

A long, arched tunnel with a red interior and a white walkway, with people walking in the distance.

Personal Learning in the Workplace

Stephen Downes
AMEE 2015
Glasgow, Scotland

1. Knowledge Translation



Knowledge Translation

CIHR – “CIHR, **knowledge translation** (KT) is defined as a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of **knowledge** to improve the health of Canadians.”

CIHR, <http://www.cihr-irsc.gc.ca/e/39033.html>

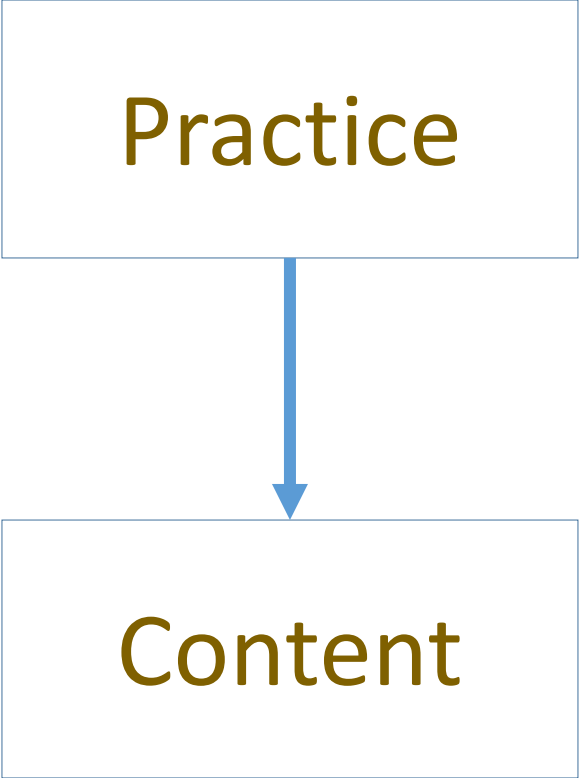
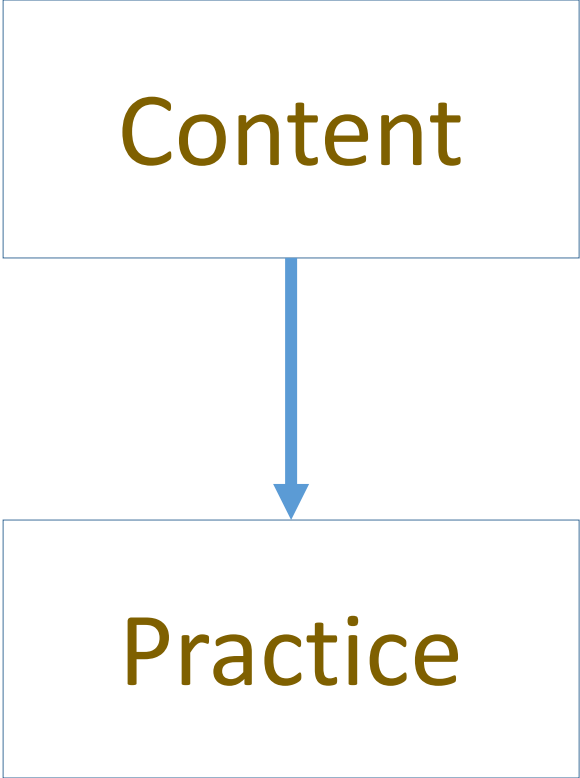
Criticisms...

- “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**

The Hackathon...



Two Approaches...



Two Approaches...

Defines an ideal state

Content



Practice

TEST

Person tests you

Defines a desired state

Practice

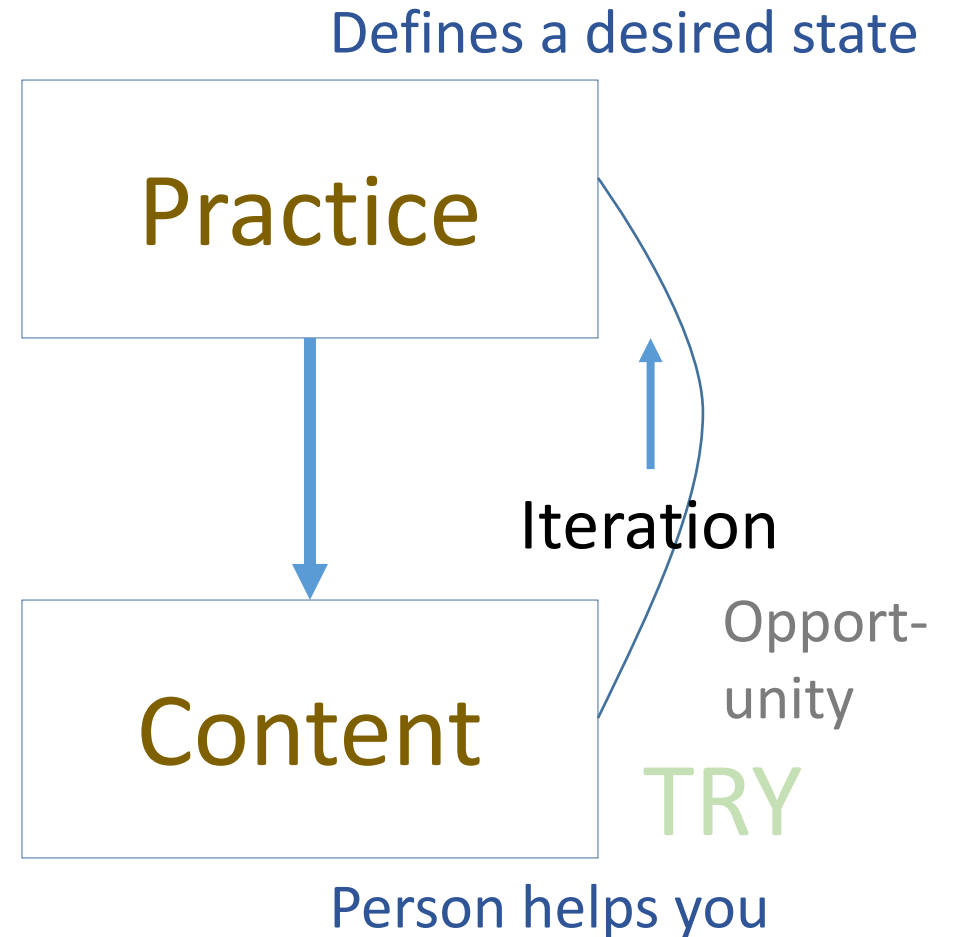
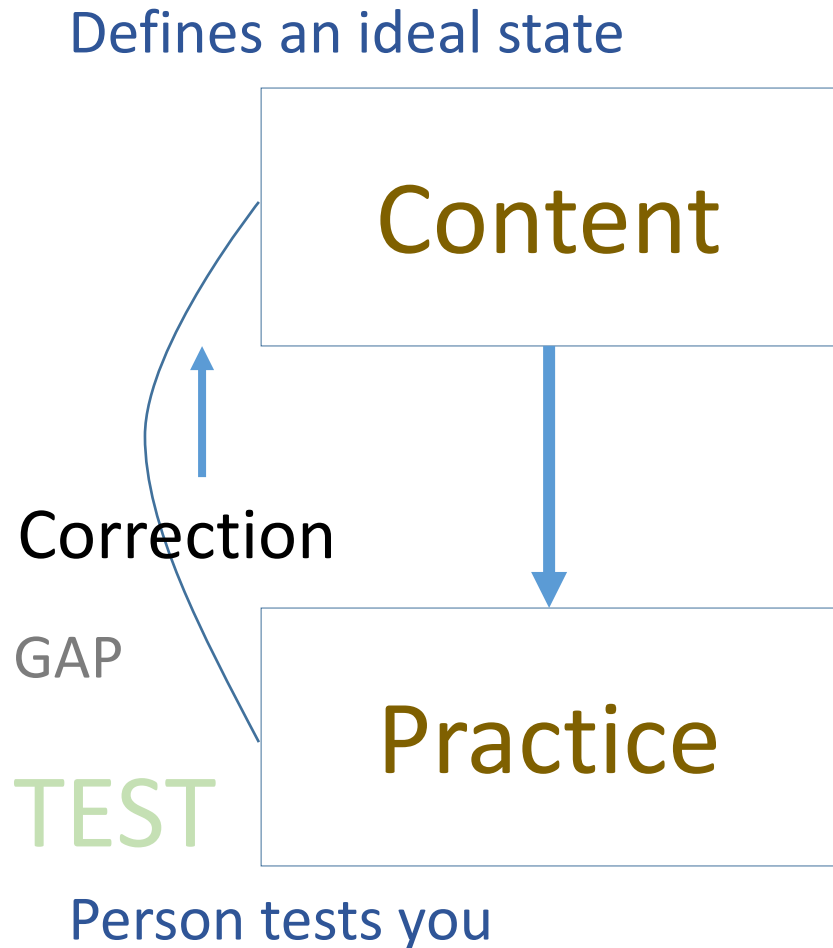


Content

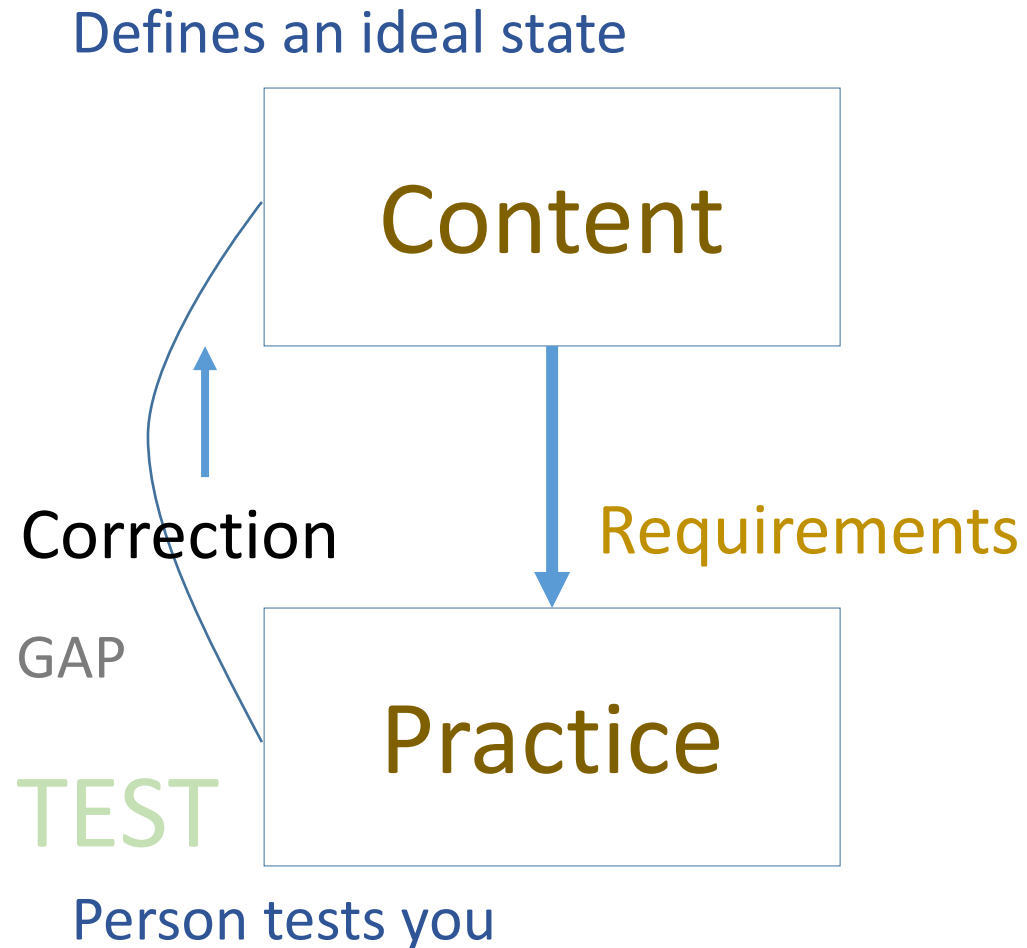
TRY

Person helps you

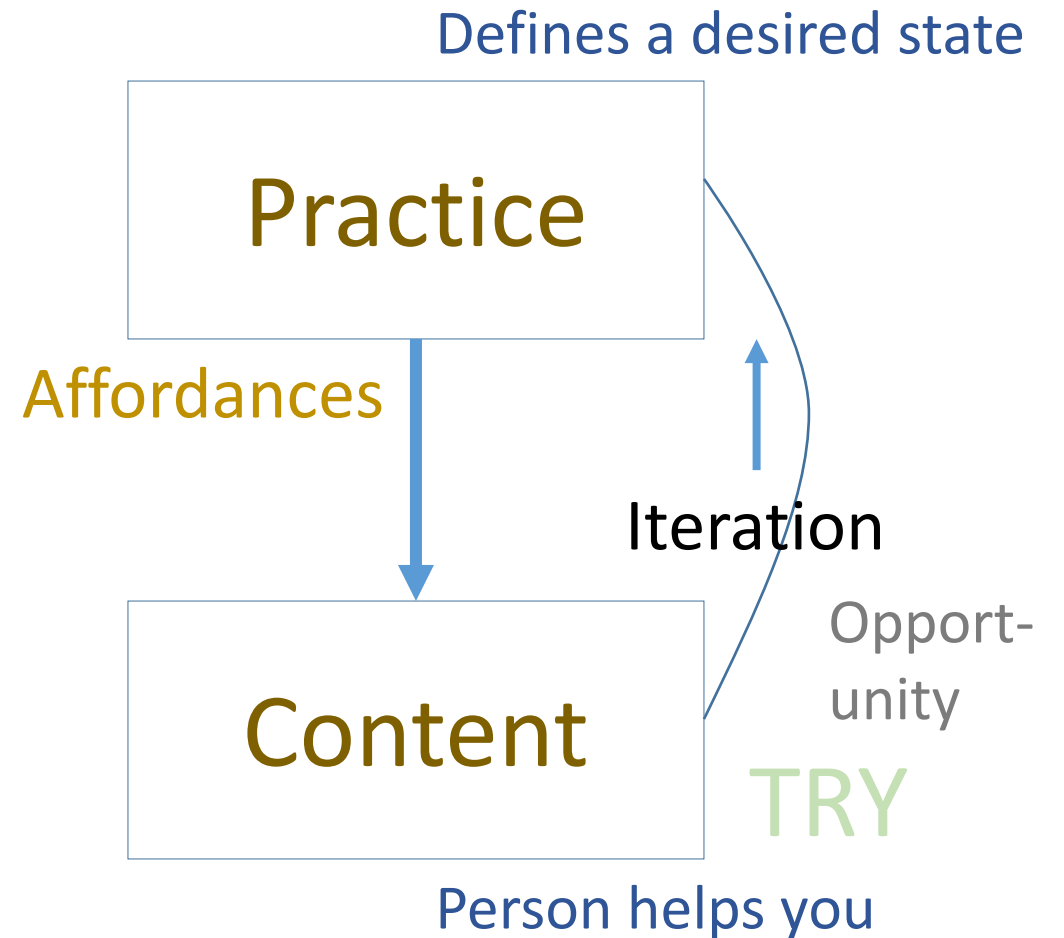
Two Approaches...



