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Personal learning in virtual environments
Downes, S.

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Canada

Personal Learning in Virtual Environments

Stephen Downes
Guayaquil, Ecuador
November 13, 2015

1. What I’ve Learned About Ecuador

The Ecuador Project

2. Learning Through Practice

Medical Simulations

http://www.army.mil/article/127148/

http://www.83degreesmedia.com/features/camls011012.aspx

Flight Simulators

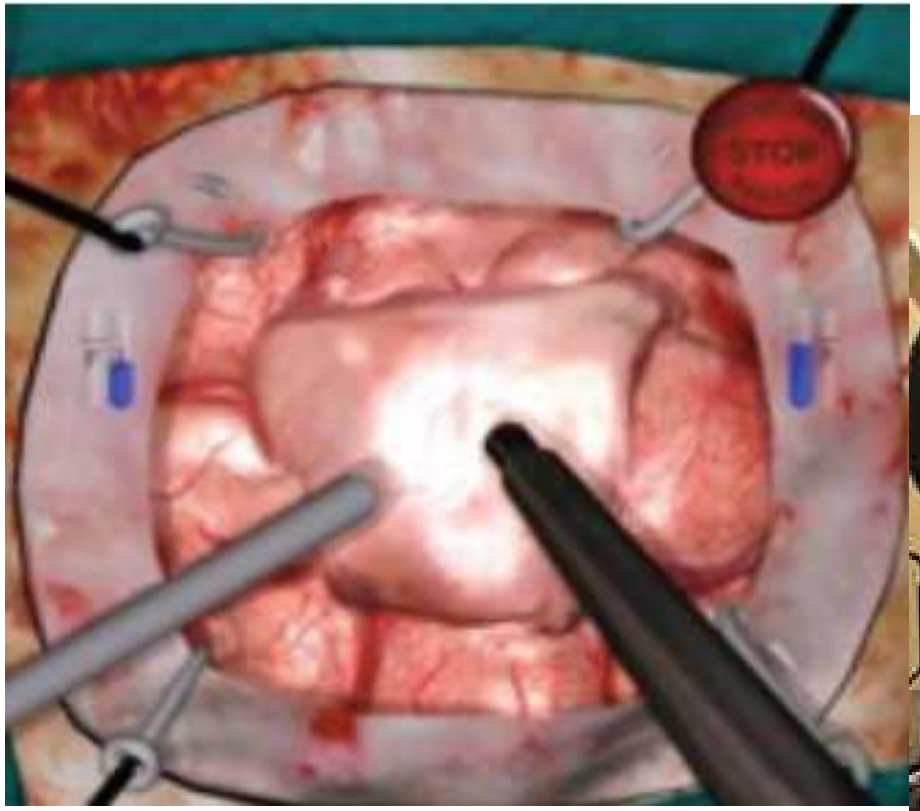
http://www.cae.com/World-s-first-AW189-full-flight-simulator-ready-for-training/

http://www.aiac.ca/canada-aerospace-industry/success-stories/cae-nh90-helicopter-simulator/

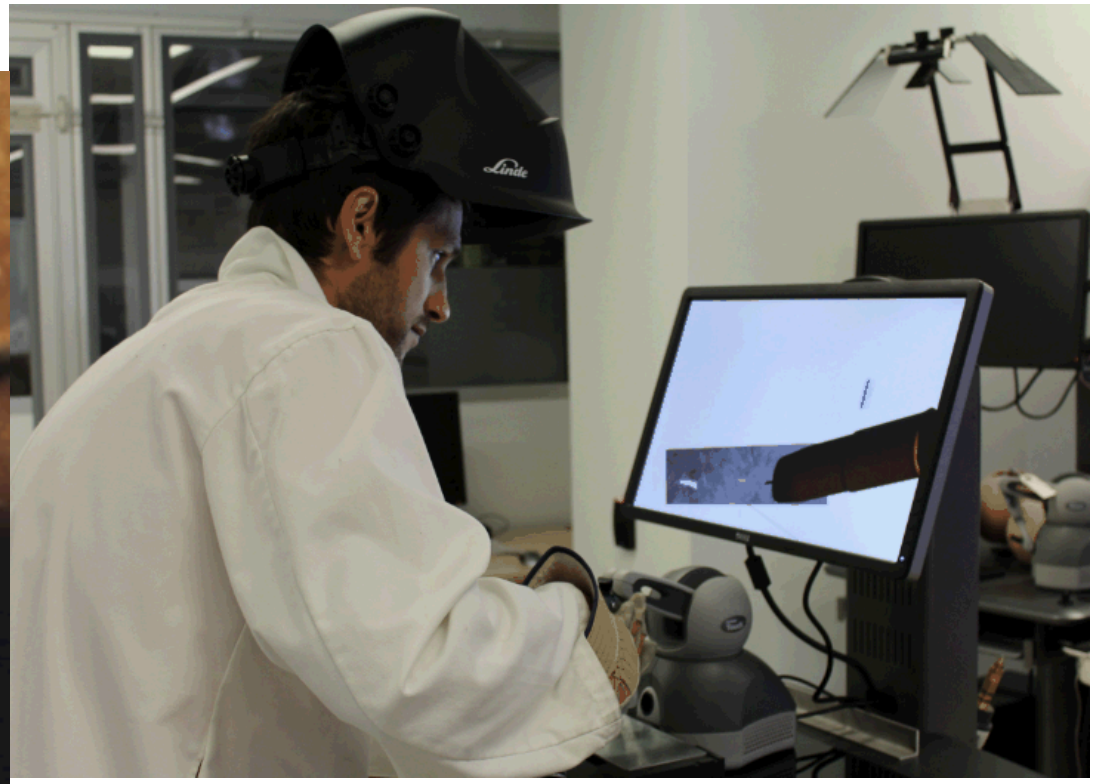
MINT - Mobile INteractive Trainer

http://www.downes.ca/post/59876

NeuroTouch Simulator



Sim-Welding



LPSS-Sim Project Overview

Simulation Learning Space (SLS)

McMaster University

CH Centre hospitalier affilié universitaire de Québec

CHU Sainte-Justine

Mount Sinai

UHN

Baylor College of Medicine

NorthShore University HealthSystem

University of Calgary

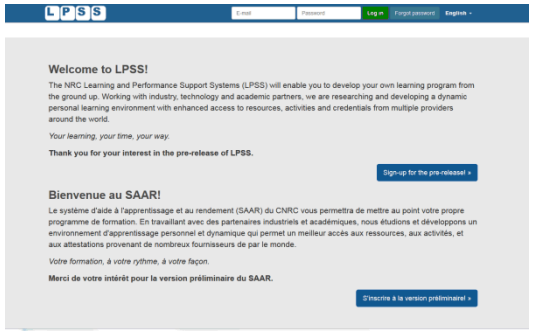
London Health Sciences Centre

University of Minnesota

Medical University of Vienna

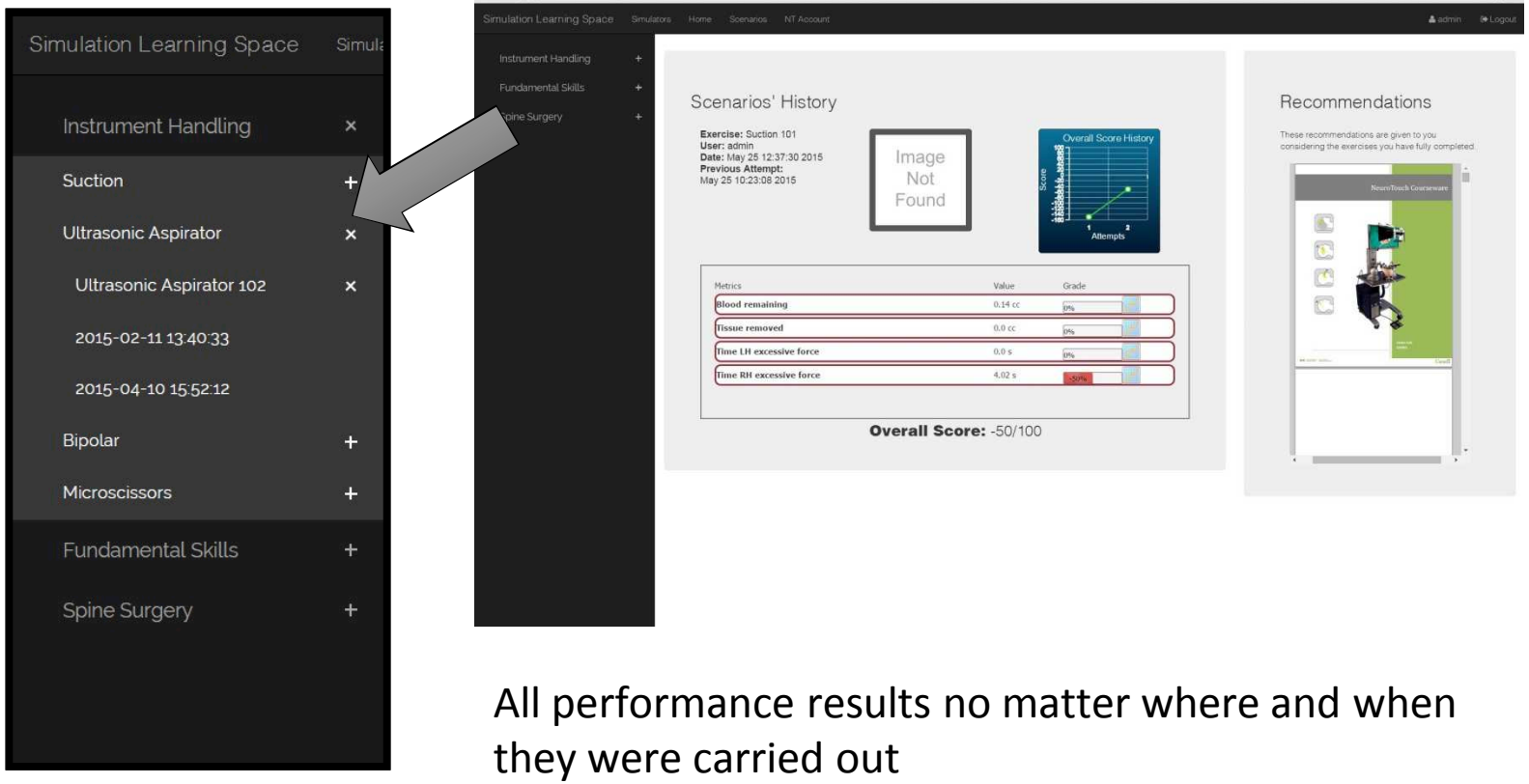
King Fahad Medical City

Capital Health



Combining Experiences

One place for all simulation experience



All performance results no matter where and when they were carried out

1. Content Knowledge vs Practice

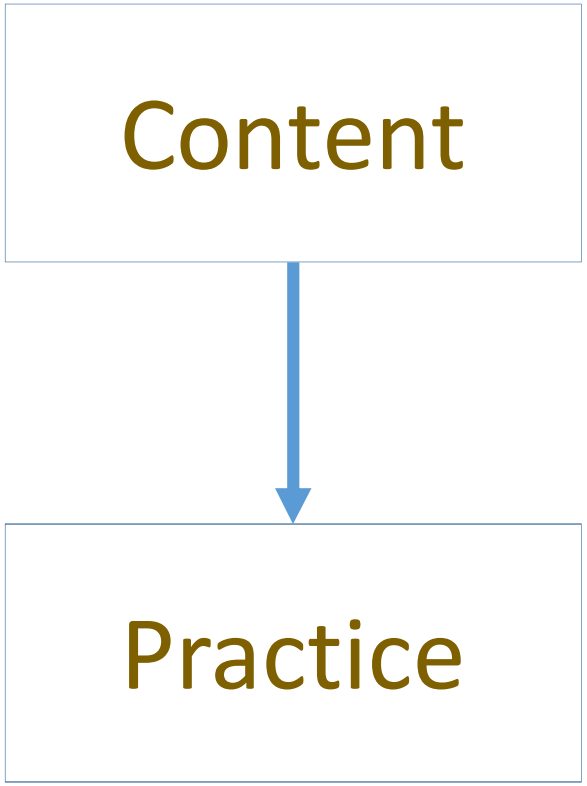
Criticisms of a Focus on Content…

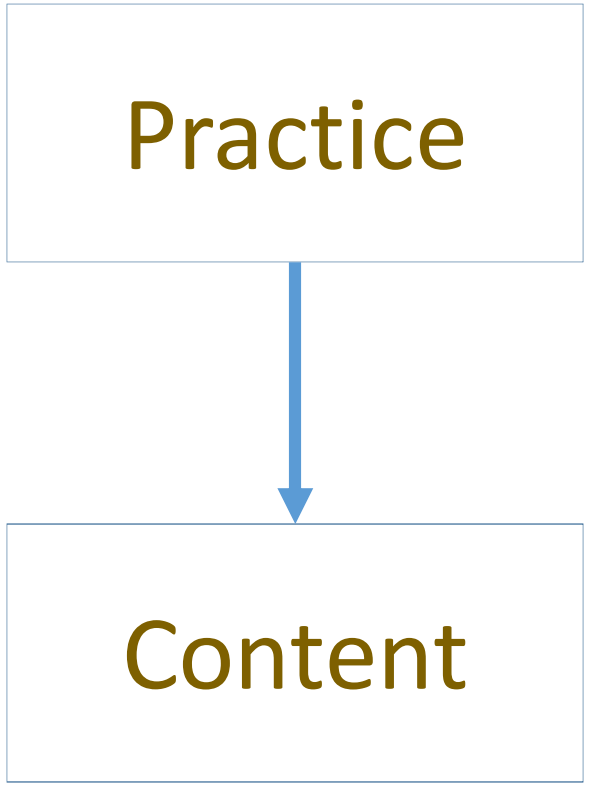
- "research should move beyond a narrow focus on the 'know–do gap' to cover a richer agenda…"
  - situation-specific practical wisdom (phronesis)
  - tacit knowledge shared among practitioners ('mindlines')
  - complex links between power and knowledge; and
  - macro-level knowledge partnerships

