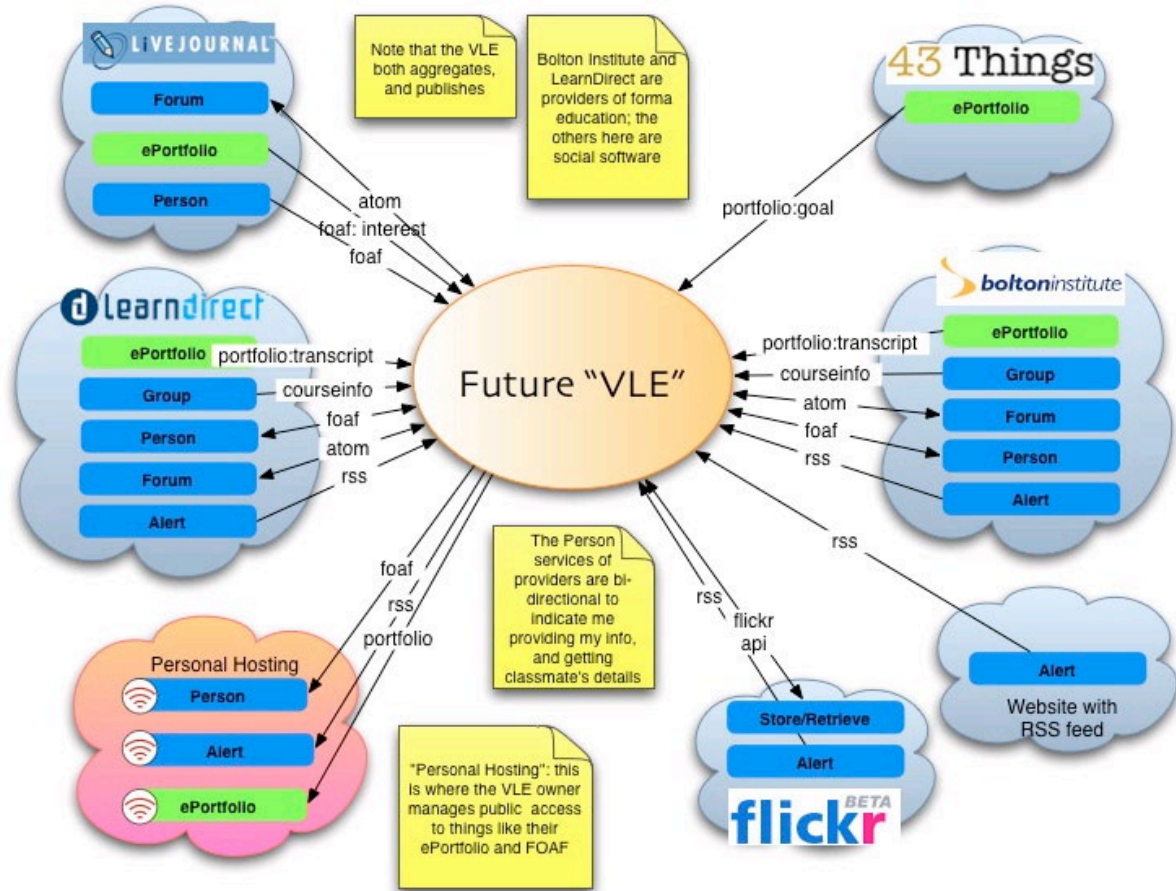
Network-Based Assessment
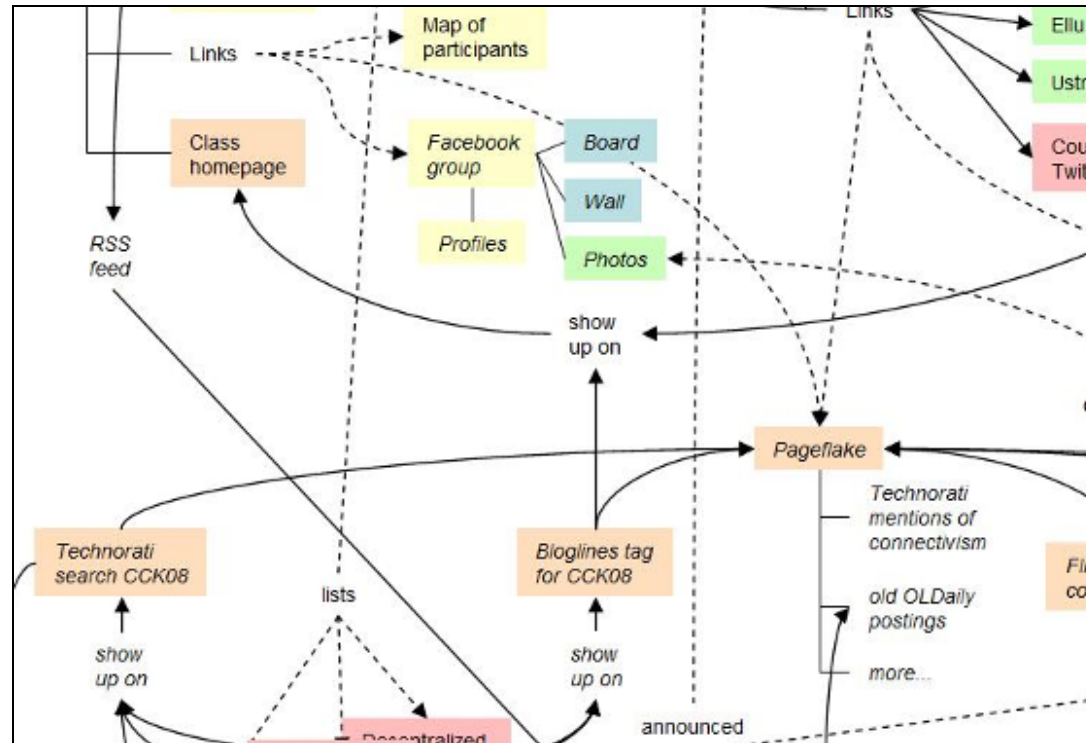