Library

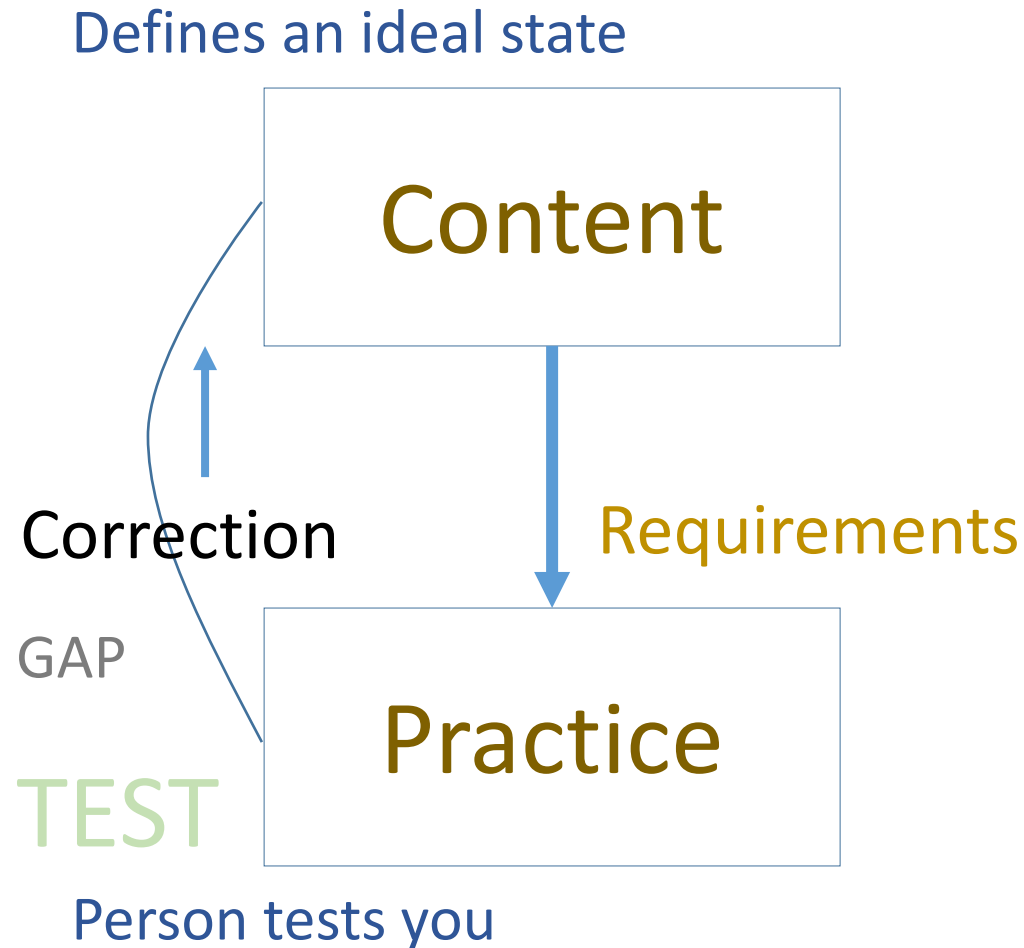


Environment



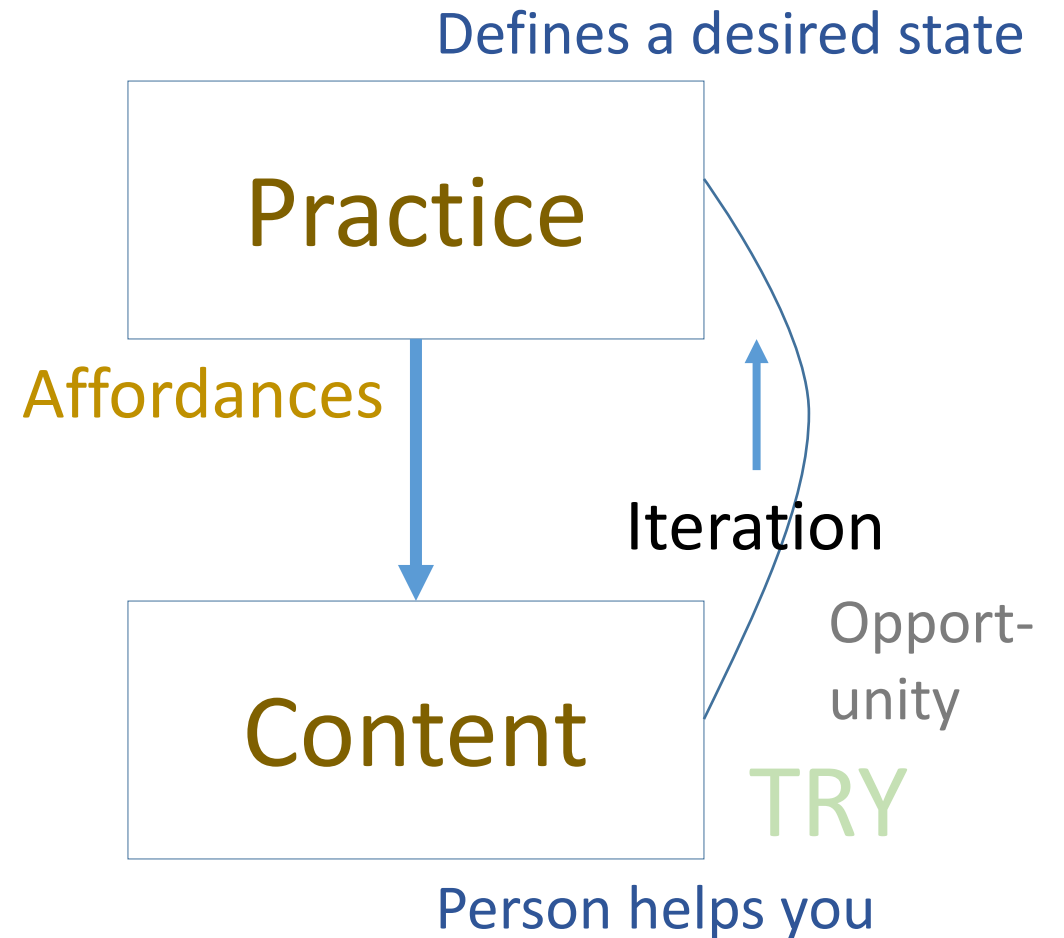
Personalized

We do for you



Personal

You do for yourself



Personal vs. Personalized

- Compare between:
 - Personalized health care (something the National Health Service provides)
 - Personal health care (something you do for yourself)

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/>



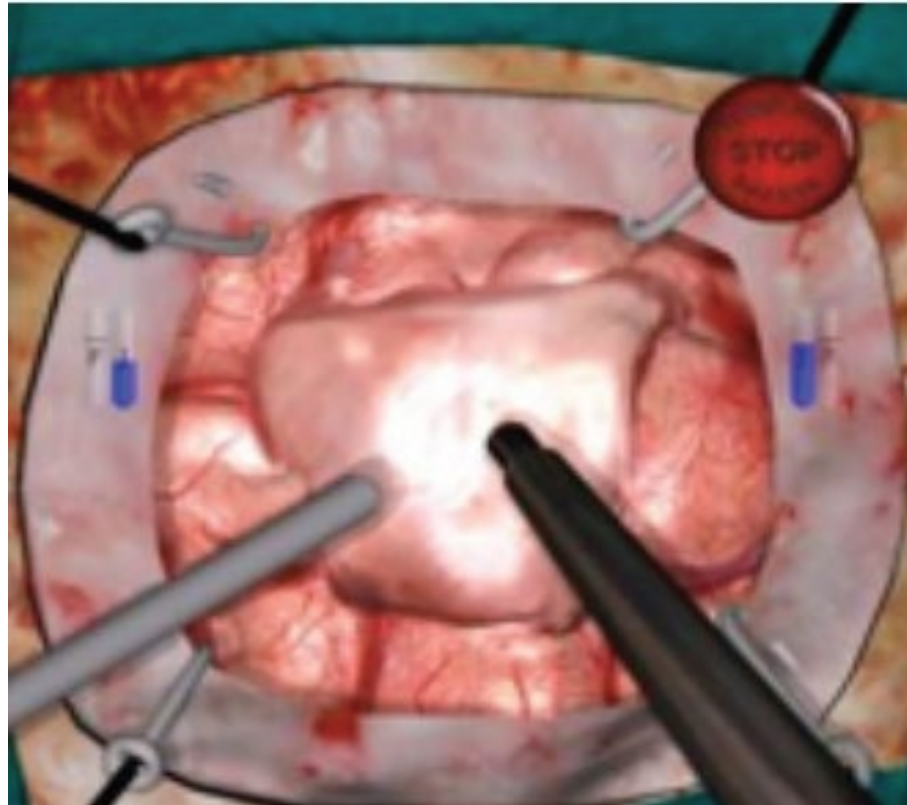
<http://www.aiac.ca/canada-aerospace-industry/success-stories/cae-nh90-helicopter-simulator/>

MINT - Mobile INteractive Trainer

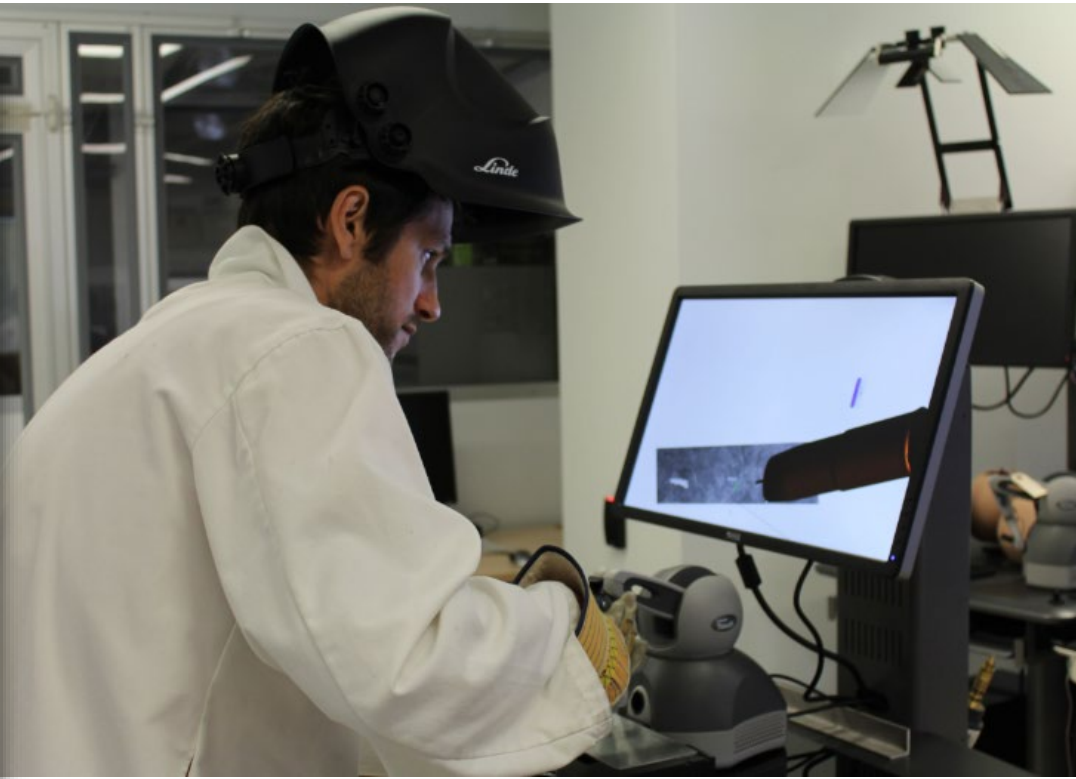


<http://www.downes.ca/post/59876>

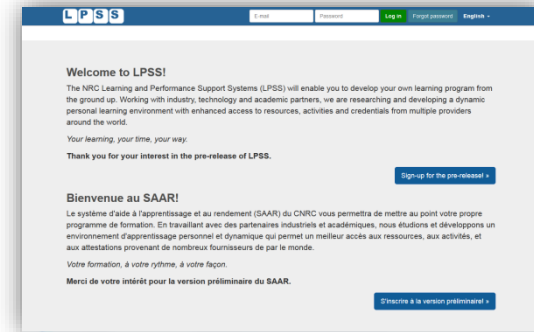
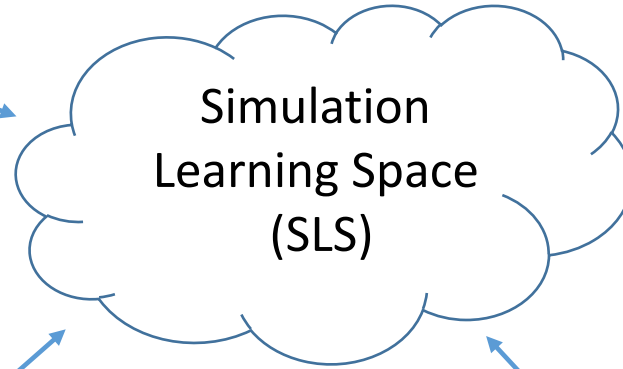
NeuroTouch Simulator