Greenhalgh and Weiringa, http://jrs.sagepub.com/content/104/12/501.full

Immersive Environments…

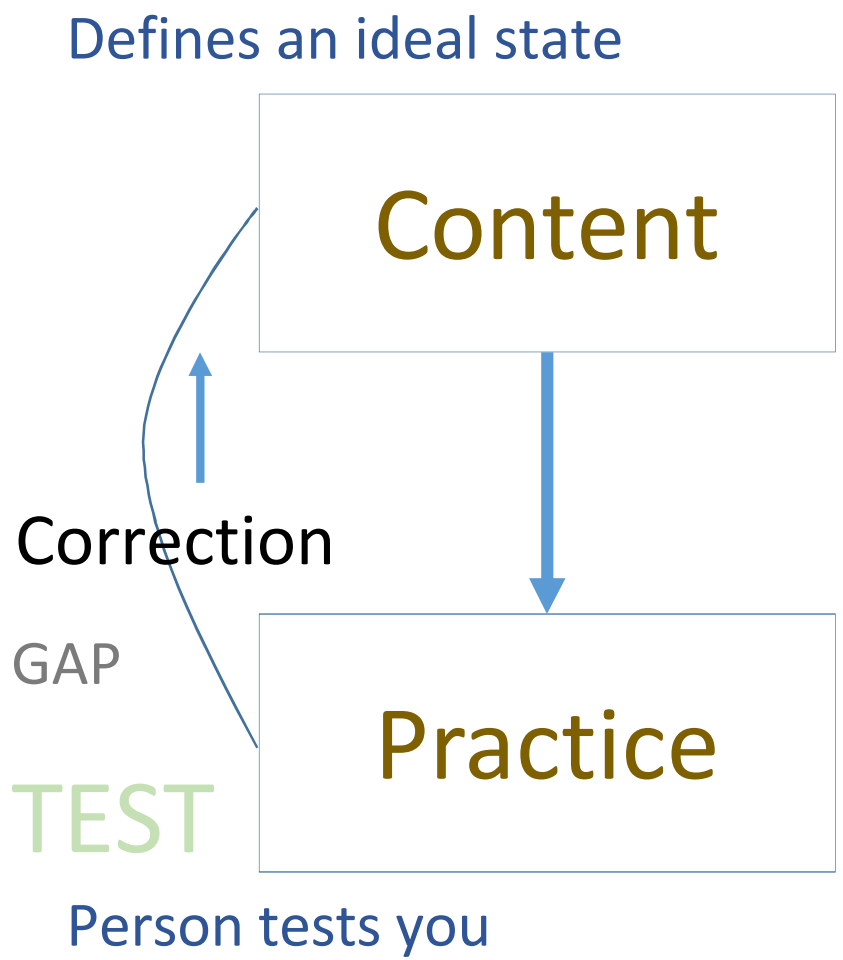
Two Approaches…

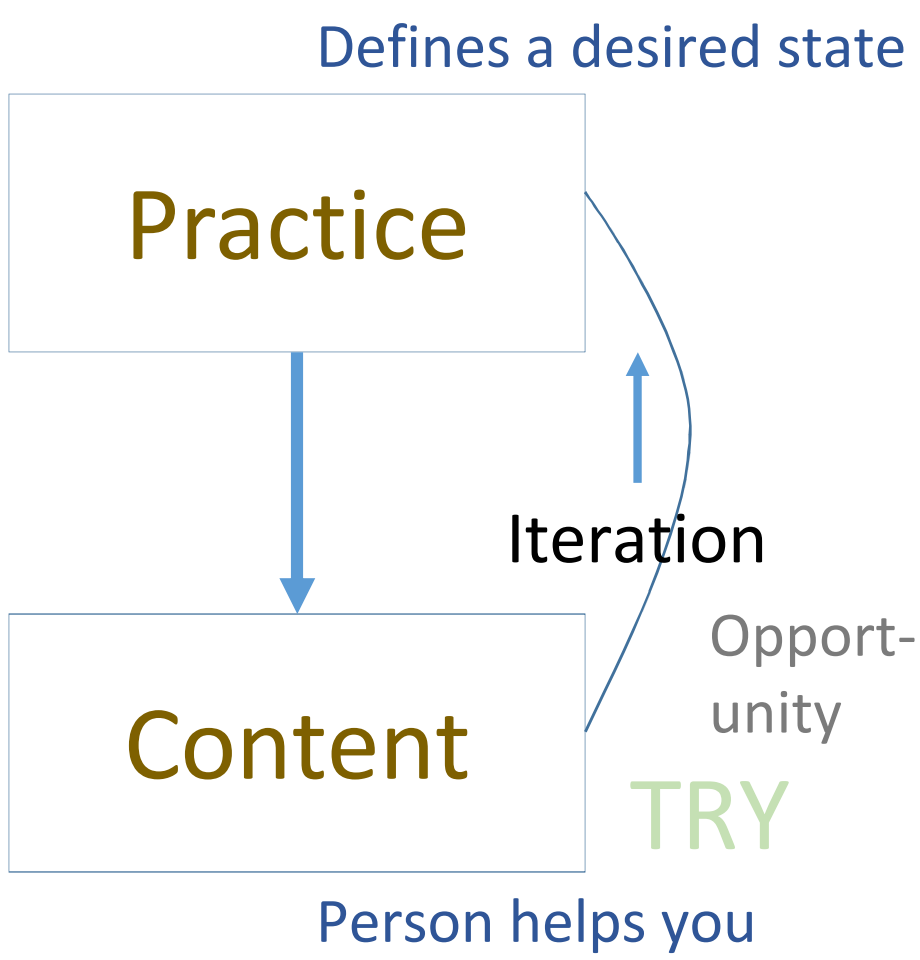




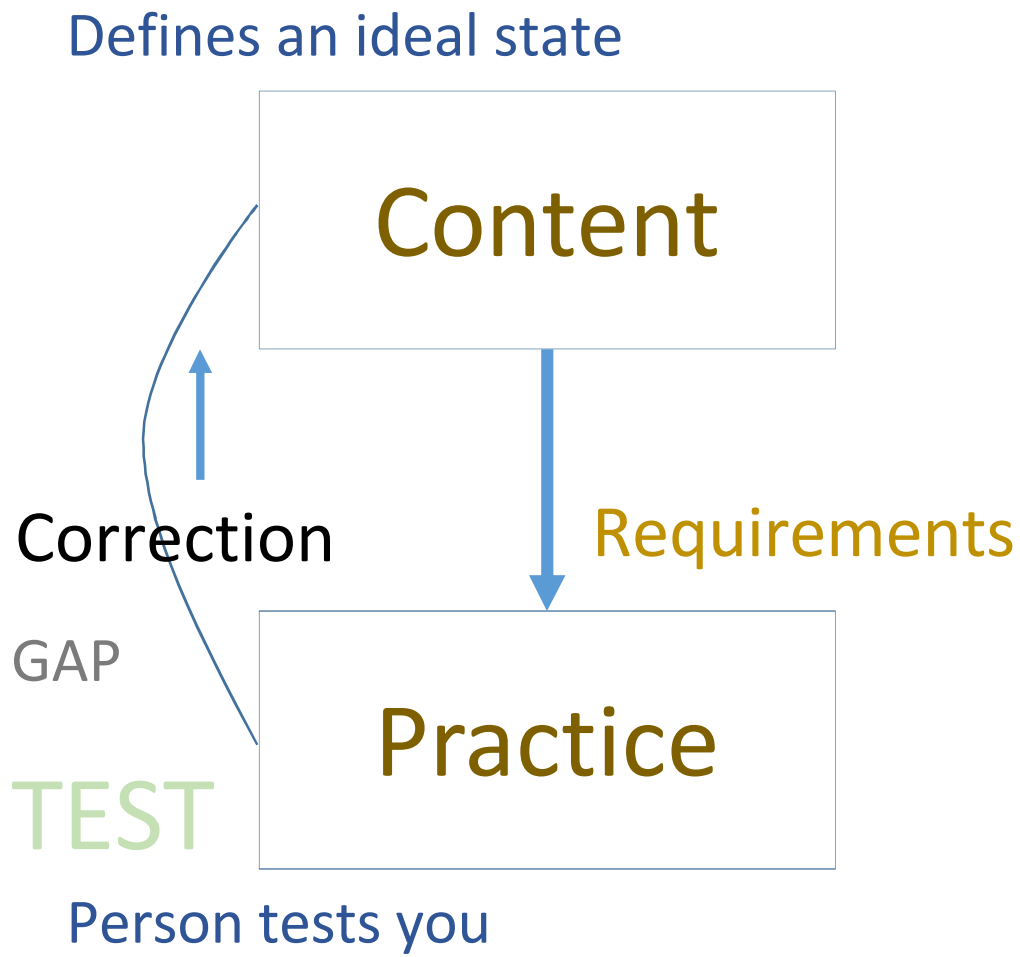
Two Approaches…

Two Approaches…

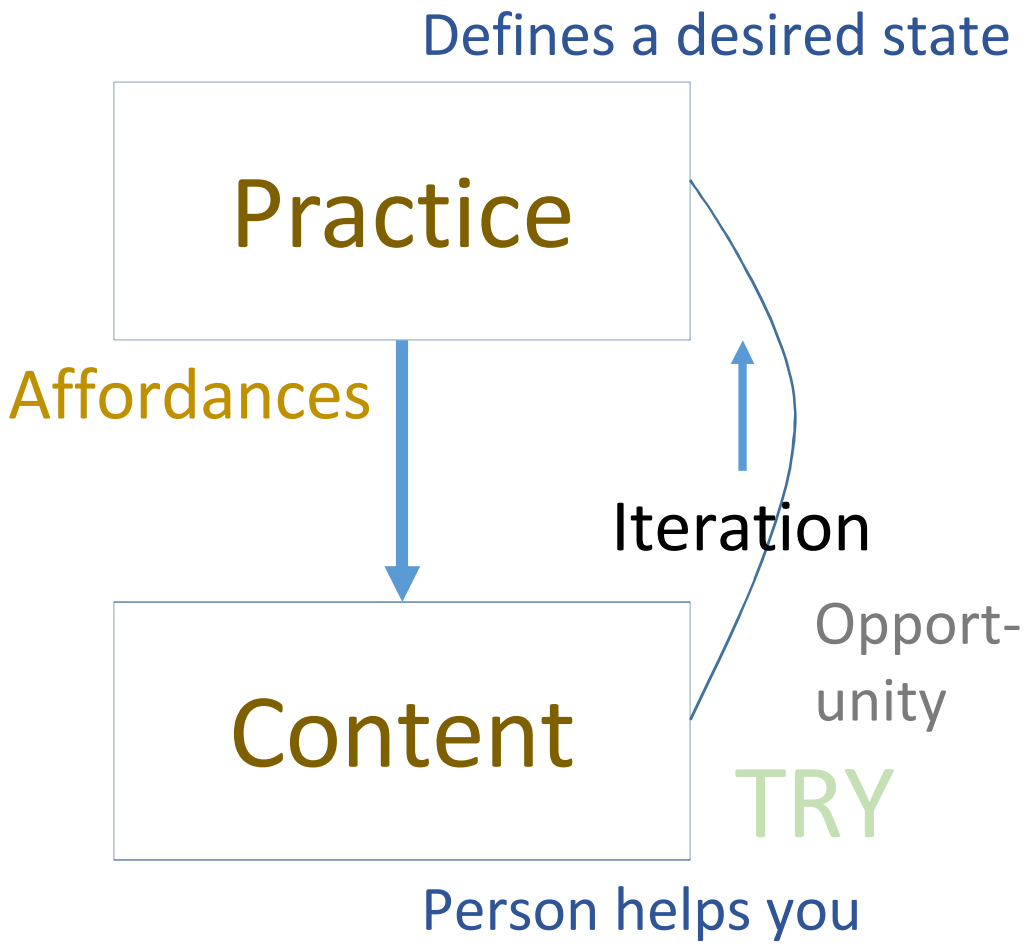




Library

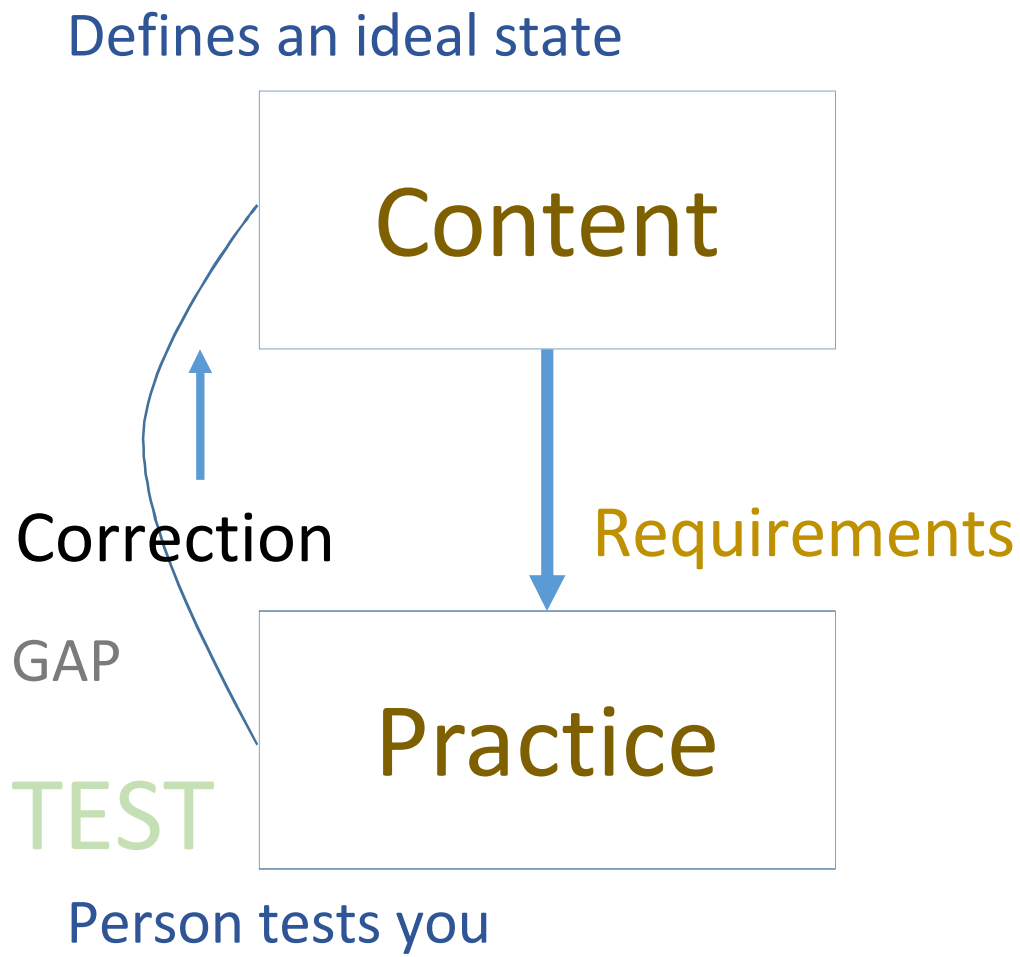


Environment



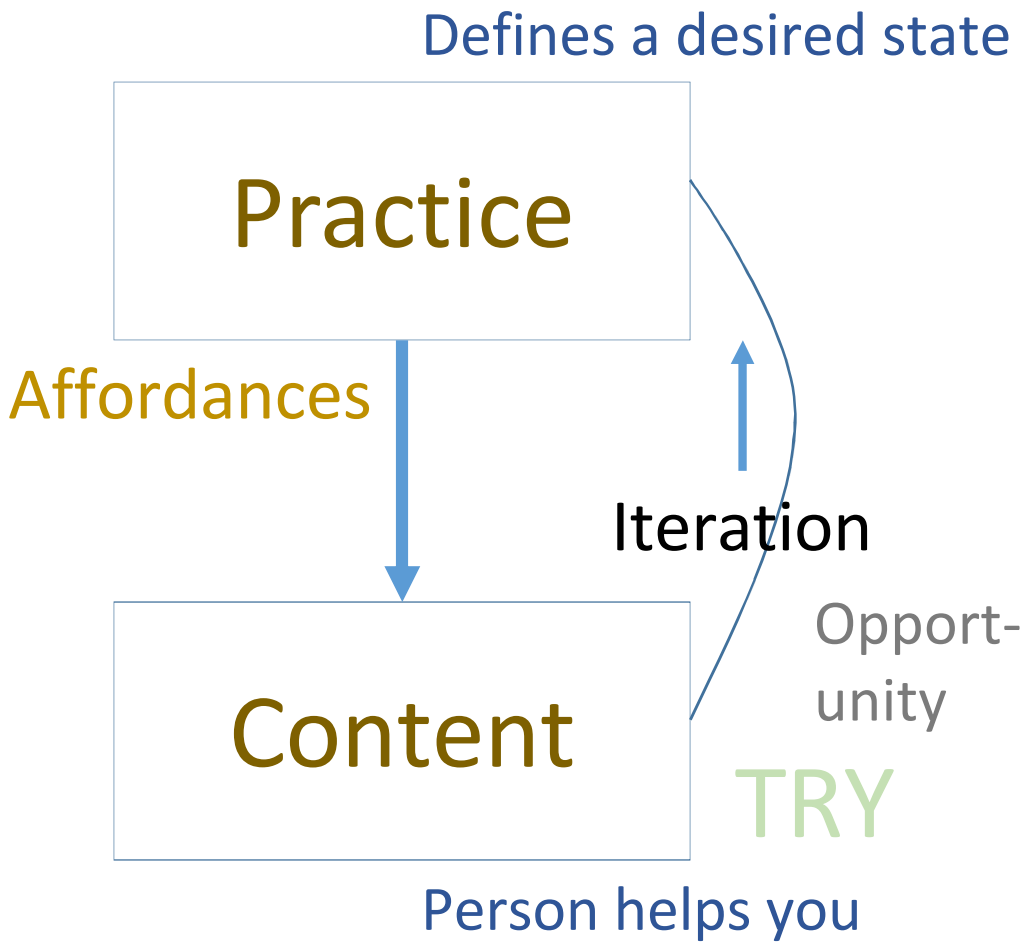
Personalized

We do for you



Personal

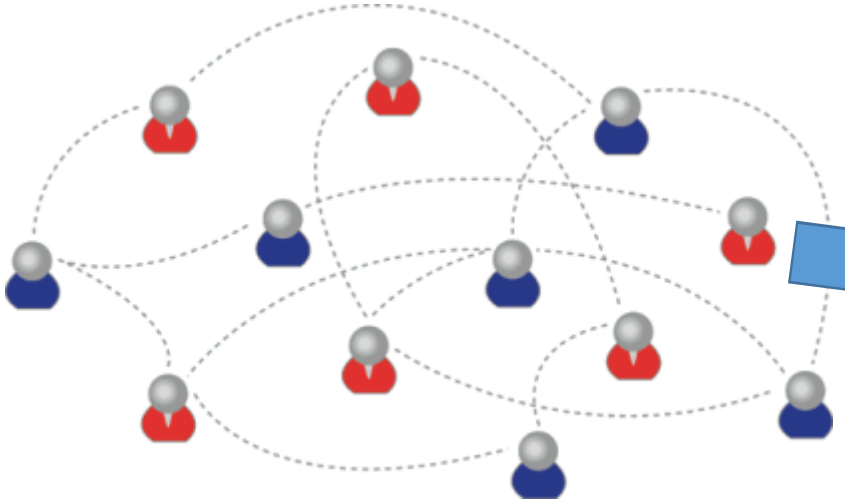
You do for yourself



3. The Case of the cMOOC

How to Create a cMOOC

- It’s like creating a network