Figure 1. Biological Neuron

We recognize this

By perfomance in this

Personal Learning Environment

A PLE is a tool intended to *immerse yourself* into the workings of a community

gRSShopper

- A tool for managing connections
- Used in Connectivism course

What constitutes success in a network?

- "I was astonished at the level of activity.
- "Study groups were forming based on language and geography. There were Spanish and Portuguese groups, study units forming in Bulgaria and Russia, Boston and India."

Michael S. Roth - http://chronicle.com/article/My-Modern-MOOC-Experience/138781/

1. Actually being in a network
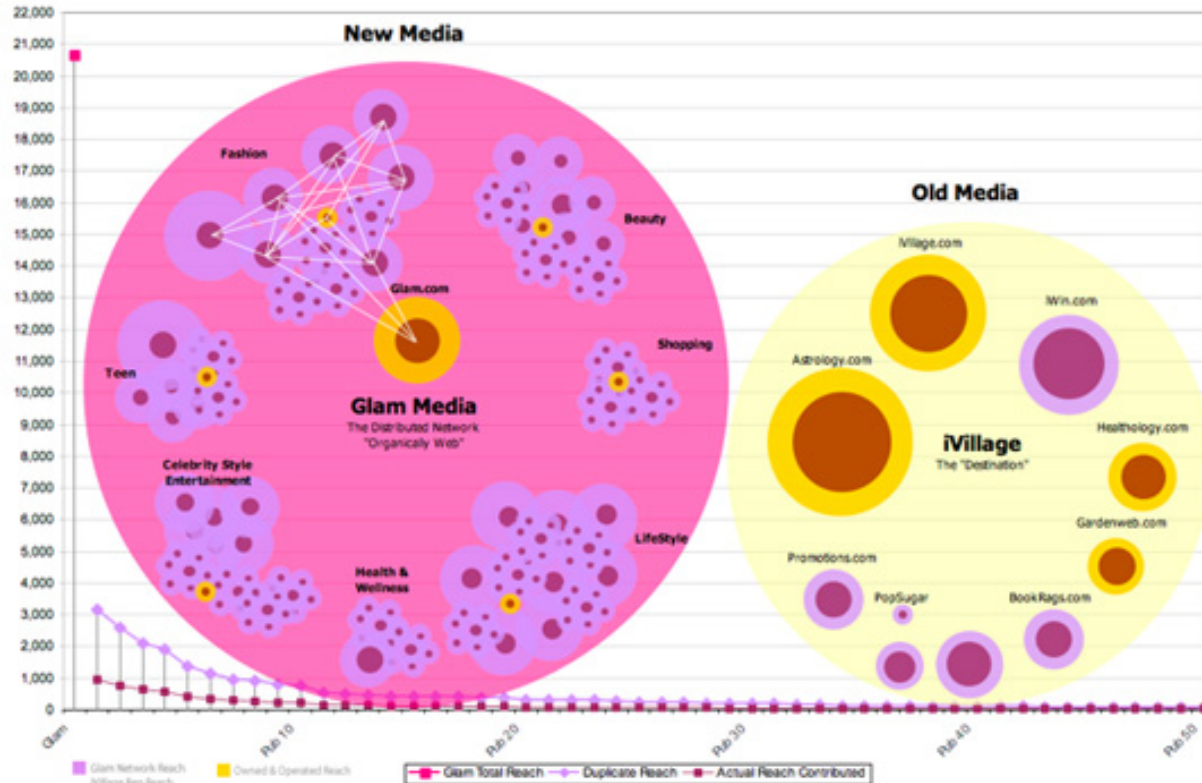
Compare with 'old media', which tries to swallow visitors whole (when all they want is their horoscope)