Sim-Welding



LPSS-Sim Project Overview



Combining Experiences

One place for all simulation experience

The image displays a web-based simulation learning interface. On the left is a dark sidebar menu titled "Simulation Learning Space" with a "Simul:" header. The menu items are: Instrument Handling (with a close 'x' icon), Suction (with a plus '+' icon), Ultrasonic Aspirator (with a close 'x' icon), Ultrasonic Aspirator 102 (with a close 'x' icon), 2015-02-11 13:40:33, 2015-04-10 15:52:12, Bipolar (with a plus '+' icon), Microscissors (with a plus '+' icon), Fundamental Skills (with a plus '+' icon), and Spine Surgery (with a plus '+' icon). A grey arrow points from the "Suction" item in the sidebar to the main dashboard. The main dashboard, titled "Simulation Learning Space" at the top, includes a navigation bar with "Simulators", "Home", "Scenarios", and "NT Account". The central content area is divided into two main sections: "Scenarios' History" and "Recommendations". The "Scenarios' History" section shows details for "Exercise: Suction 101" by user "admin" on "May 25 12:37:30 2015", with a "Previous Attempt" on "May 25 10:23:08 2015". It features a "Image Not Found" placeholder, an "Overall Score History" line graph showing a score of 50% on two attempts, and a table of performance metrics. The "Recommendations" section on the right states: "These recommendations are given to you considering the exercises you have fully completed" and shows a thumbnail of a simulation interface.

Metrics	Value	Grade
Blood remaining	0.14 cc	0%
Tissue removed	0.0 cc	0%
Time LH excessive force	0.0 s	0%
Time RH excessive force	4.02 s	50%

Overall Score: -50/100

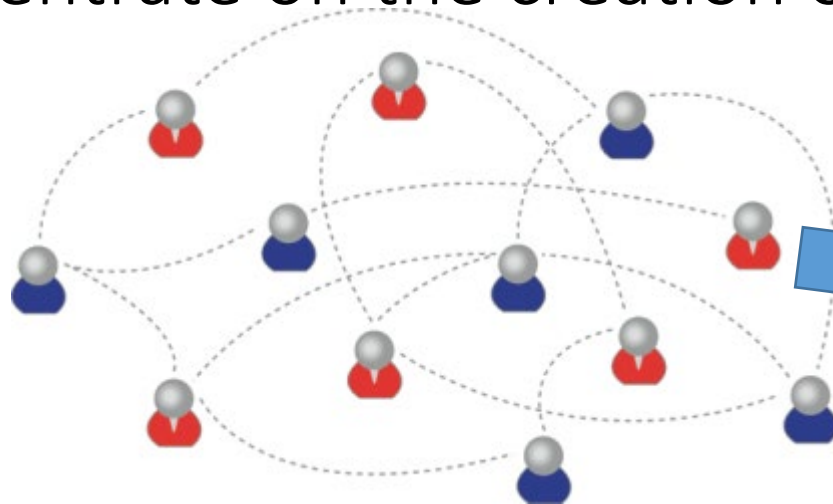
All performance results no matter where and when they were carried out

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...

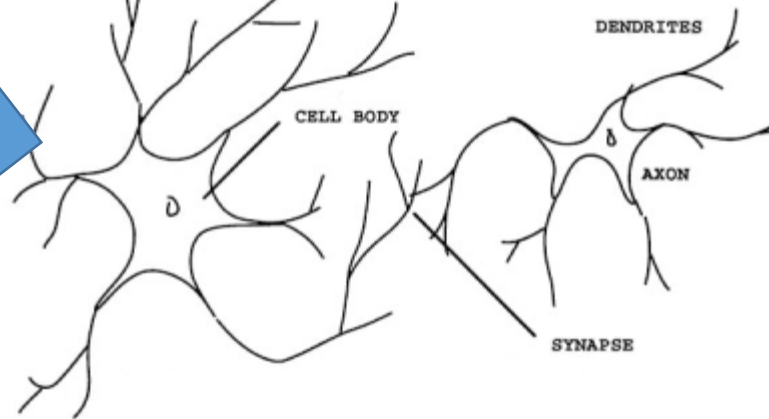
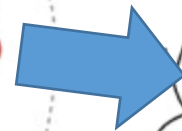


Figure 1. Biological Neuron

... 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)

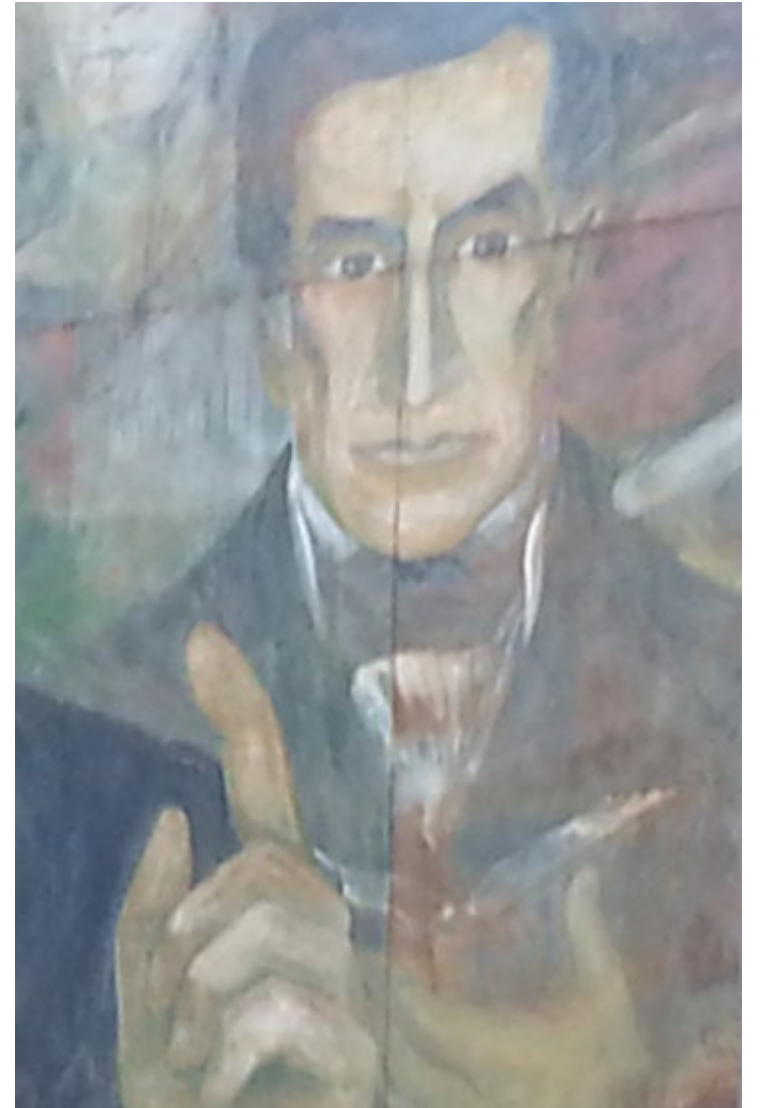


Additional Course Components

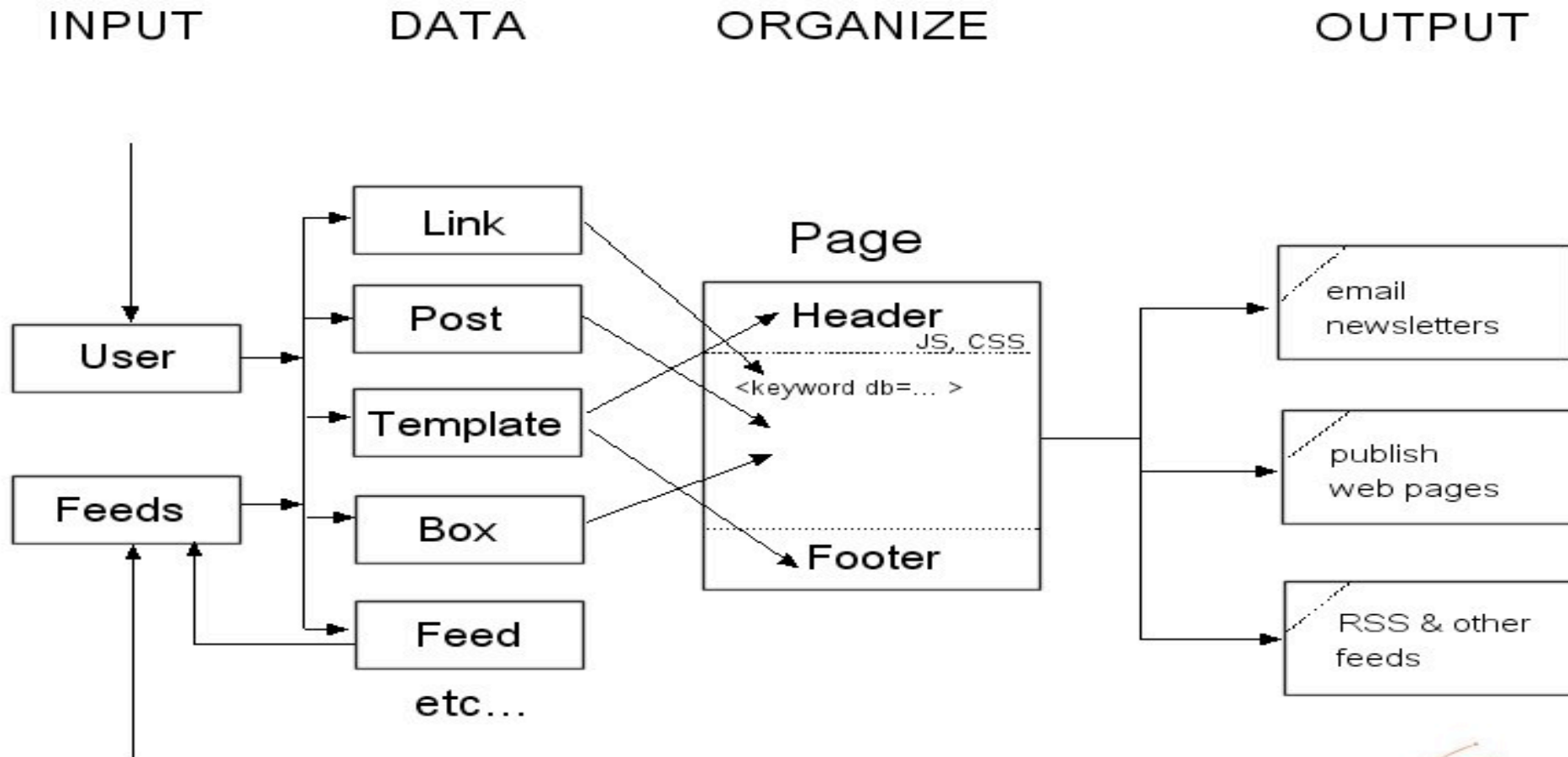
- For Students – *any* online communications system, including
 - Blogs – Blogger, WordPress, Tumblr
 - Social Network – Facebook, Twitter, Google+
 - Content site – Google Docs, Flickr, Instagram
 - Aggregator – Feedly, OldReader, (new) Bli RSS