- Don’t centralize
- Concentrate on the creation of links



We use social networks...

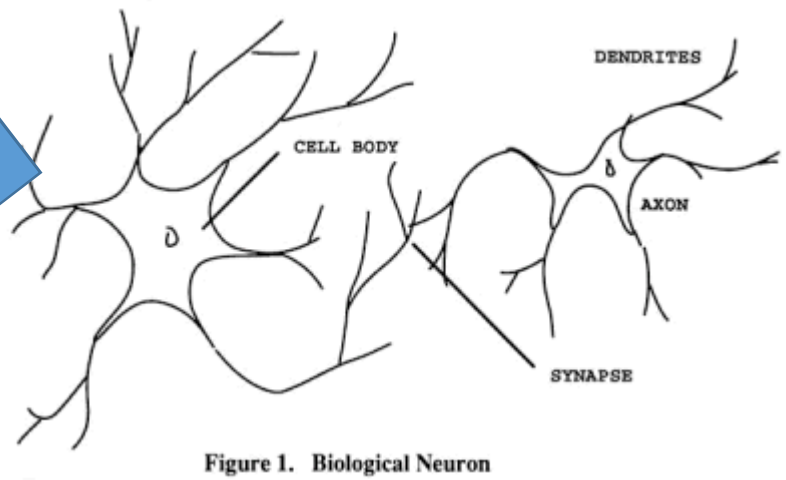


Figure 1. Biological Neuron

… to create personal knowledge

Primary Course Components

- Wiki – to assist in planning, topics, guests, etc
- Email list – for announcements and mass communications
- Course Blog – for daily posts
- Synchronous Communications + Video

MOOC Design

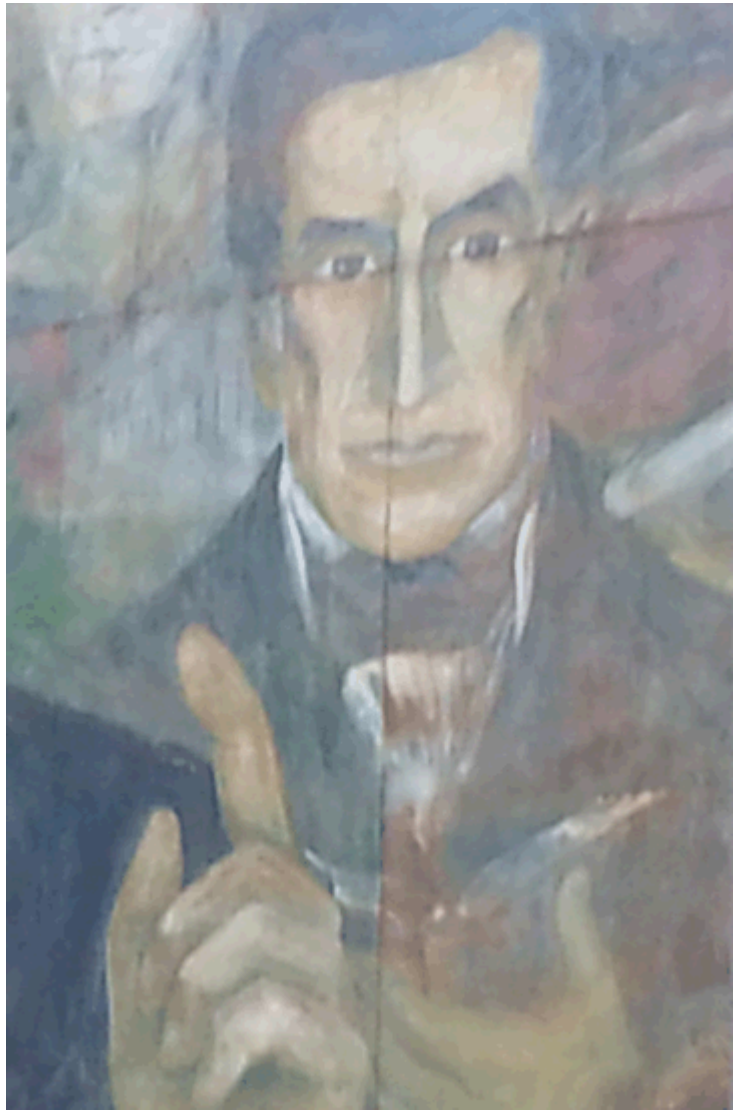
- Course structure – a series of topics
  - The instructors will not ‘teach’ the topics, they ‘investigate’ or ‘work through’ the topics (model and demonstrate)