Jeff Jarvis - http://buzzmachine.com/2007/11/12/glam-the-success-of-the-network/

2. Network Metrics

For example:

• Generating awareness

• Increasing sales

• Driving loyalty

Google:
http://www.google.com/ads/displayn
etwork/success-stories.html

Legacy Learning drives sales online using the GDN, by increasing the volume of clicks and conversions while maintain a steady CPA.

3. Support

- Not just likes or clicks

- 'Support' is tangible – but not measurable

- Be able to 'cull links' to increase support
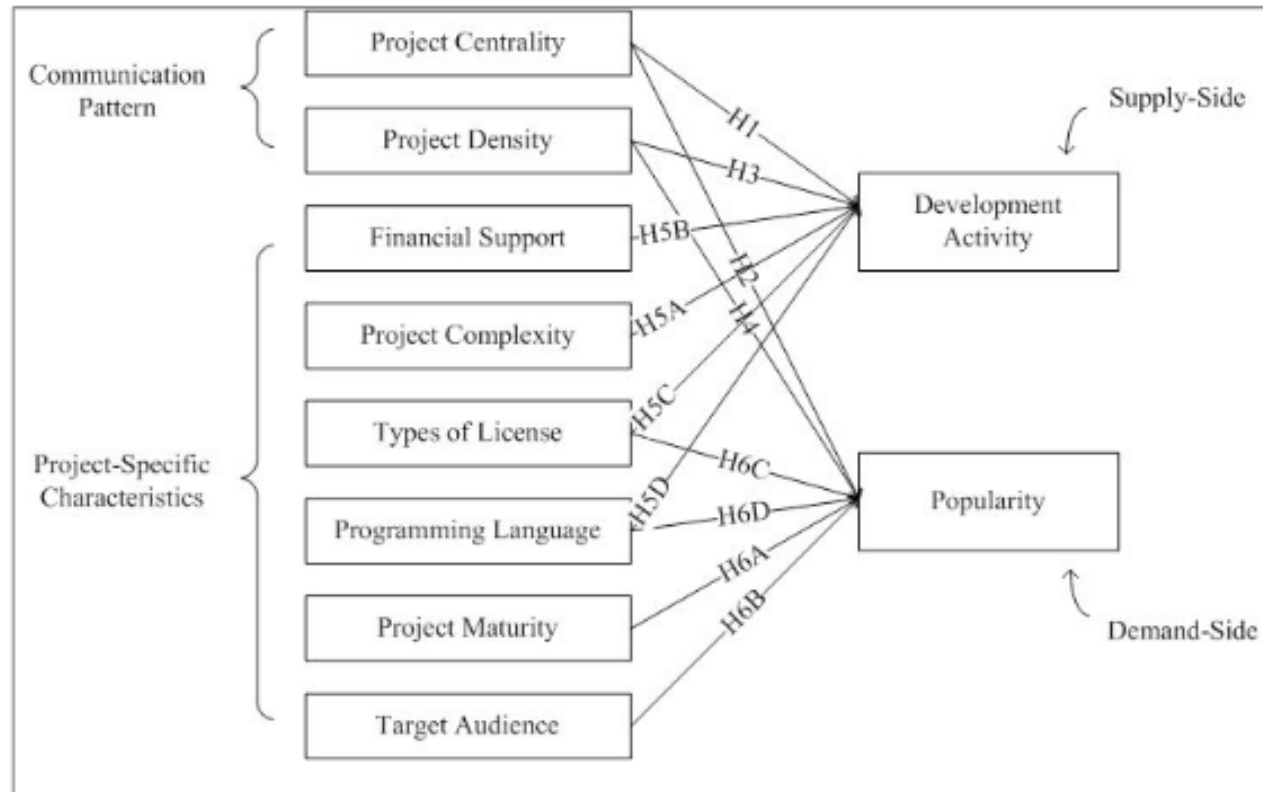
4. Network Perspective

Figure 1: Research Model

- Complexity of input parameters
- Complexity of project outcomes

Wu and Tang - http://www.pacis-net.org/file/2007/1189.pdf

5. Innovation

- That 'something new' feeling
- The concept of "radical openness"
- Eg. AT&T "Foundry"

http://networkingexchangeblog.att.com/enterprise-business/5-keys-to-innovation-your-business-needs-to-succeed/

http://www.att.com/gen/press-room?pid=2949

Stephen Downes

http://www.downes.ca