Process

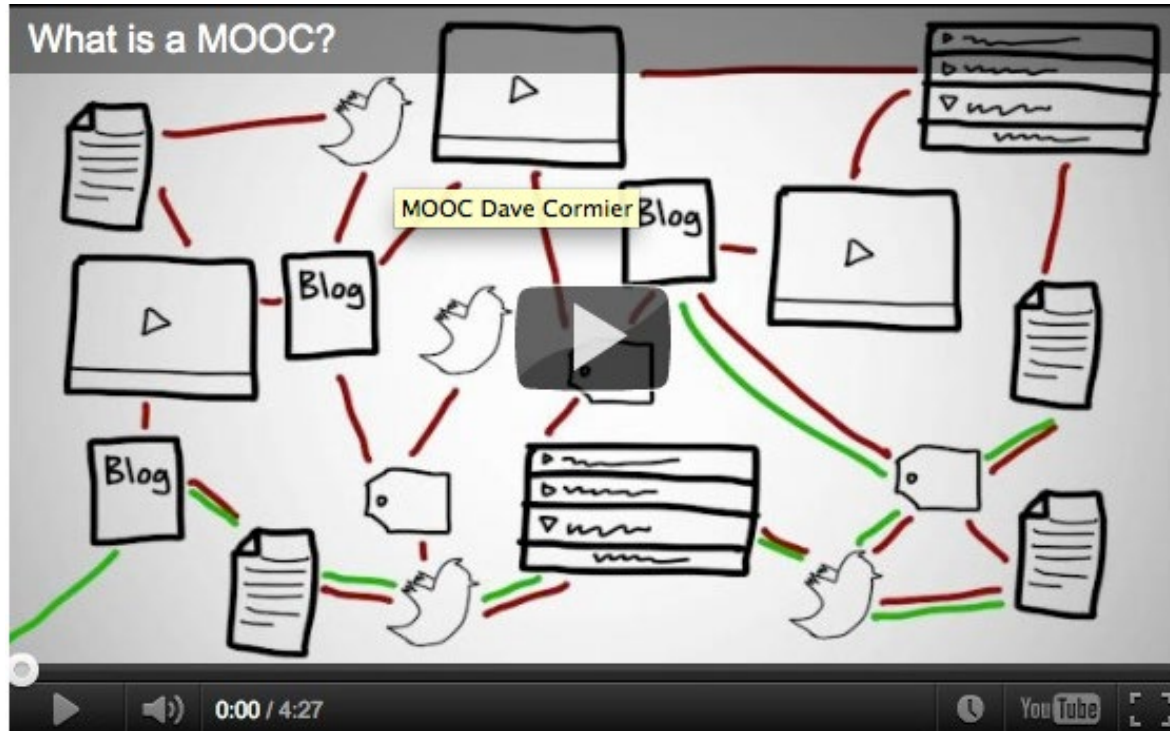
- Each Week
 - Conversation or activity with guest
 - Discussion and reflection
- Each *Day*
 - Aggregate student content
 - Share via web site & newsletter



gRSShopper



How to Learn in a cMOOC



Learning is a process of immersion into a knowing community

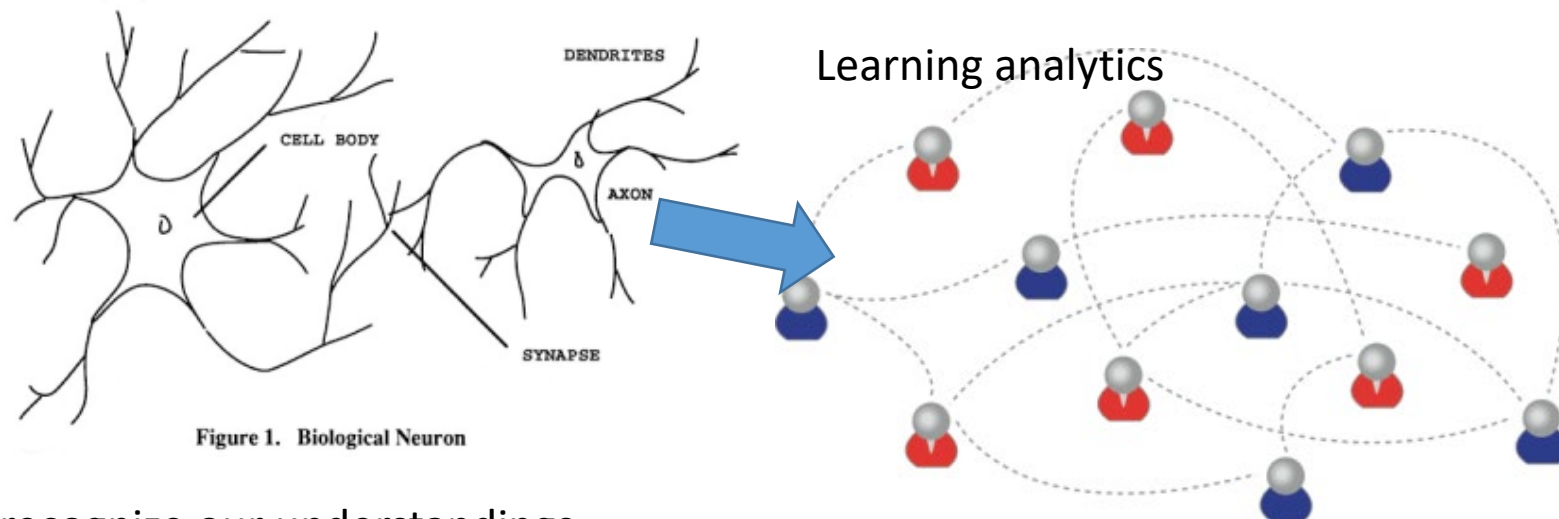
<http://www.tonybates.ca/2012/03/03/more-reflections-on-moocs-and-mitx/>



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



We recognize our understandings...

...by the way we use them in our social network

xLearning vs cLearning



contents

engagement

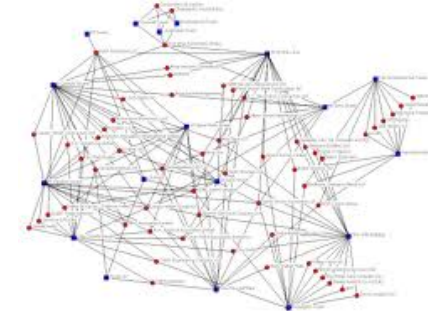
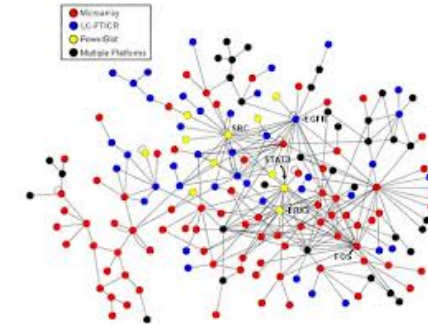
networks