Additional Course Components

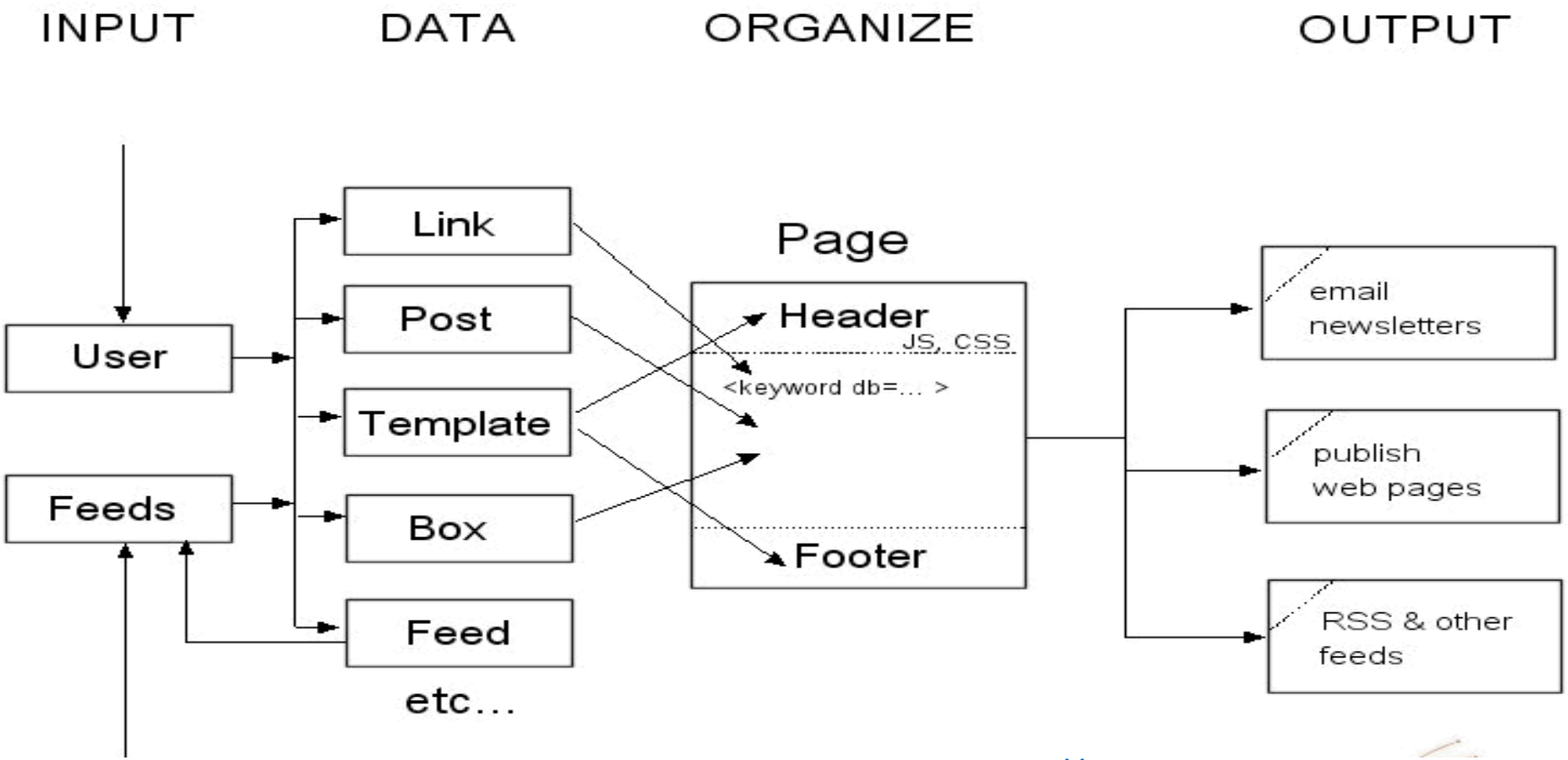
- For Students – *any* online communications system, including
  - Blogs – Blogger, WordPress, Tumblr
  - Social Network – Facebook, Twitter, Google+
  - Content site – Google Docs, Flickr, Instragram
  - Aggregator – Feedly, OldReader, (new) Bli RSS

Process

- Each Week
  - Conversation or activity with guest
  - Discussion and reflection
- Each *Day*
  - Aggregate student content
  - Share via web site & newsletter

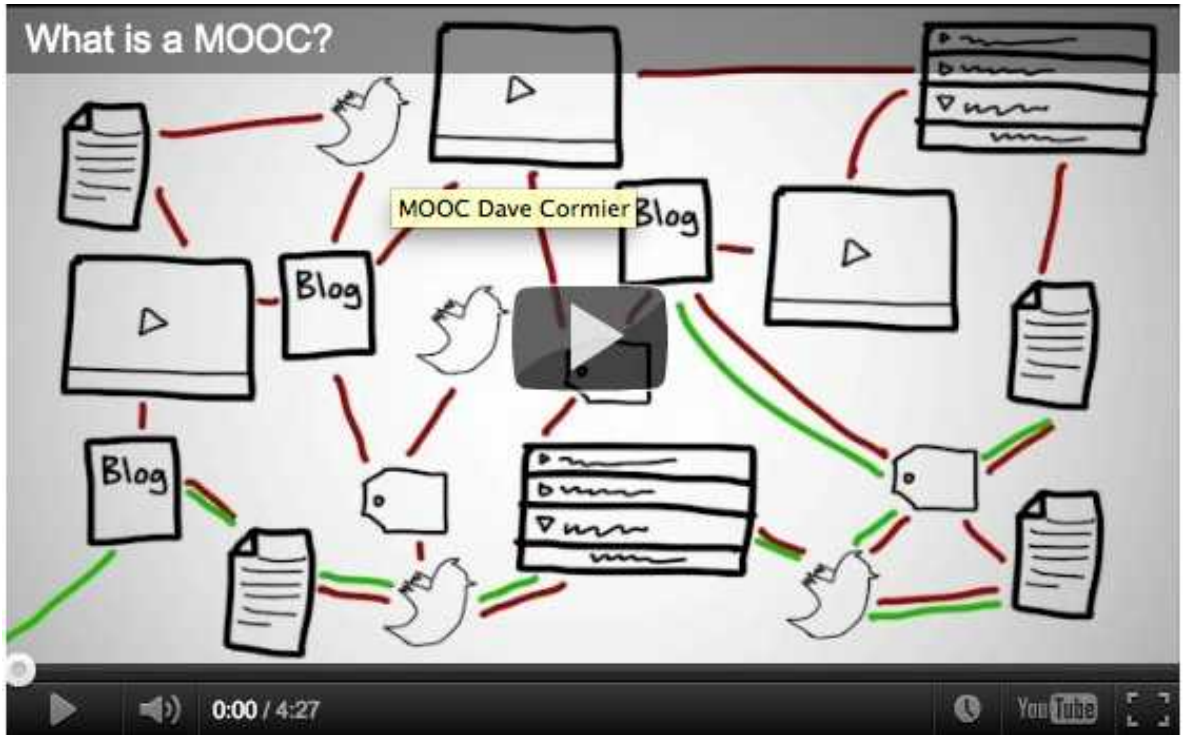


gRSShopper



http://grsshopper.downes.ca

How to Learn in a cMOOC



Learning is a process of immersion into a knowing community

http://www.tonybates.ca/2012/03/03/more-reflections-on-moocs-and-mitx/

Learning is a process of *recognizing* and *growing into* or *becoming* an instantiation of those values…

How to Evaluate Learning

- Learning is not possession of a collection of facts, it's the expression of a capacity
- Learning is recognized by a community of experts in a network

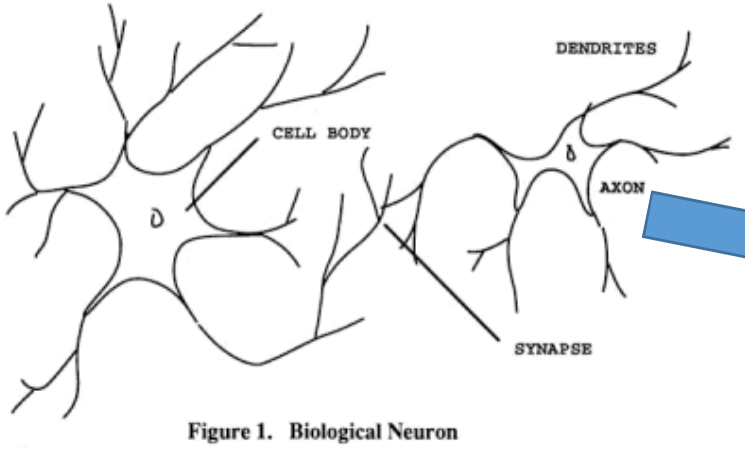
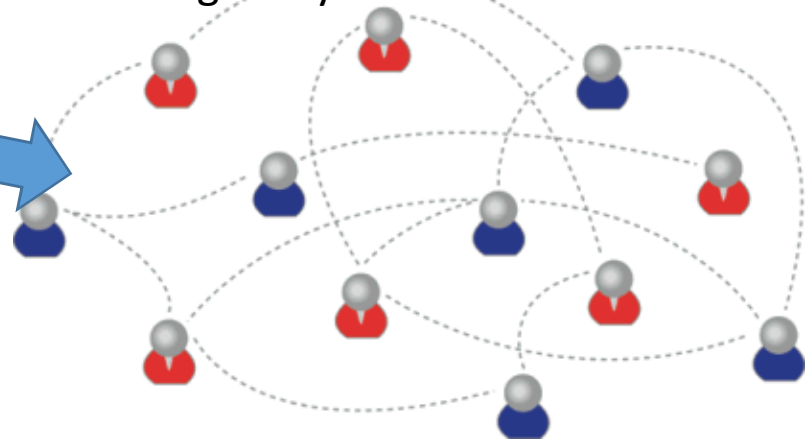