<http://www.corestandards.org/>



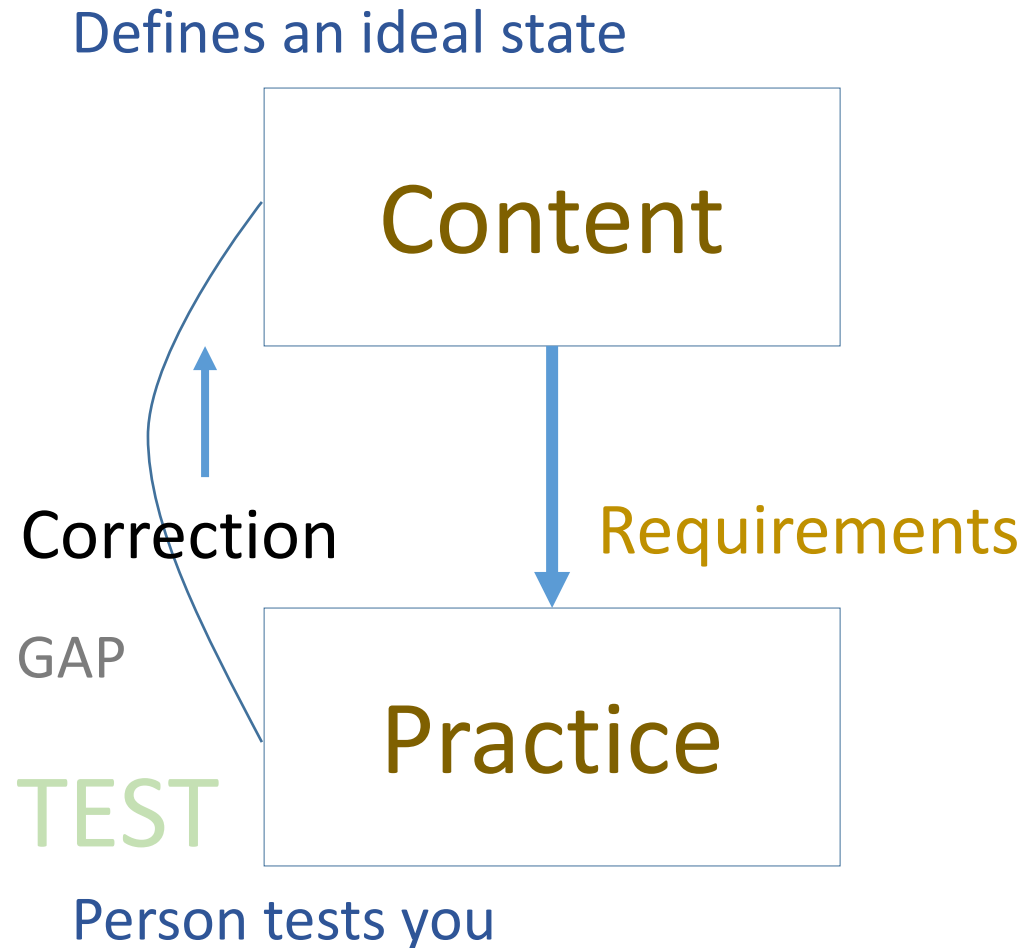
<http://www.magnet.edu/>



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

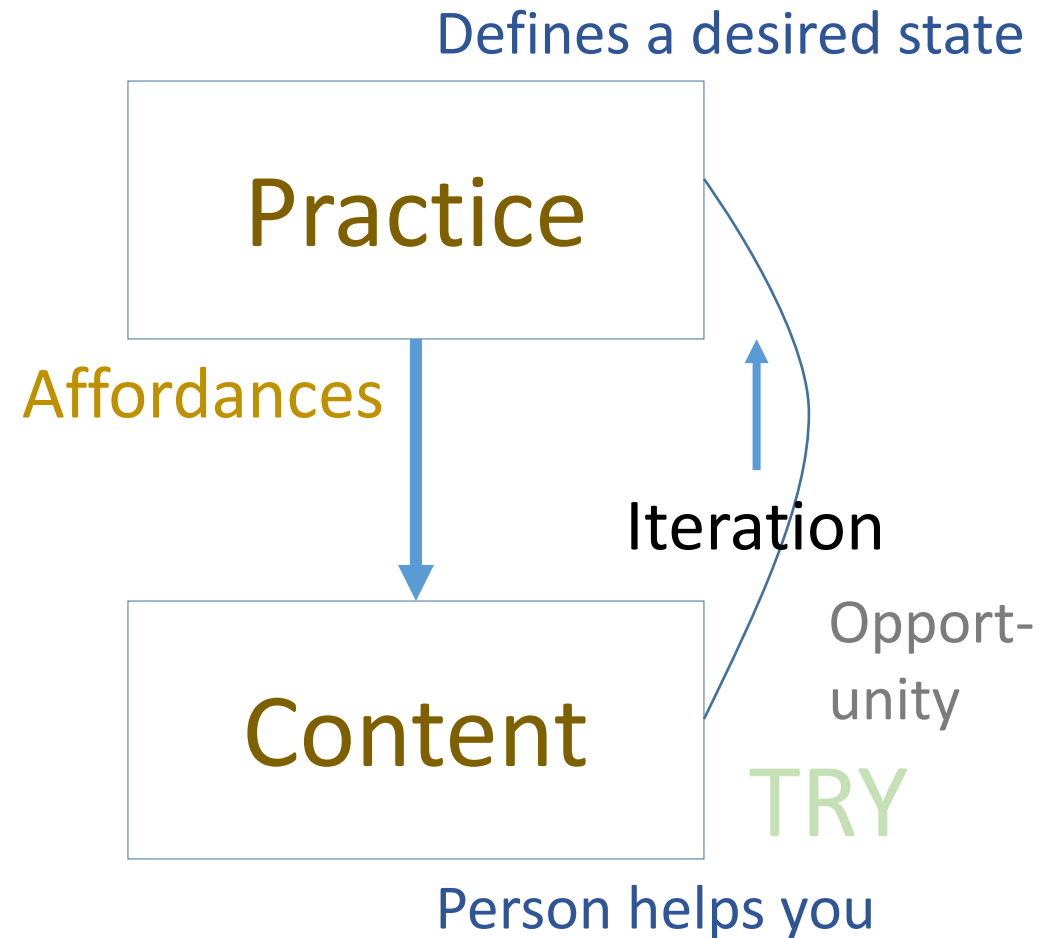
Personalized

We do for you



Personal

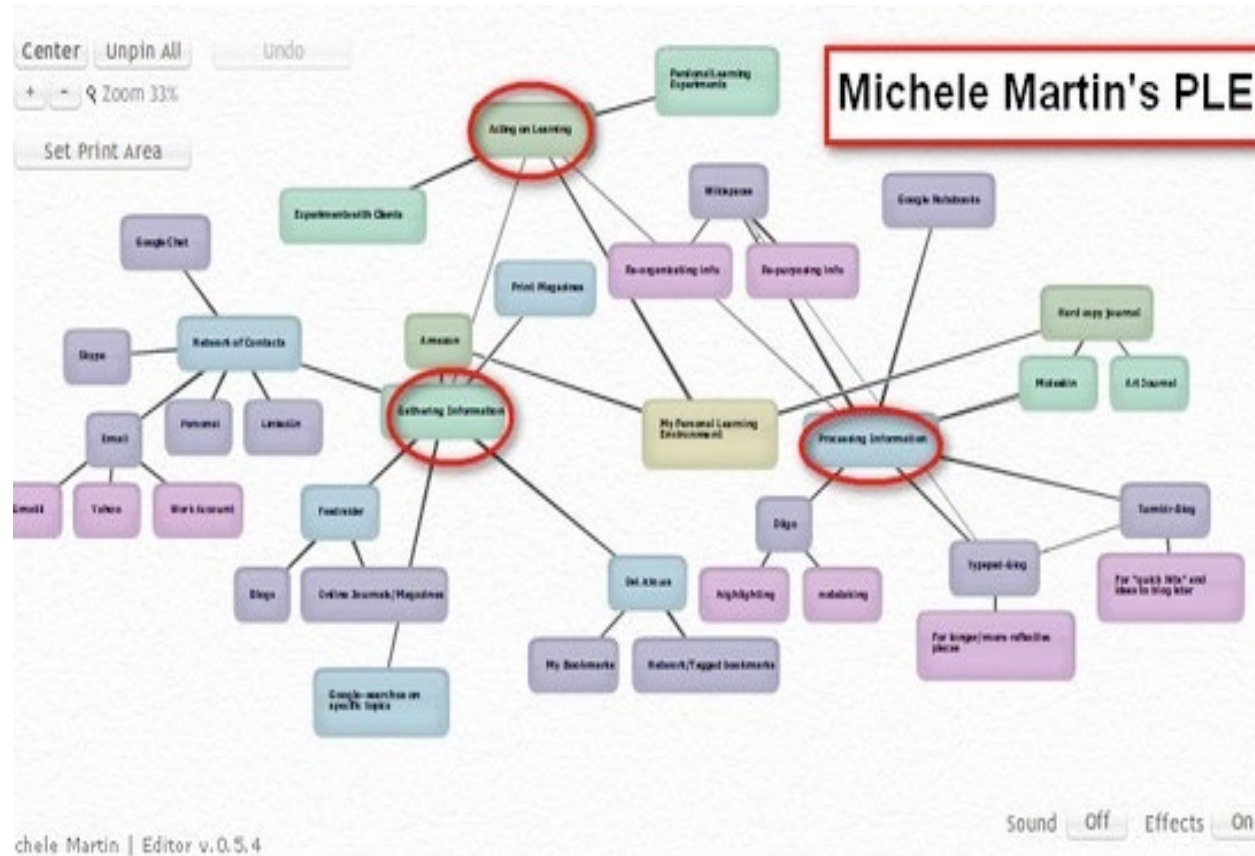
You do for yourself



4. Personal Learning Environments



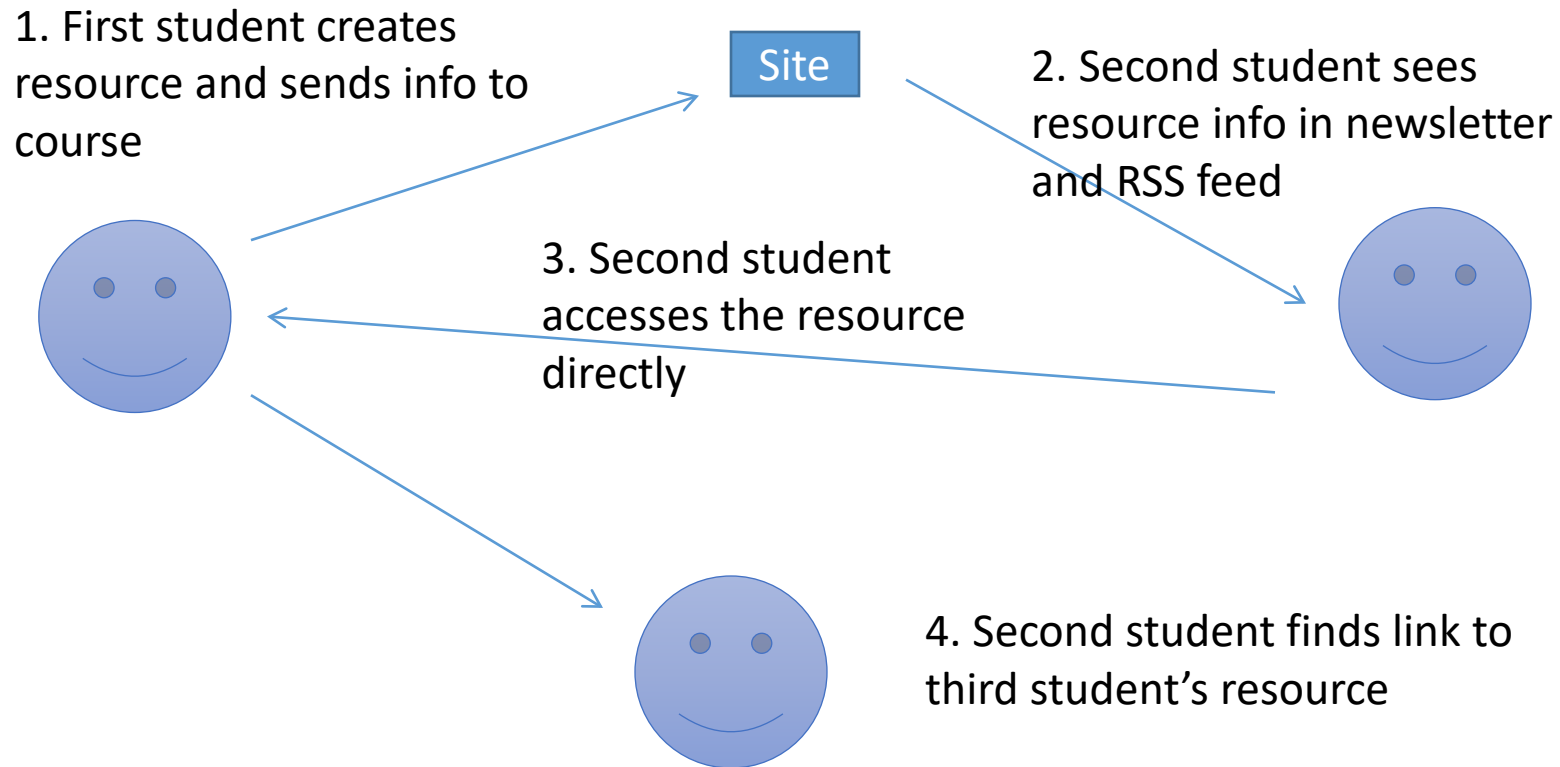
Personal Learning Environments



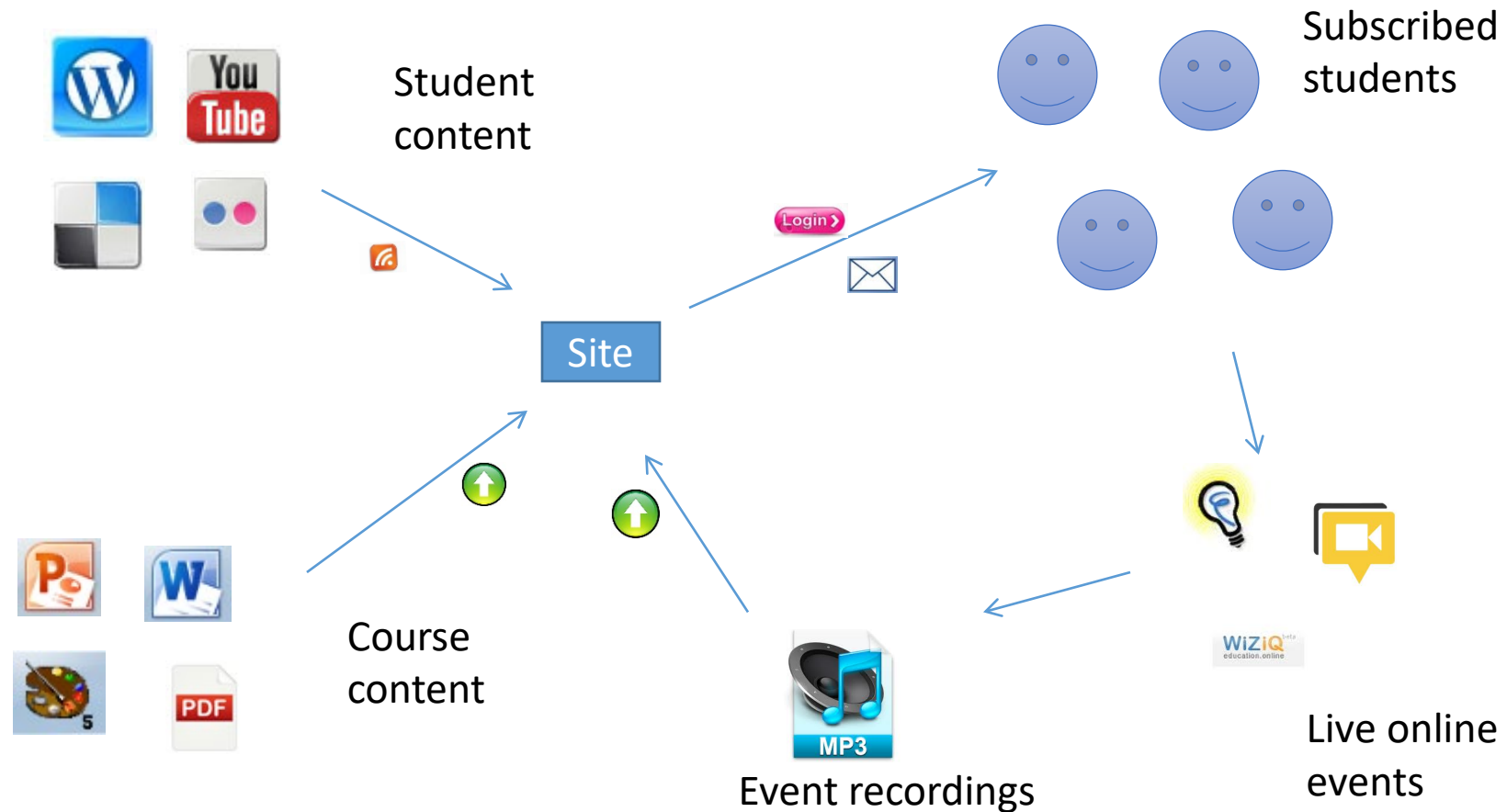
<http://dmlcentral.net/blog/howard-rheingold/diy-u-interview-anyakamenetz>

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

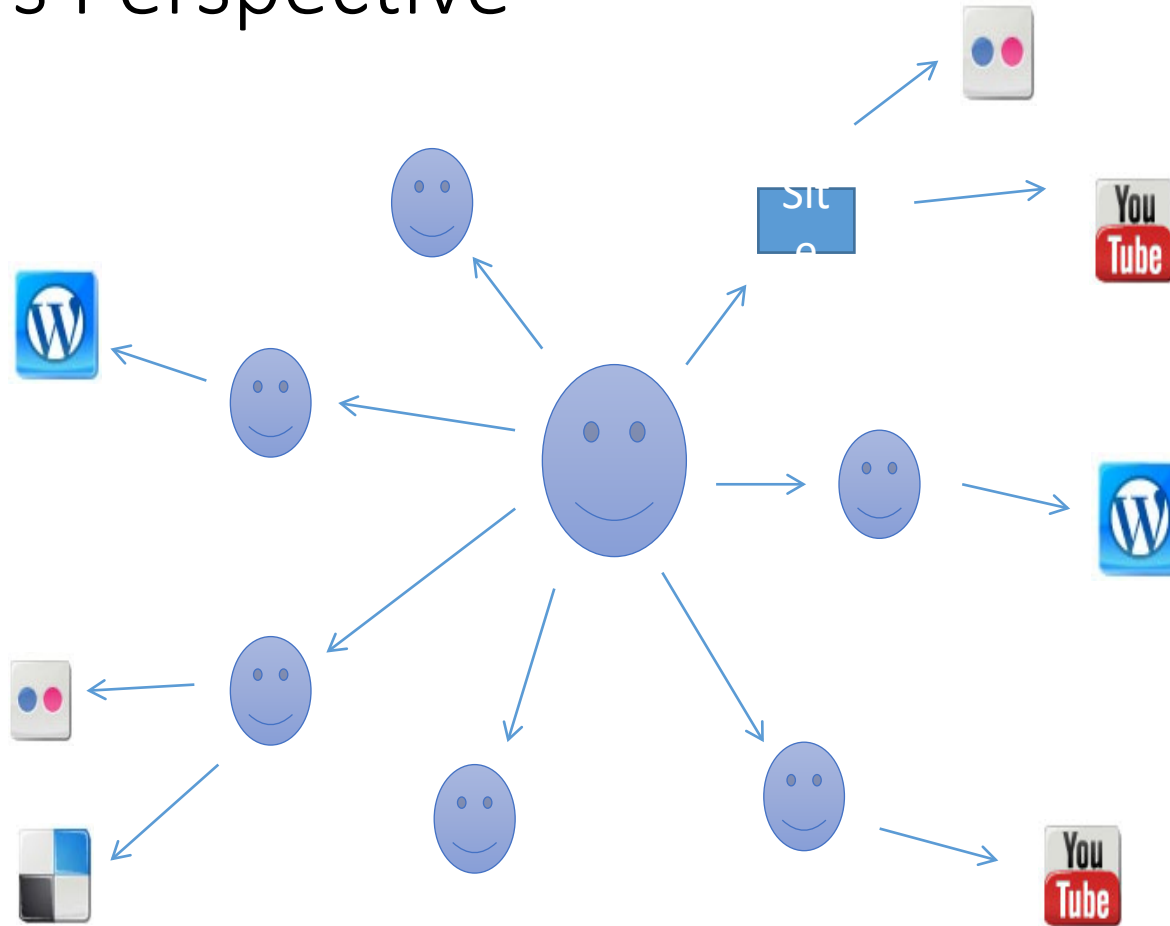
Underlying MOOC Support



Course Provider Perspective

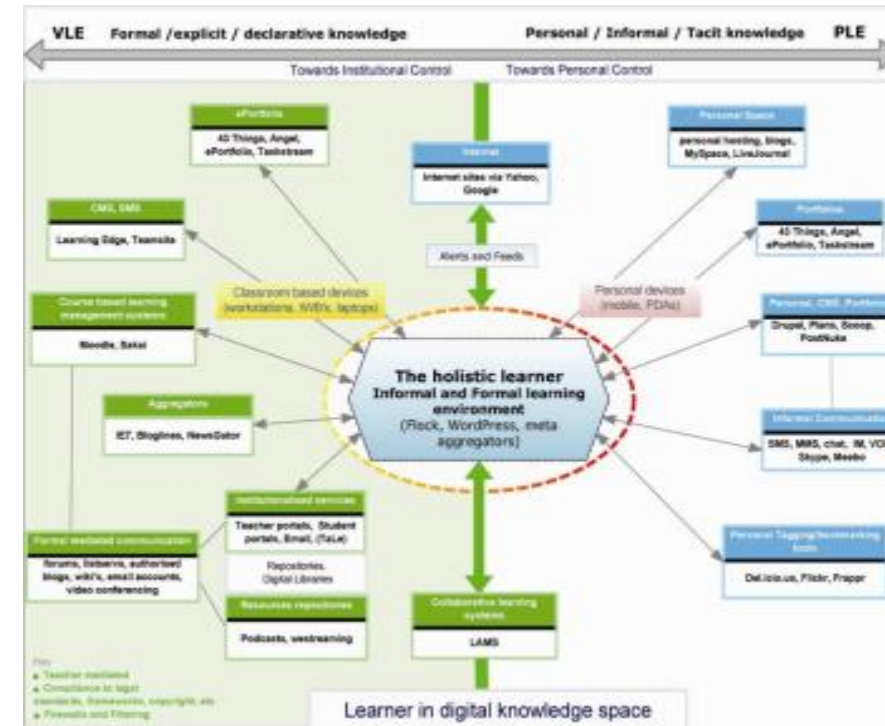
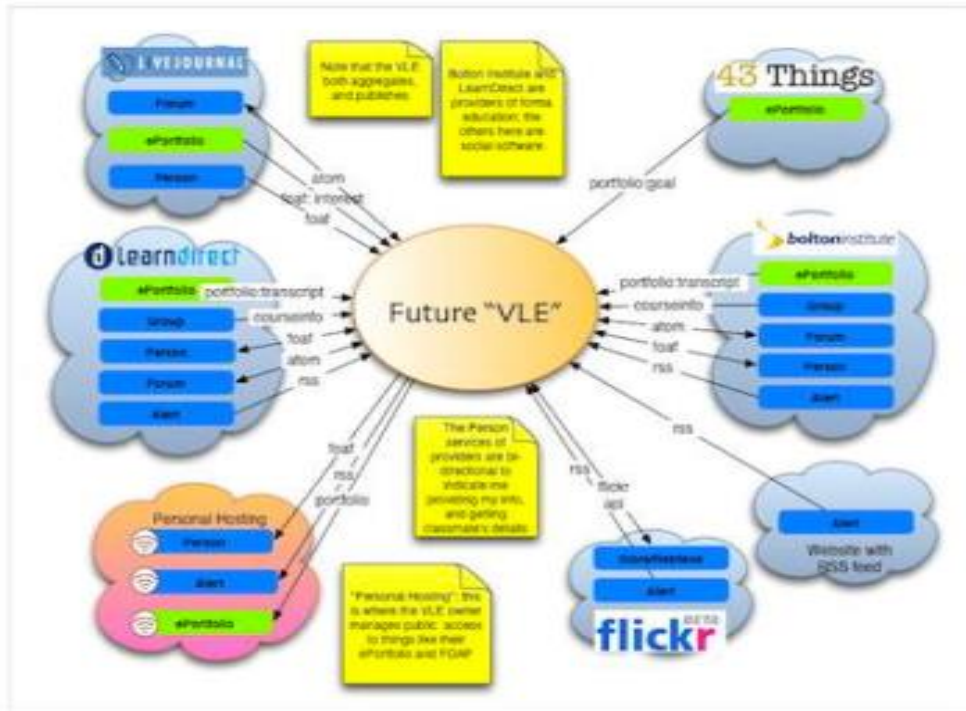


The Student's Perspective



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.

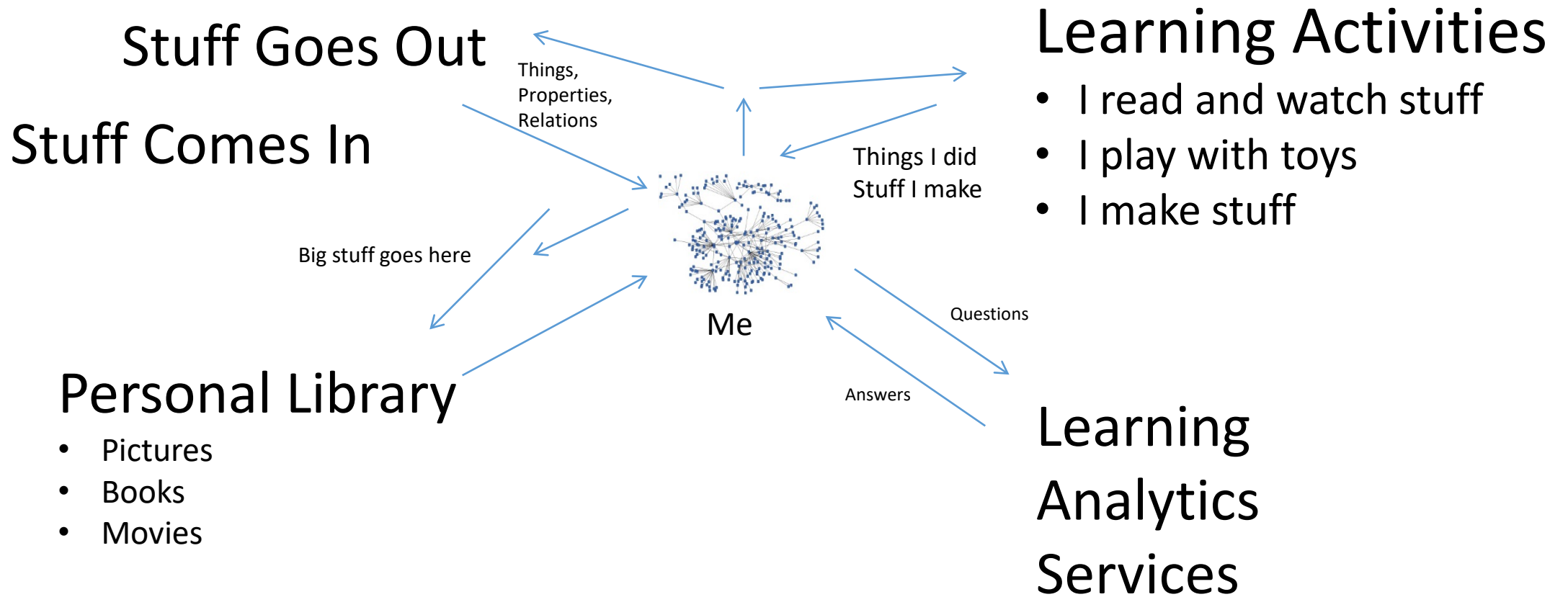


Me

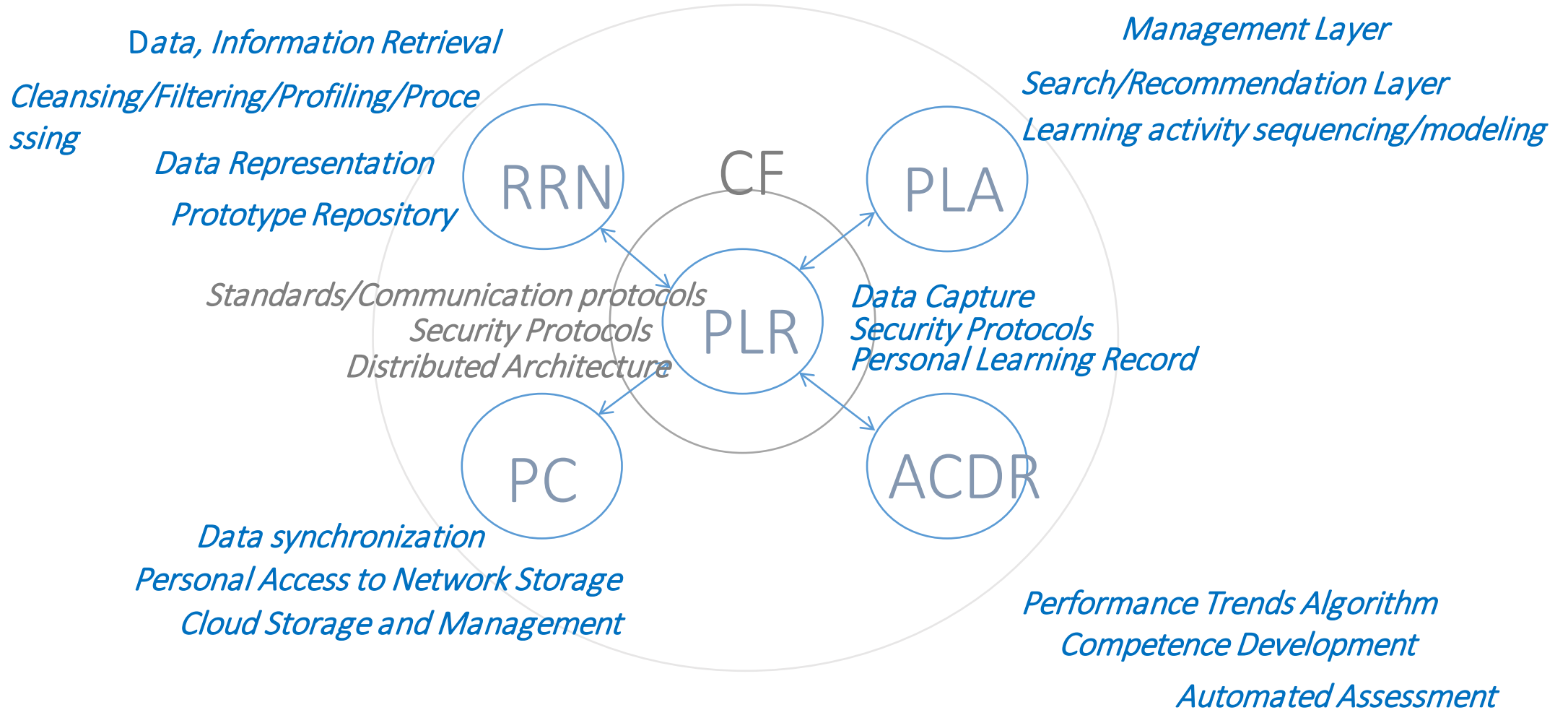
The PLR contains all a person's learning records, including:

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

LPSS is Built Around the Personal Learning Record



LPSS Details



Resource Repository Network (RRN)