Figure 1. Biological Neuron

We recognize our understandings…

Learning analytics



…by the way we use them in our social network

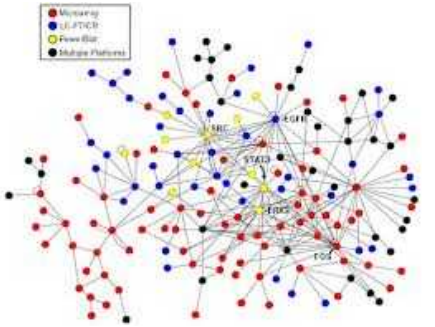
xLearning vs cLearning

contents engagement networks

COMMON CORE
STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

http://www.corestandards.org/

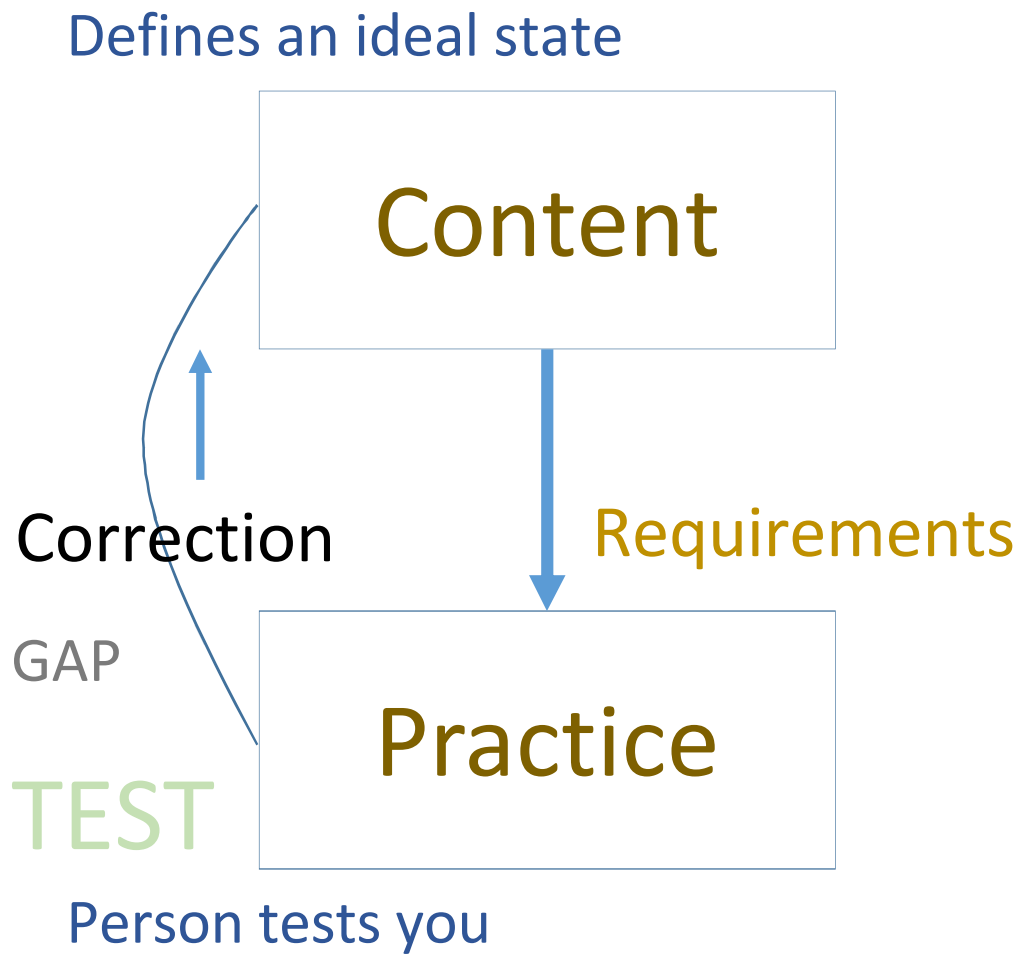
http://www.magnet.edu/



http://lisahistory.net/wordpress/2012/08/three-kinds-of-moocs/

Personalized

We do for you



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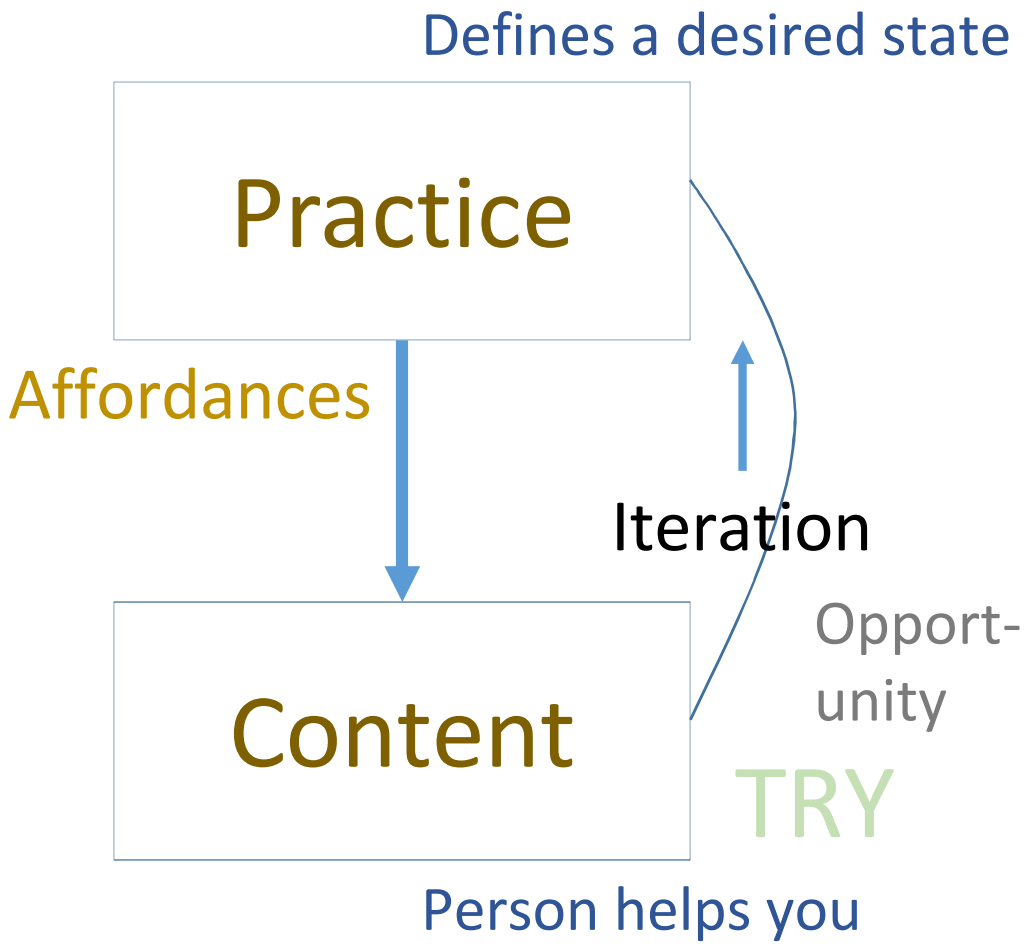
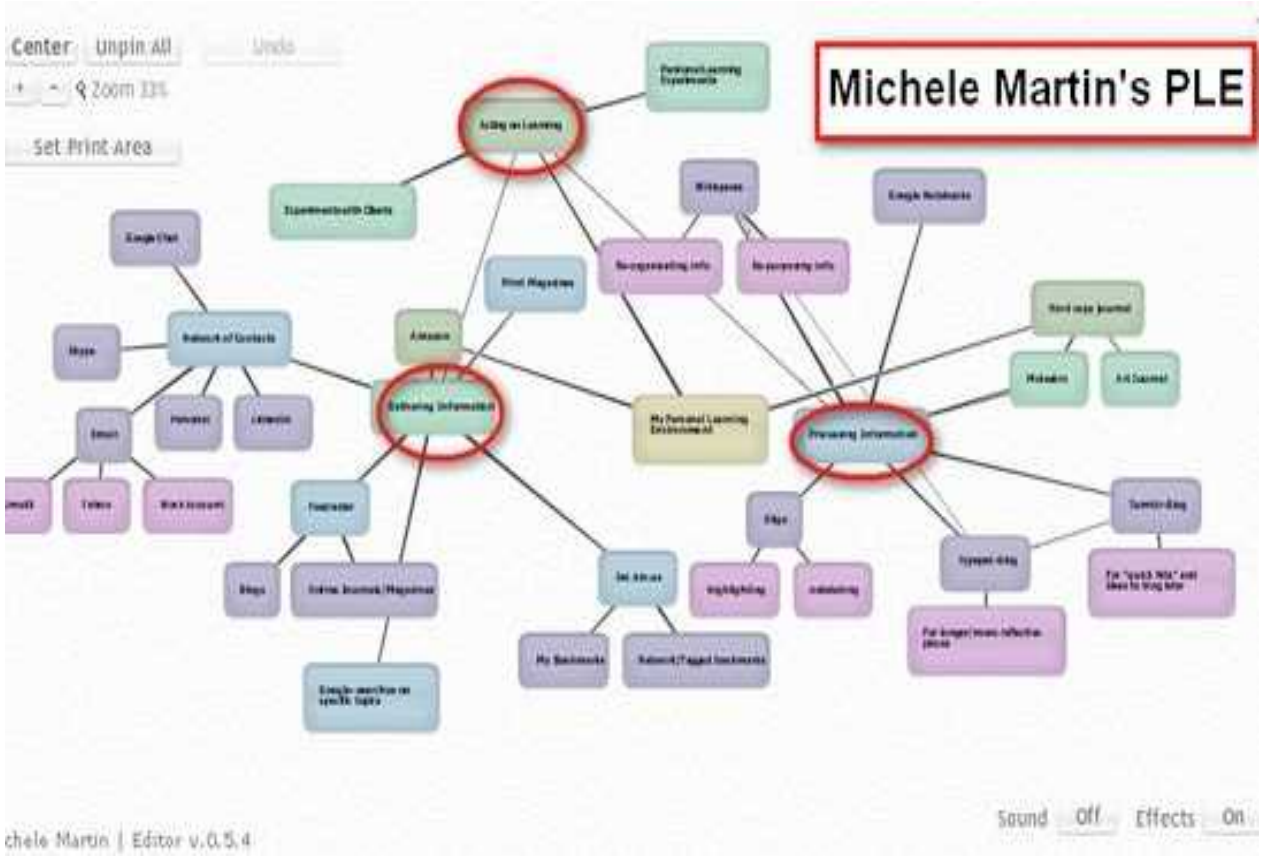


4. Personal Learning Environments

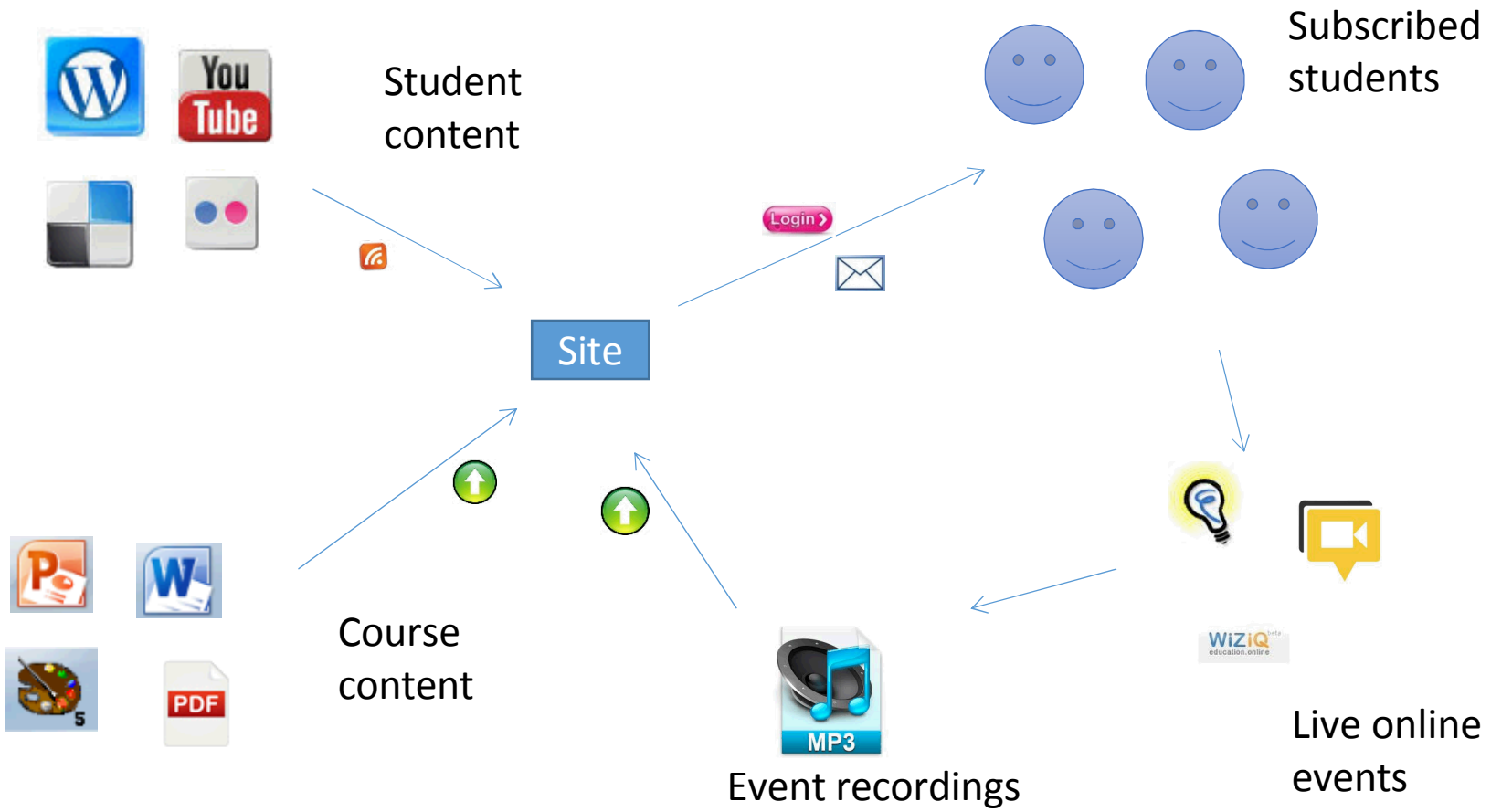
Personal Learning Environments



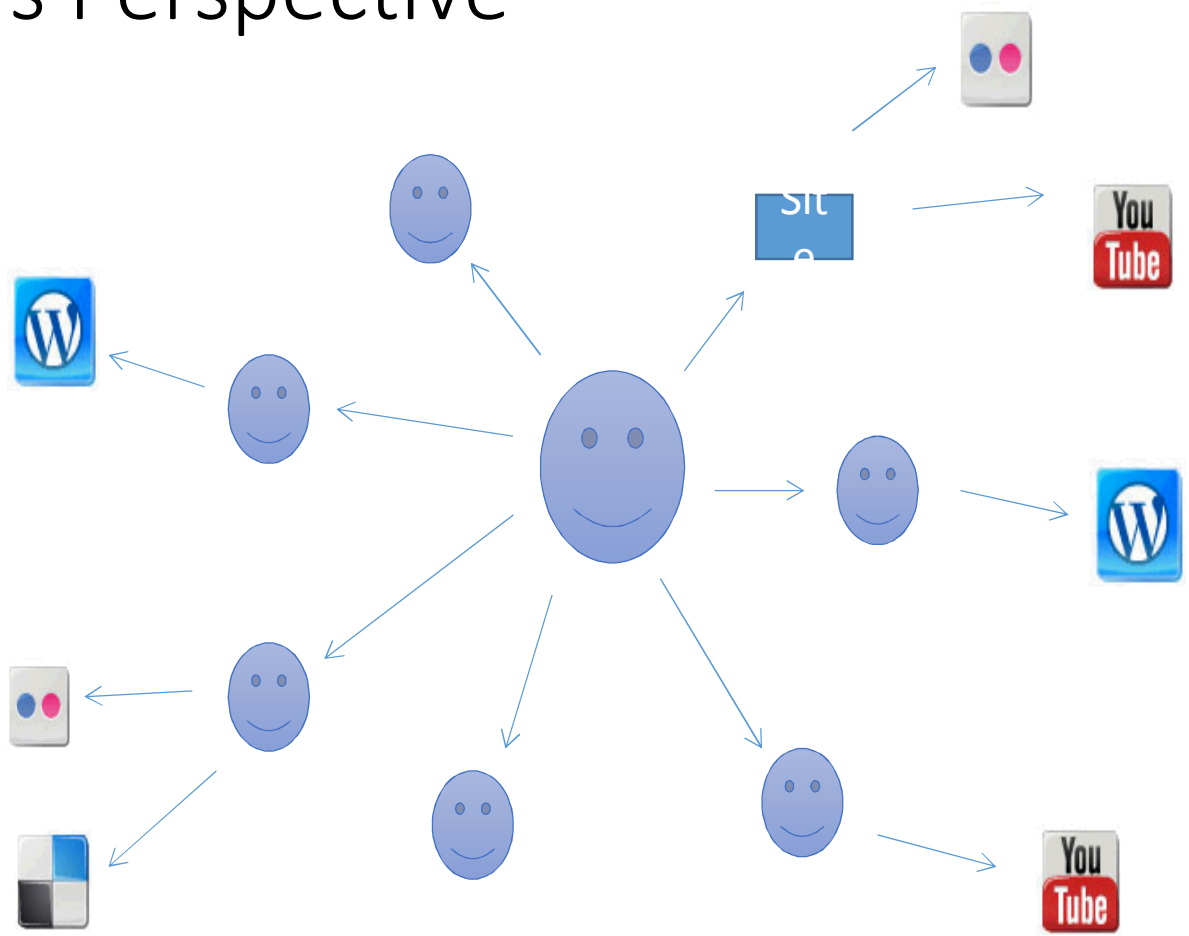
http://dmlcentral.net/blog/howard-rheingold/diy-u-interview-anya-kamenetz