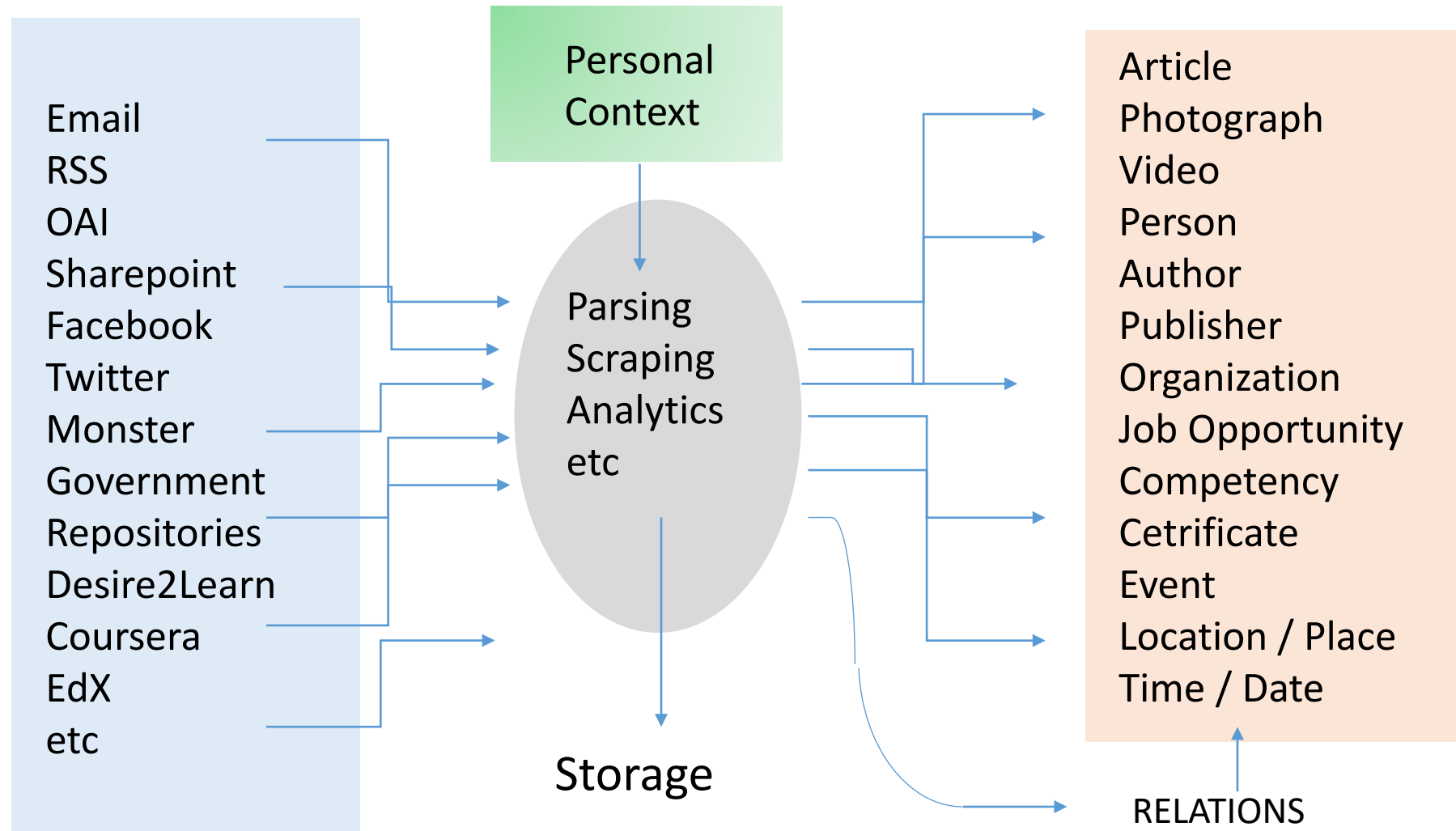
- Assemble resources from multiple locations

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



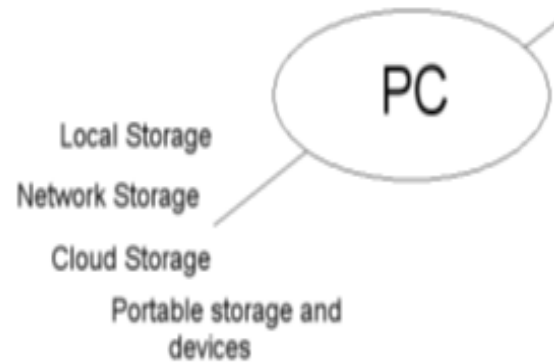
Personal Cloud



Synchronized cloud data services (including Owncloud) to support data portability



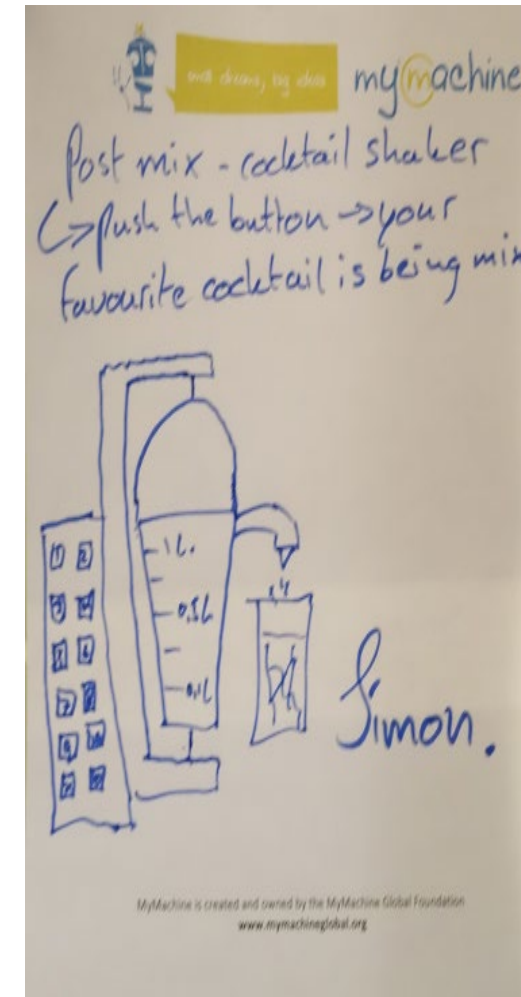
Personal Cloud



- Manage list of local and remote storage systems
- Maintain security, encryption, authentication and credentials
- Include local or personal device storage
- Manage and synchronize resource sets and data