http://www.downes.ca/post/58150

Course Provider Perspective

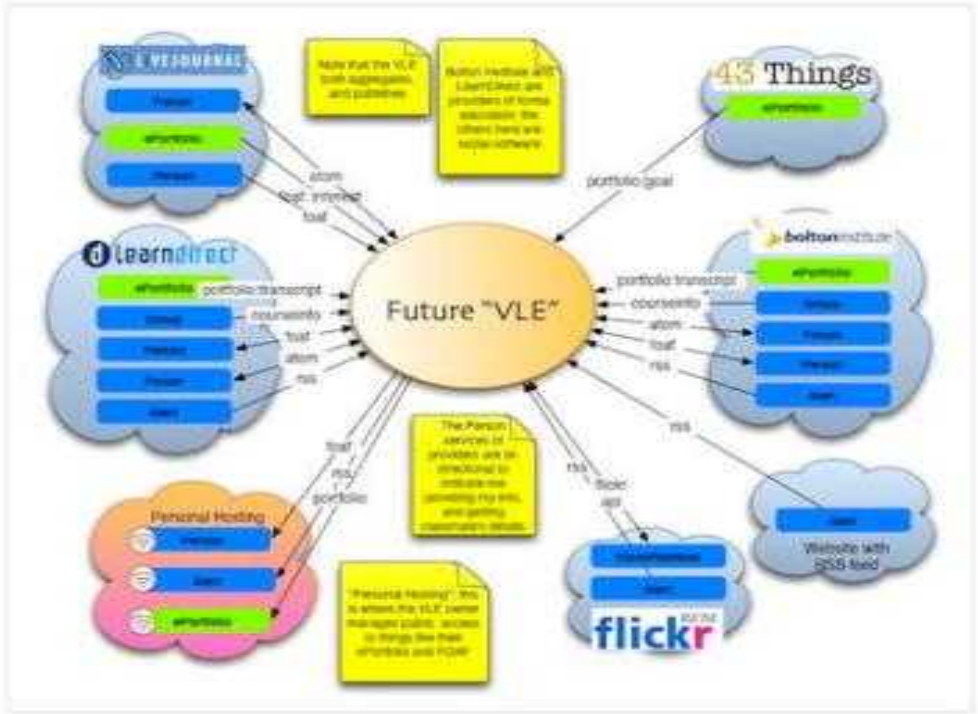


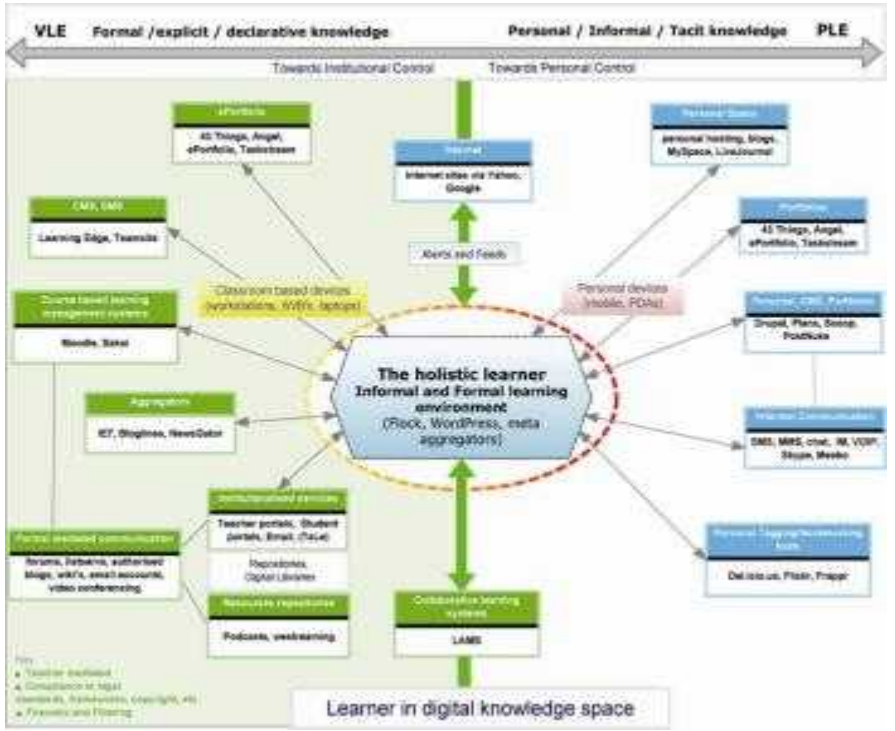
The Student's Perspective



A range of different resources and services

The design is based on putting the learner at the centre



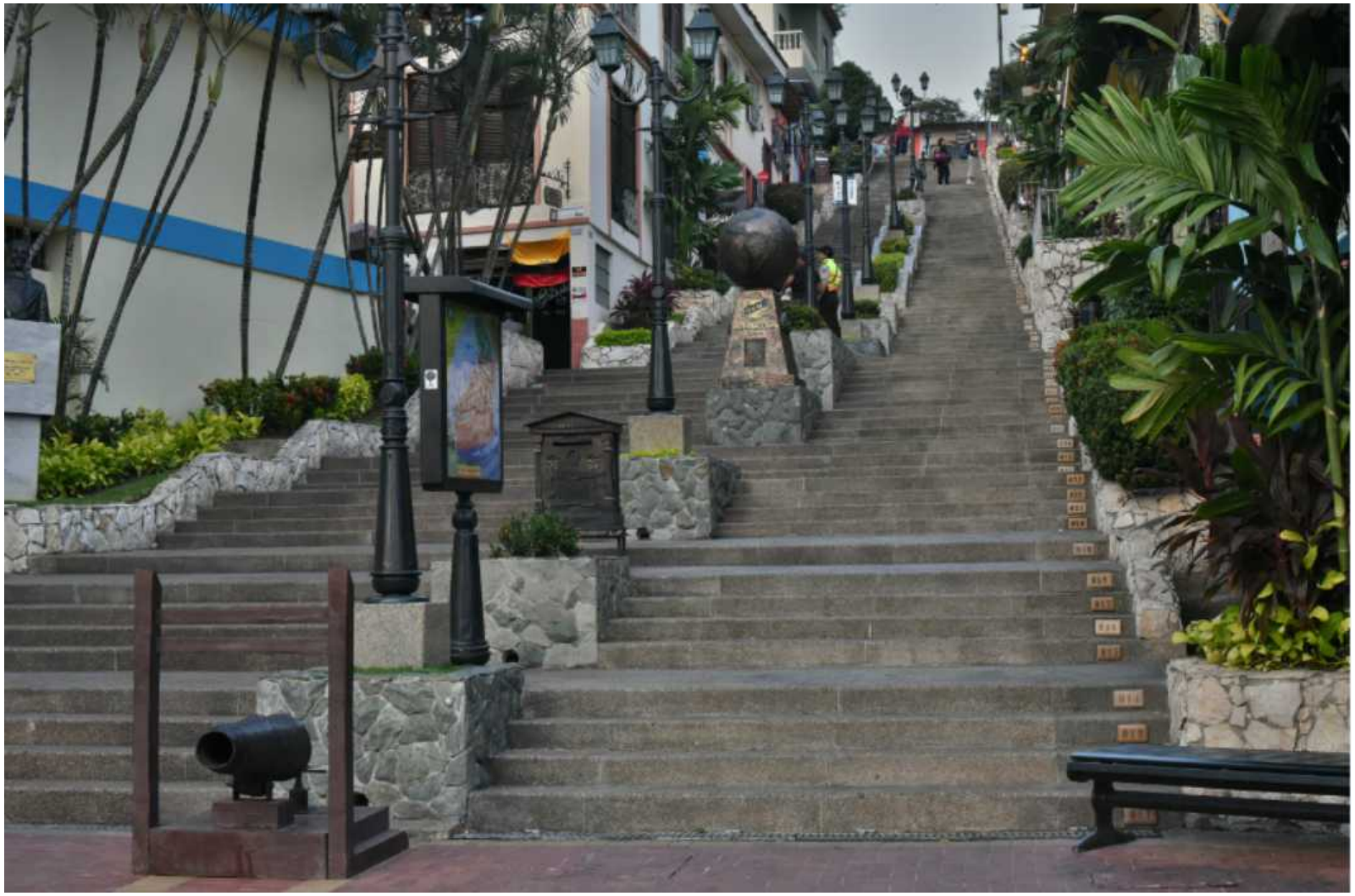


Scott Wilson (left), Tim Hand (right)

https://www.google.com/search?q=ple+diagrams

http://www.edtechpost.ca/ple_diagrams/index.php/mind-map-3

5. Learning and Performance Support Systems



LPSS is Built Around the Personal Learning Record

This is a *new* type of data – we call it the *personal graph*.

Each person has their own *private* personal graph.

Me

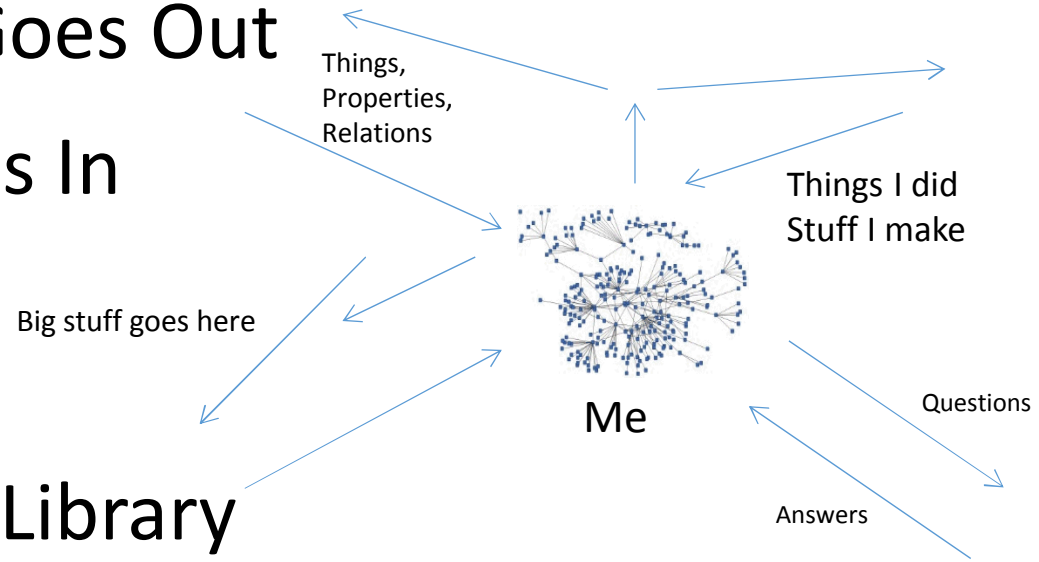
The PLR contains all a person's learning records, including:

- certificates, badges and credentials
- activity records, test results, scores
- Assignments, papers, drawings, things they create

LPSS is Built Around the Personal Learning Record

Stuff Goes Out

Stuff Comes In



Learning Activities

- I read and watch stuff
- I play with toys
- I make stuff

Personal Library

- Pictures
- Books
- Movies

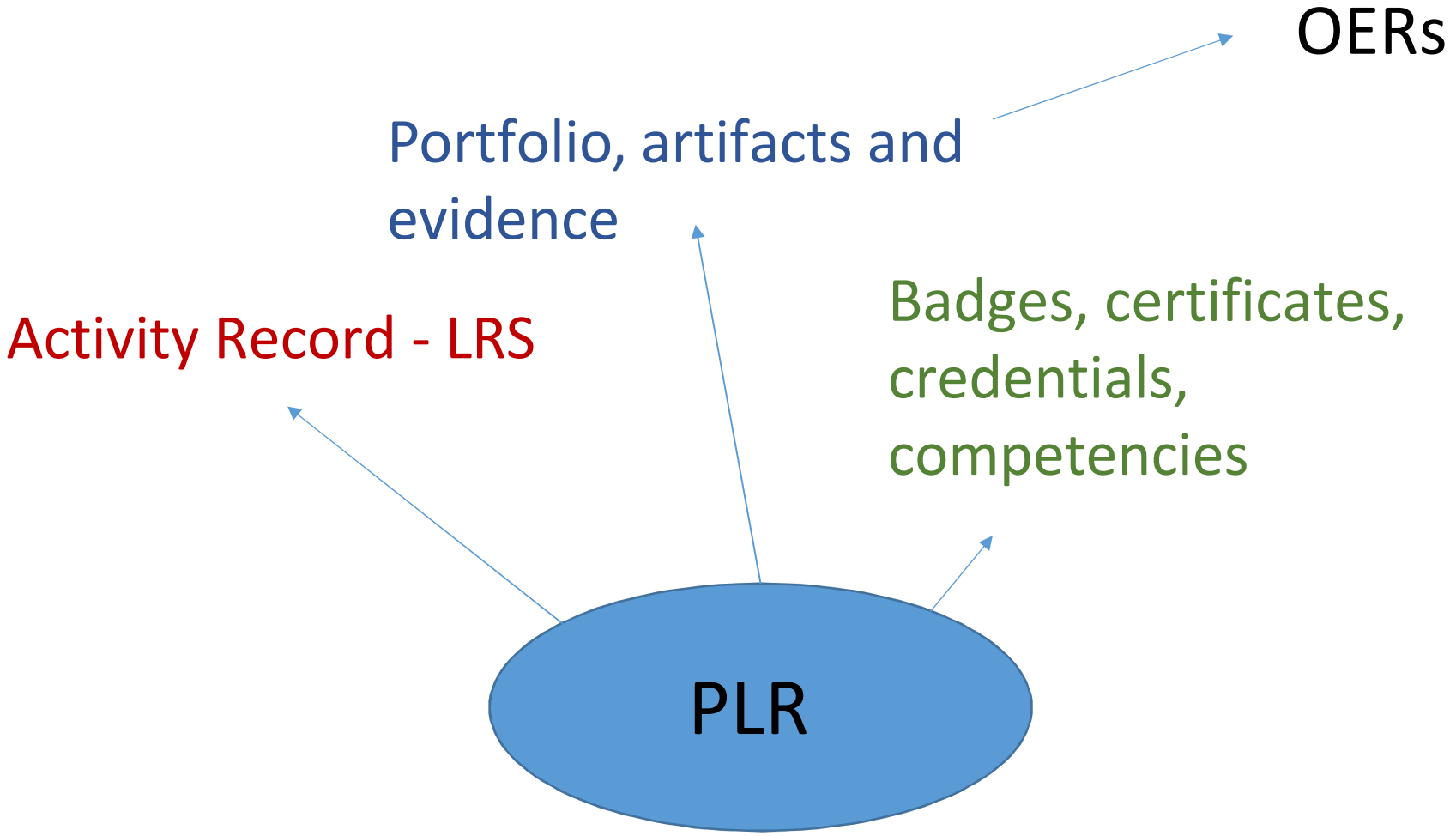
Learning Analytics Services

Personal Learning Record

The Personal Learning Record – data owned by the individual, shared only with permissions

http://halfanhour.blogspot.de/2014/12/eportfolios-and-badges-workshop-oeb14.html

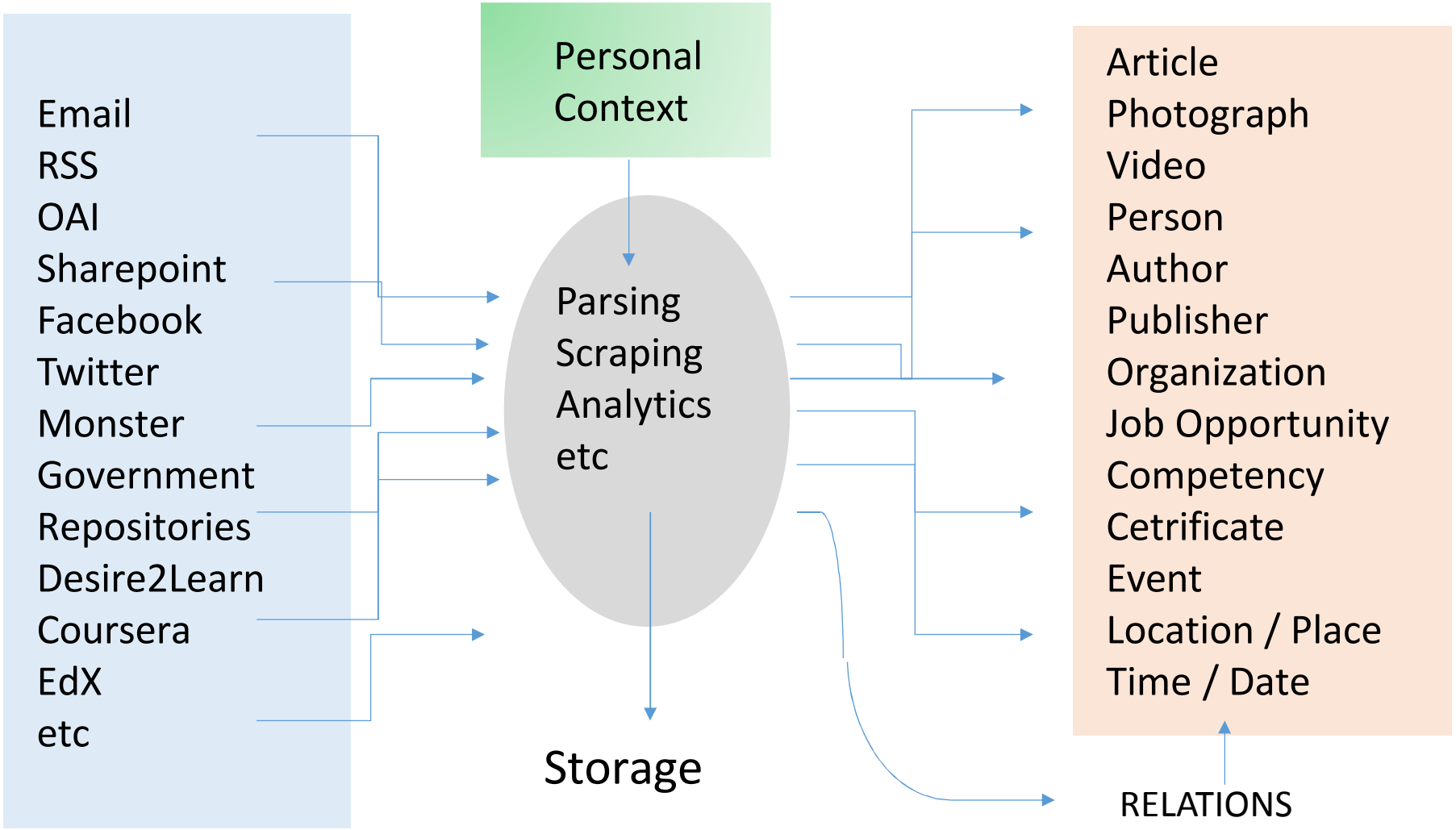
Personal Learning Record



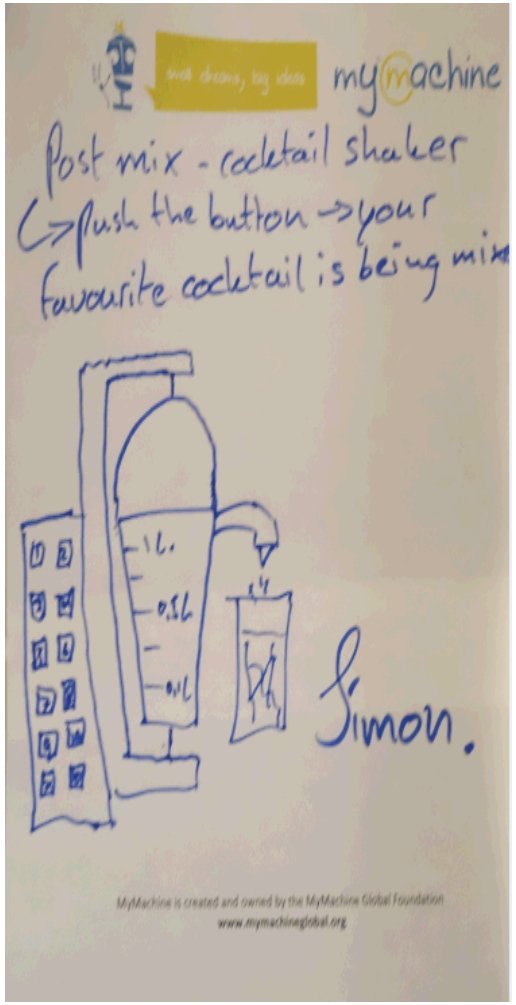
Resource Repository Network

- Manage and discover list of sources and resources
- Maintain authentication and credentials
- Support APIs and metadata standards
- Gather, analyze and sort resources and/or metadata

RRN Aggregation and Storage



Personal Learning Assistant



Projection of learning services into multiple platforms

Personal Learning Assistant

- Collect contextual information for system
- Display resources of various formats, including SCORM, LTI, etc.
- Support (scaffolded) authoring environments
- Project LPSS capacity into external software and devices

PLA: Collecting xAPI from Med Sims

https://www.flickr.com/photos/stephen_downes/15710336207/

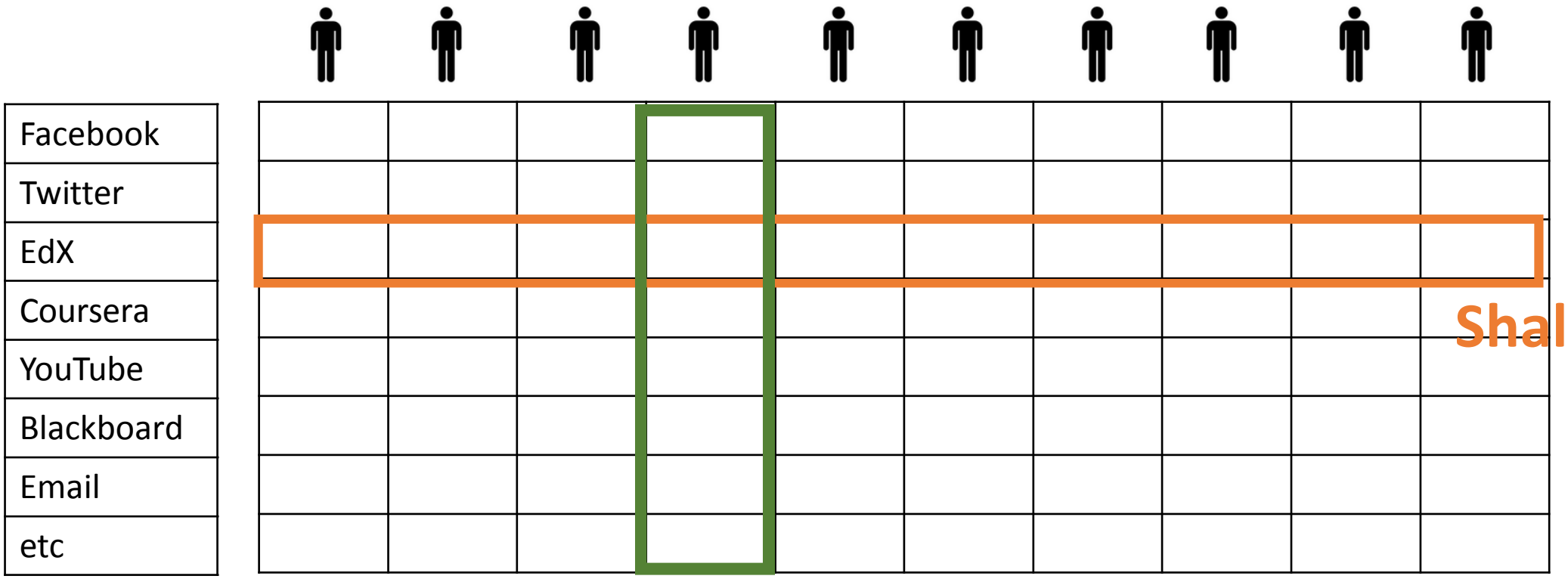
http://www.nrc-cnrc.gc.ca/eng/rd/medical/

Personal Analytics

Automated Competency Recognition and Development

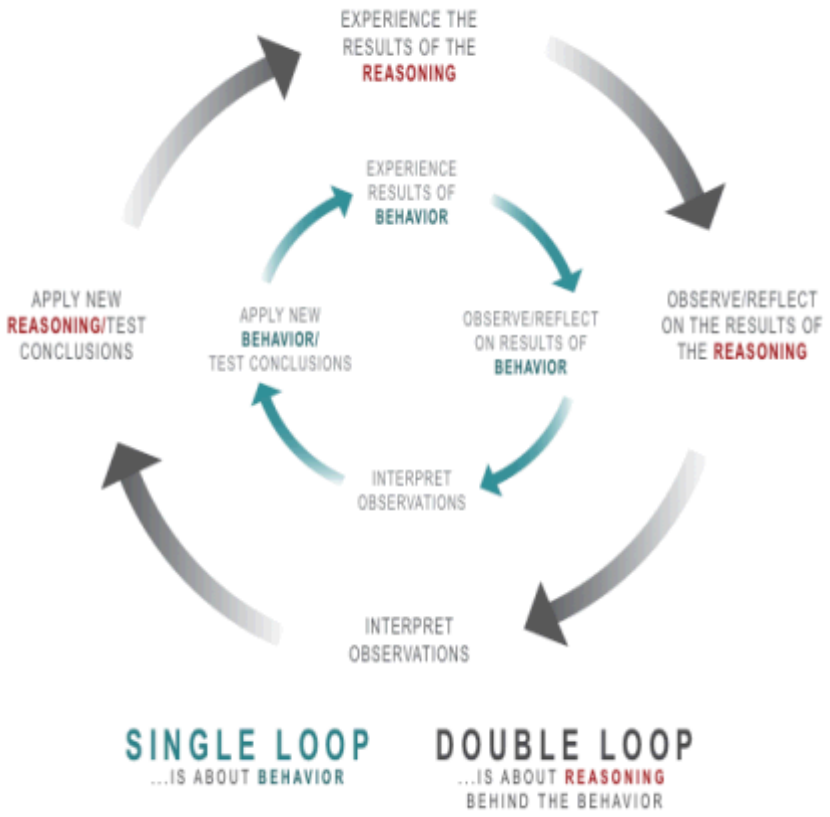
- Import or create competency definitions
- Analyze interactions for skills and learning gaps
- Support development of learning plans
- Provide resource and service recommendations

Analytics and Big Data



6. Expanding LPSS

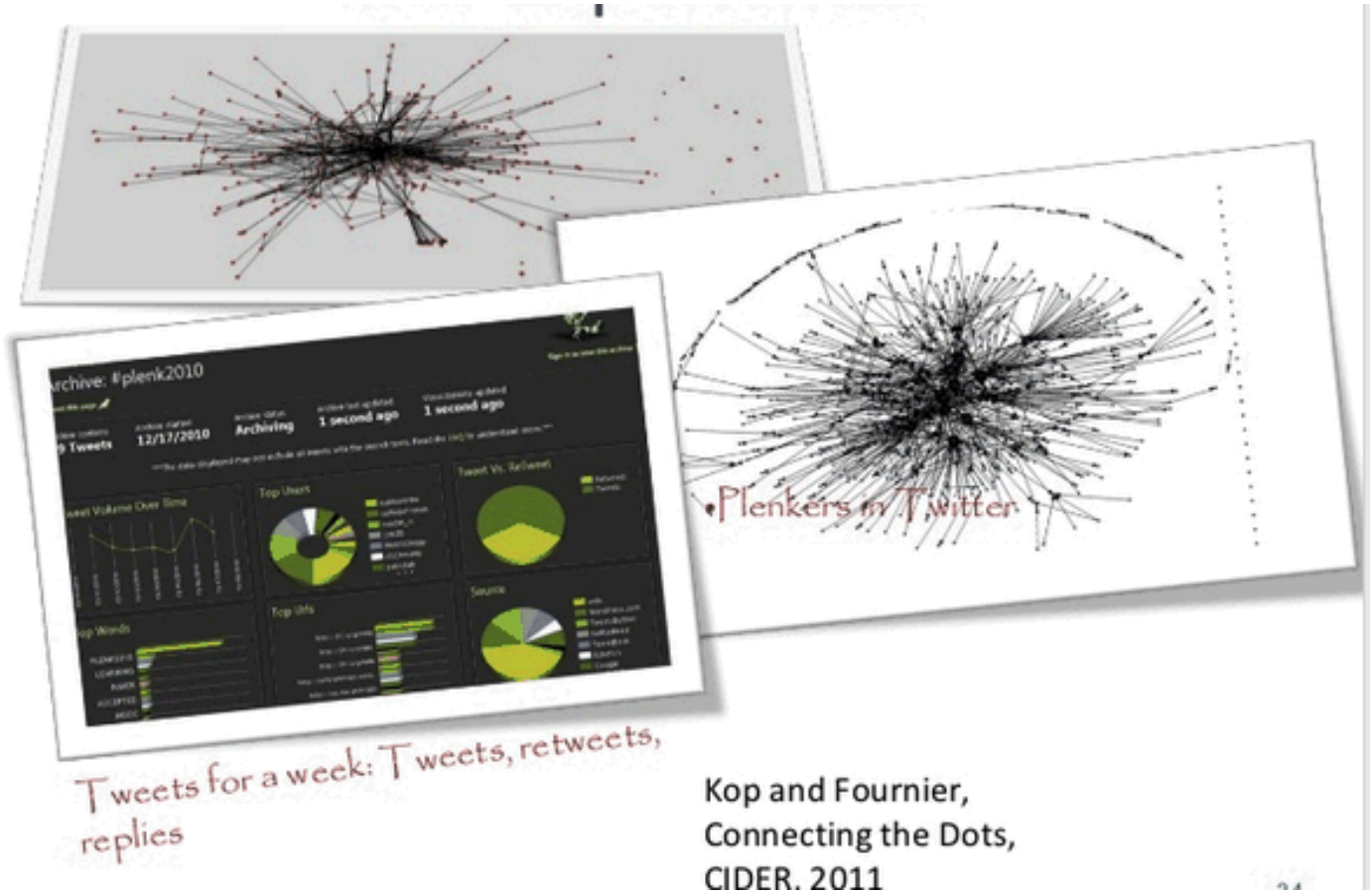
Implementation Projects



Ultimately, the objective is to support individual learning in a network

http://integralleadershipmanifesto.com/manifesto/making-subject-object/

Plearn – Importance of the Graph

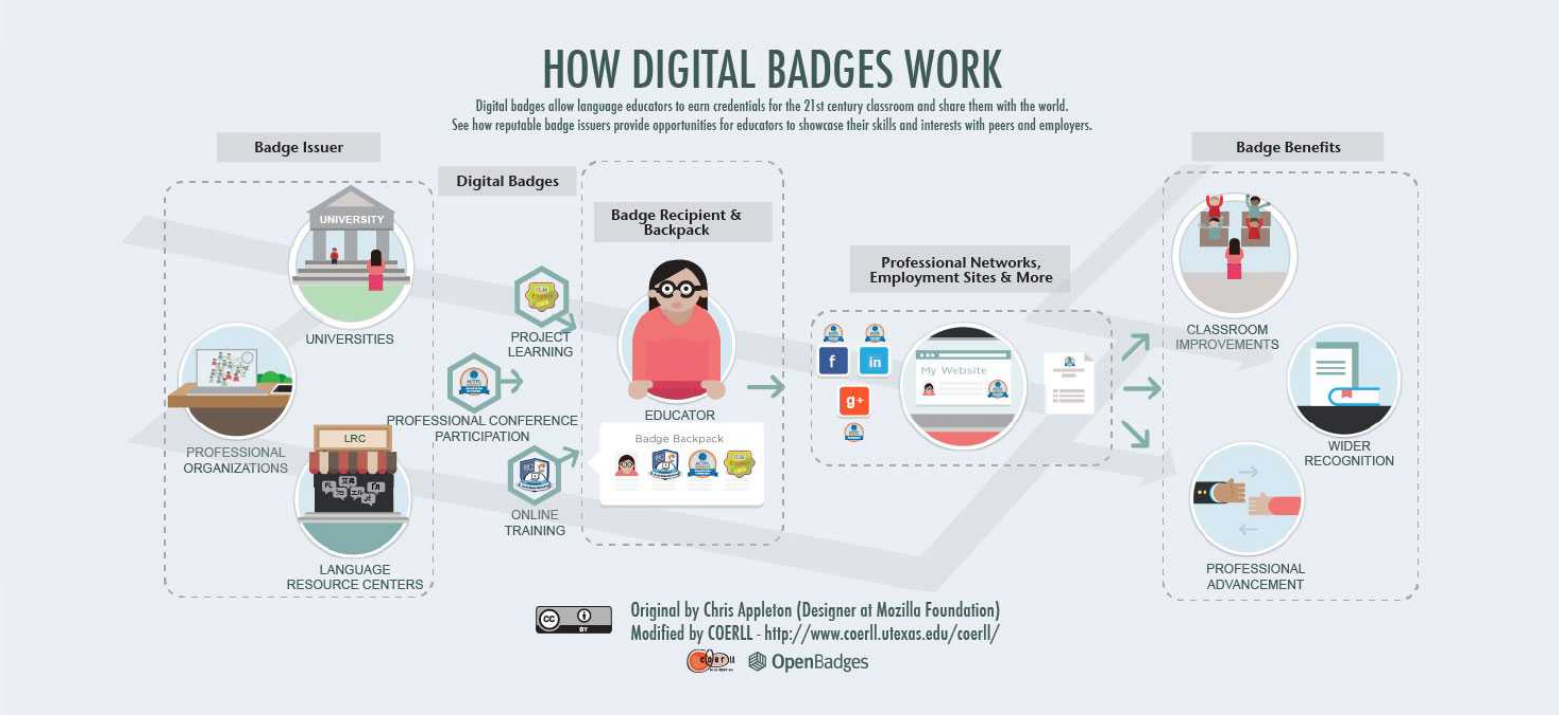


http://www.slideshare.net/Downes/after-moodle
http://www.slideshare.net/Ritakop/kopfourniercanadianinstitutedistanceeducationresearchple

OIF – MOOC-REL

http://rel2014.mooc.ca/

PCO Badges for Learning



http://www.downes.ca/post/63738

ONGARDE

http://www.journal.forces.gc.ca/vol14/no2/page70-eng.asp

ALECSO – Capacity Building

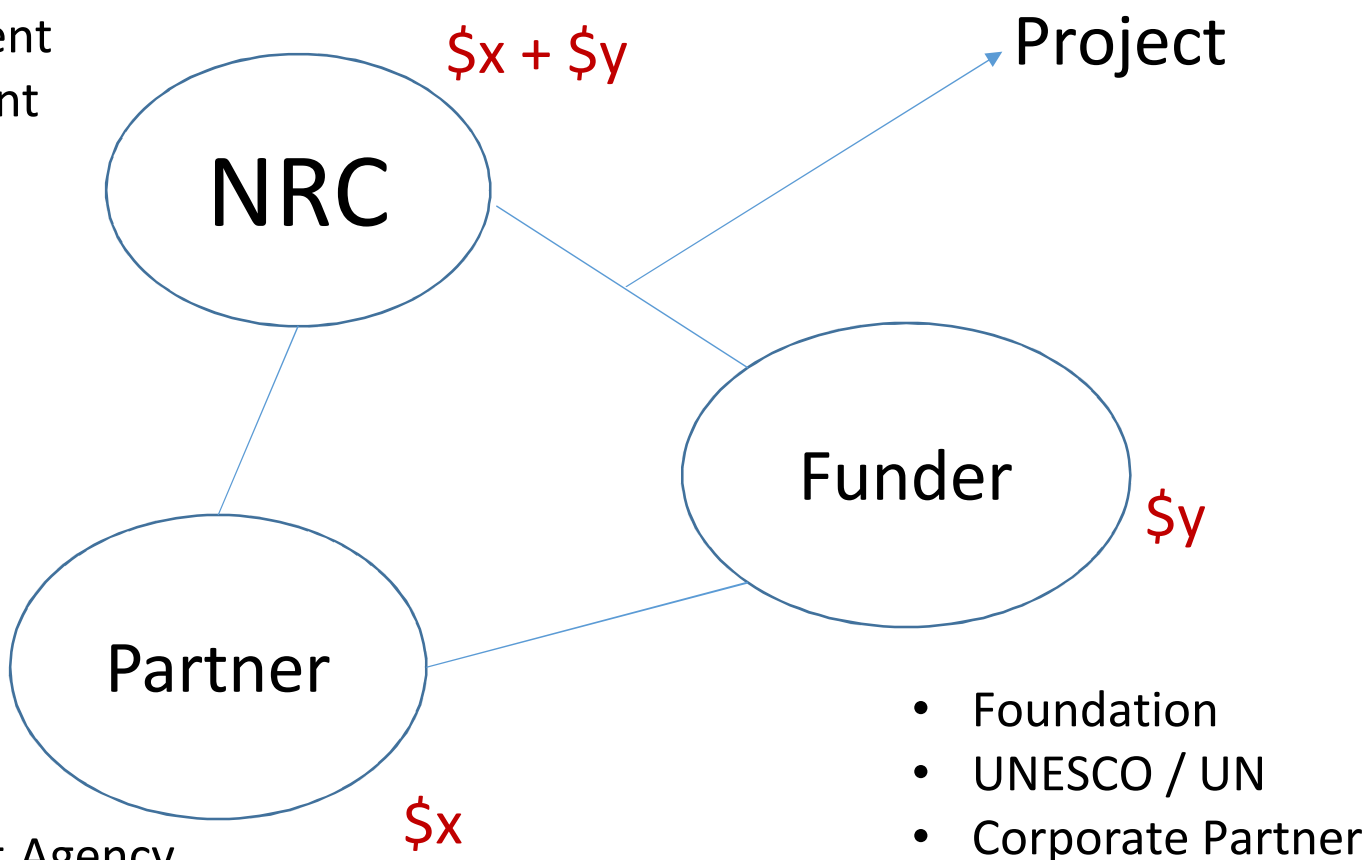
http://www.downes.ca/presentation/337

Concierge OMS

https://concierge.portal.gc.ca/

Expanding LPSS

- $20 Million Investment
- NRC Technologies
- Development Environment



- University
- Government
- Development Agency

- Foundation
- UNESCO / UN
- Corporate Partner

Possible Projects…

- OERs, Repositories, Marketplaces
- Badges, Credentials, Recognition
- Simulations & Workplace Support
- Matching People to Opportunities

http://LPSS.ME

Stephen Downes

http://www.downes.ca