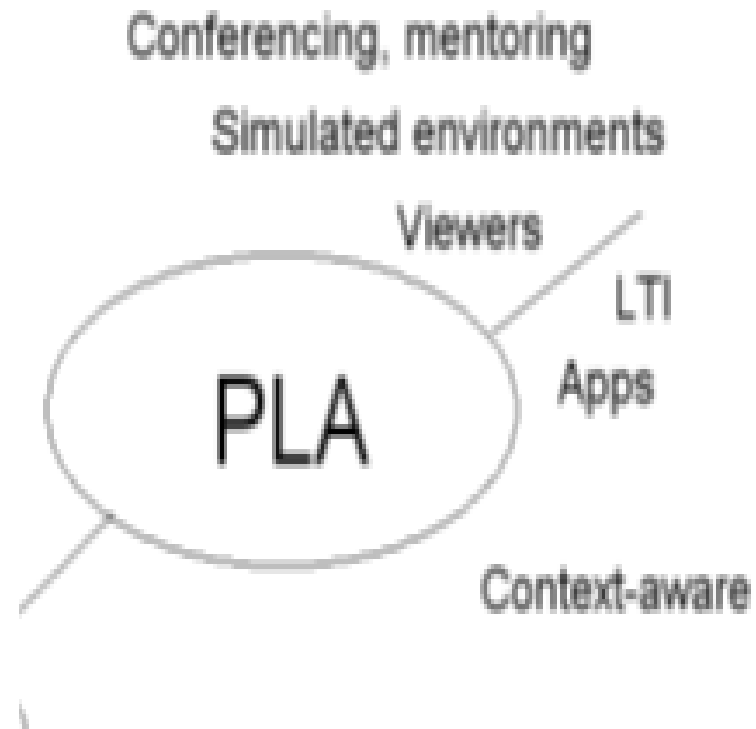
Personal Learning Assistant

Projection of learning services into multiple platforms

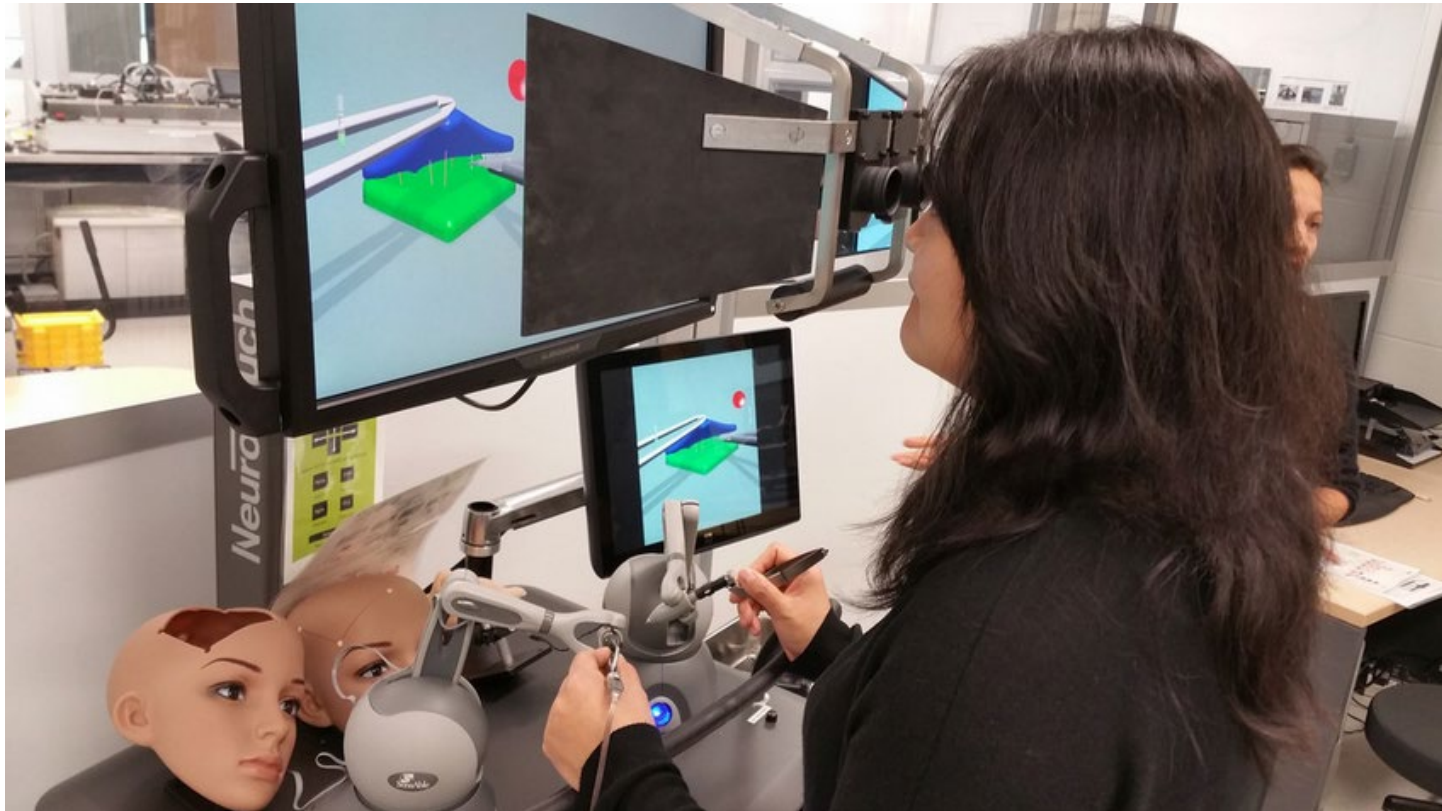


Personal Learning Assistant

- 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/>

Automated Competency Recognition and Development



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

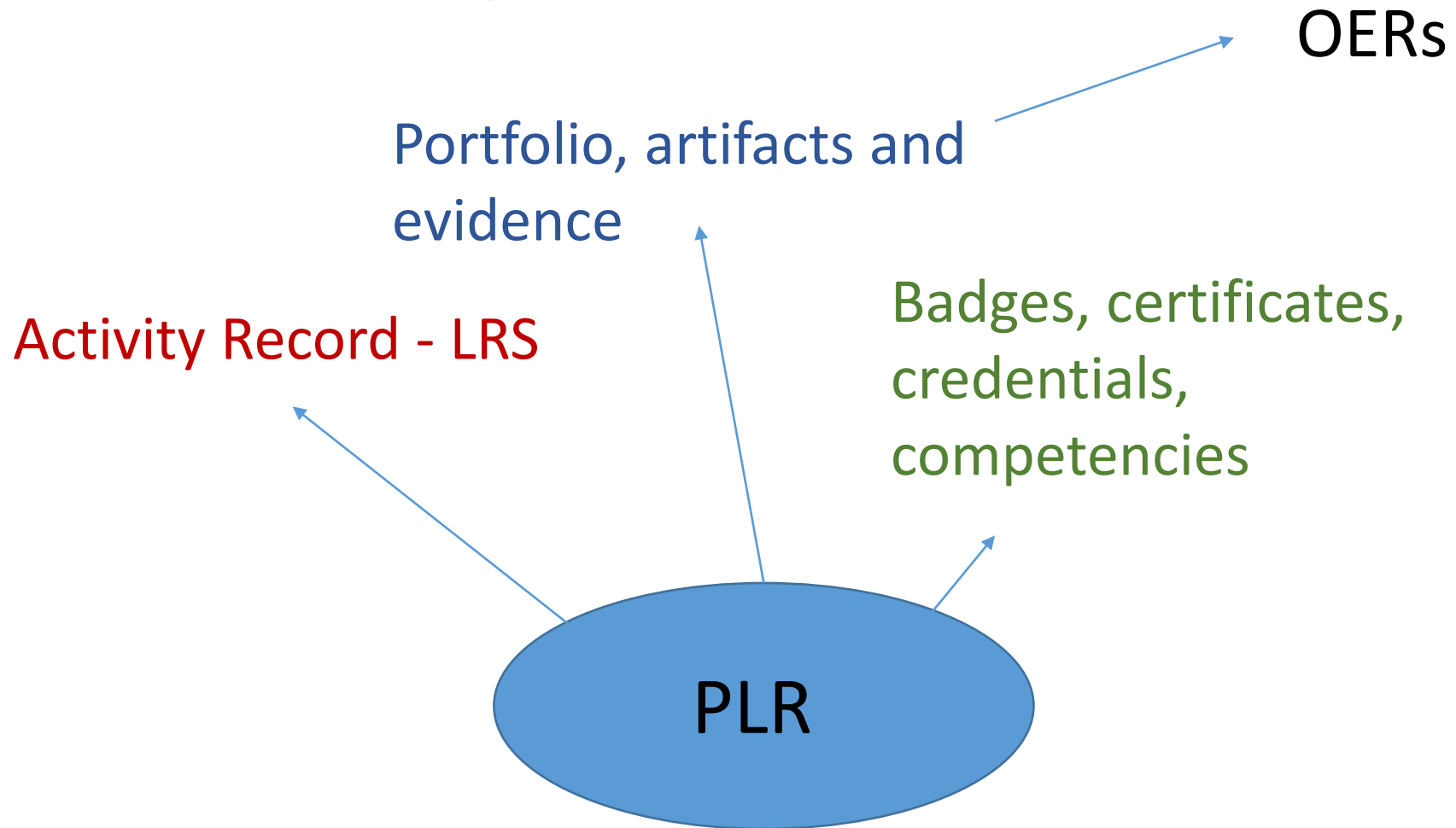


Personal Learning Record

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



Personal Learning Record



Personal Learning Record

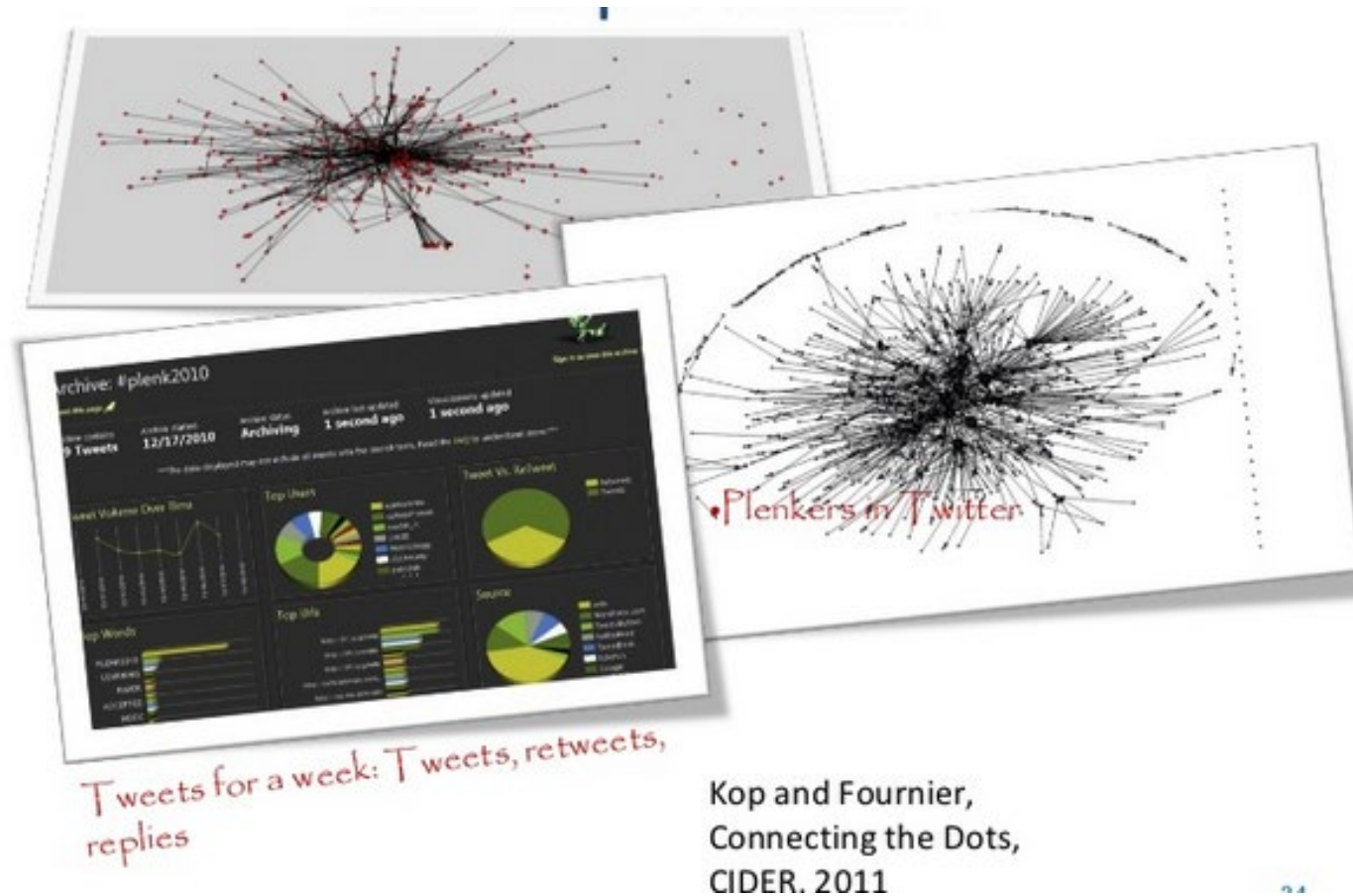


- Collect full record of interactions with all resources, external systems
- Support learning activity data exchange formats (eg. xAPI)
- Collect and present a person's personal portfolio
- Display certifications and credentials (eg. badges)
- Maintain 3rd party certification

6. Expanding LPSS



Plearn – Importance of the Graph



<http://www.slideshare.net/Downes/after-moodle>

<http://www.slideshare.net/Ritakop/kopfourniercanadianinstitutedistanceeducationresearchple>

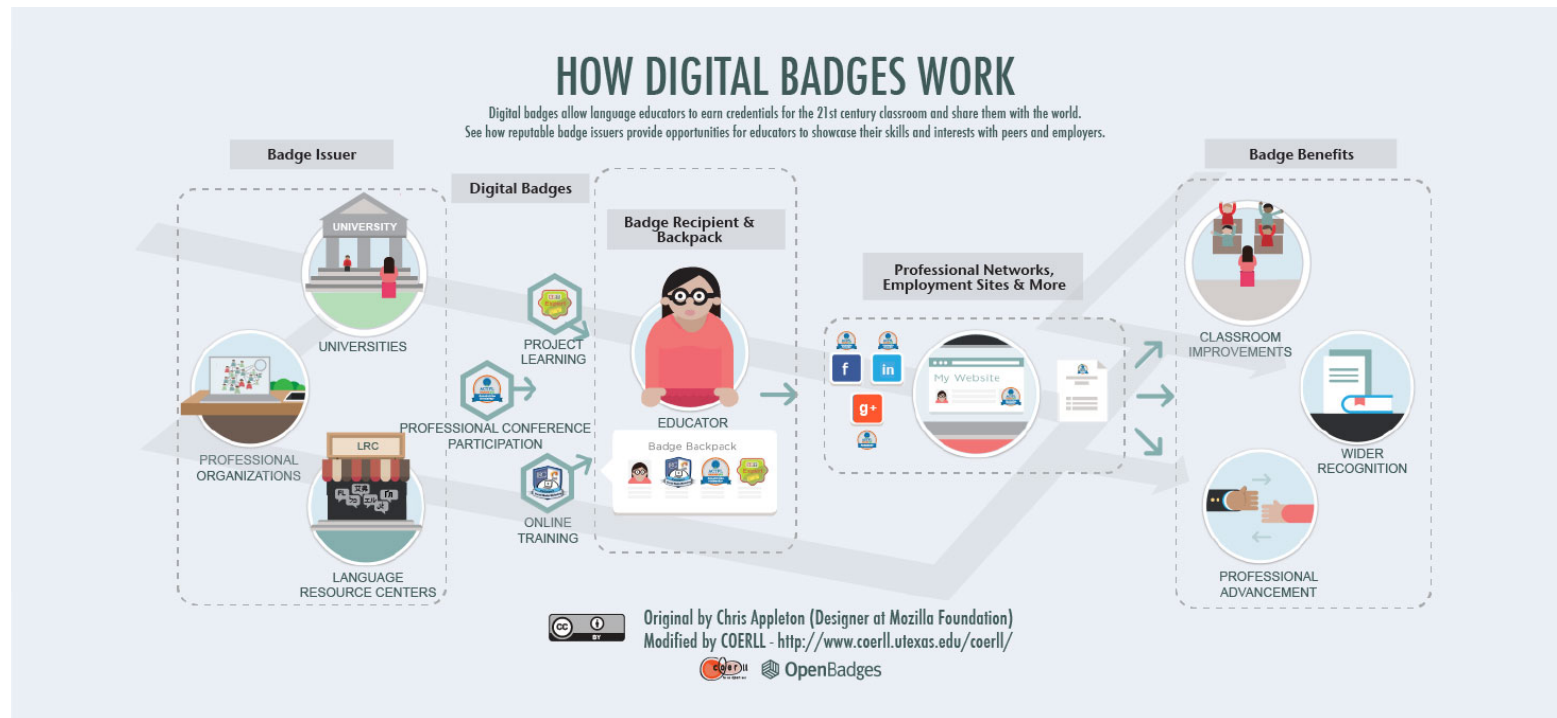
OIF – MOOC-REL



The screenshot shows the website for the REL 2014 MOOC. At the top, a dark blue header contains the title "REL 2014 - Pour une éducation libre" in white. Below the title is a navigation menu with links: "ACCUEIL", "VOTRE COMPTE", "COMPTES RENDUS", "PARTICIPER", "SYNDICATION RSS", and "ARCHIVES". A secondary dark blue bar below the navigation menu displays the text "Vous n'êtes pas connecté(e). [Connexion] - [Inscription]". The main content area features a large graphic on the left with the text "Réutiliser, retravailler, recombinaison, redistribuer" and icons of people and documents. To the right of the graphic is the main heading "Réutiliser, Retravailler, Recombiner, Redistribuer – 4R des REL pour une Éducation libre". Below the heading is a paragraph: "Bienvenue à votre Cours en Ligne Ouvert et Massif (CLOM) de l'Organisation internationale de la Francophonie portant sur les ressources éducatives libres (REL).". Another paragraph follows: "Le cours débute le 3 mars 2014 et dure neuf semaines consécutives. Si vous n'êtes pas déjà inscrit(e), faites-le tout de suite pour recevoir le Bulletin de nouvelles quotidiennes et bénéficier du droit de commentaires/discussion dans le site." Below this is the sub-heading "Introduction au CLOM REL 2014". At the bottom of the screenshot, the start of another paragraph is visible: "Vous trouverez ci-dessous une courte vidéo qui explique le contexte du présent cours. Nous vous".

<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



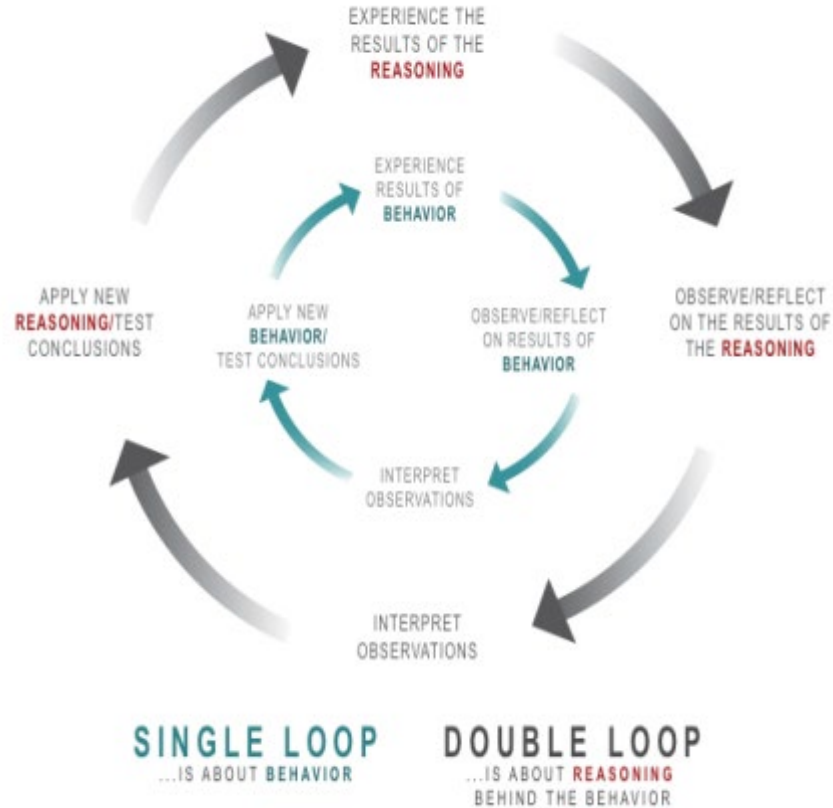
<http://www.downes.ca/presentation/337>

Concierge OMS

The screenshot shows the top portion of the Concierge Service website. At the top left, there is a logo for the Government of Canada in both English and French. To the right, navigation links for 'Canada.gc.ca', 'Services', 'Departments', and 'Français' are visible. The main header area features the 'Concierge Service' title, a large red maple leaf graphic, and the 'Canada' logo. Below this is a search bar with a 'Search' button. A horizontal menu contains links for 'Home', 'About us', 'Find programs', 'Find facilities', and 'My concierge', along with 'Register' and 'Log in' buttons. The main content area starts with a breadcrumb 'Home → Your guide to innovation' and a heading 'Your guide to innovation'. A sub-heading reads 'Helping Canadian enterprises find and access programs and services that support business innovation.' Below this is a large image of a person in a suit holding a glowing lightbulb, with a search bar overlaid that says 'How can we help you?' and a 'Go' button. To the right of this image is a smaller image of a gold key on a background of binary code, with the text 'Create an account to get the benefits to support you & your business!'. At the bottom right, there is a small image of three people clapping. A blue button at the bottom left says 'Find a program that meets your needs'.

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

Implementation Projects

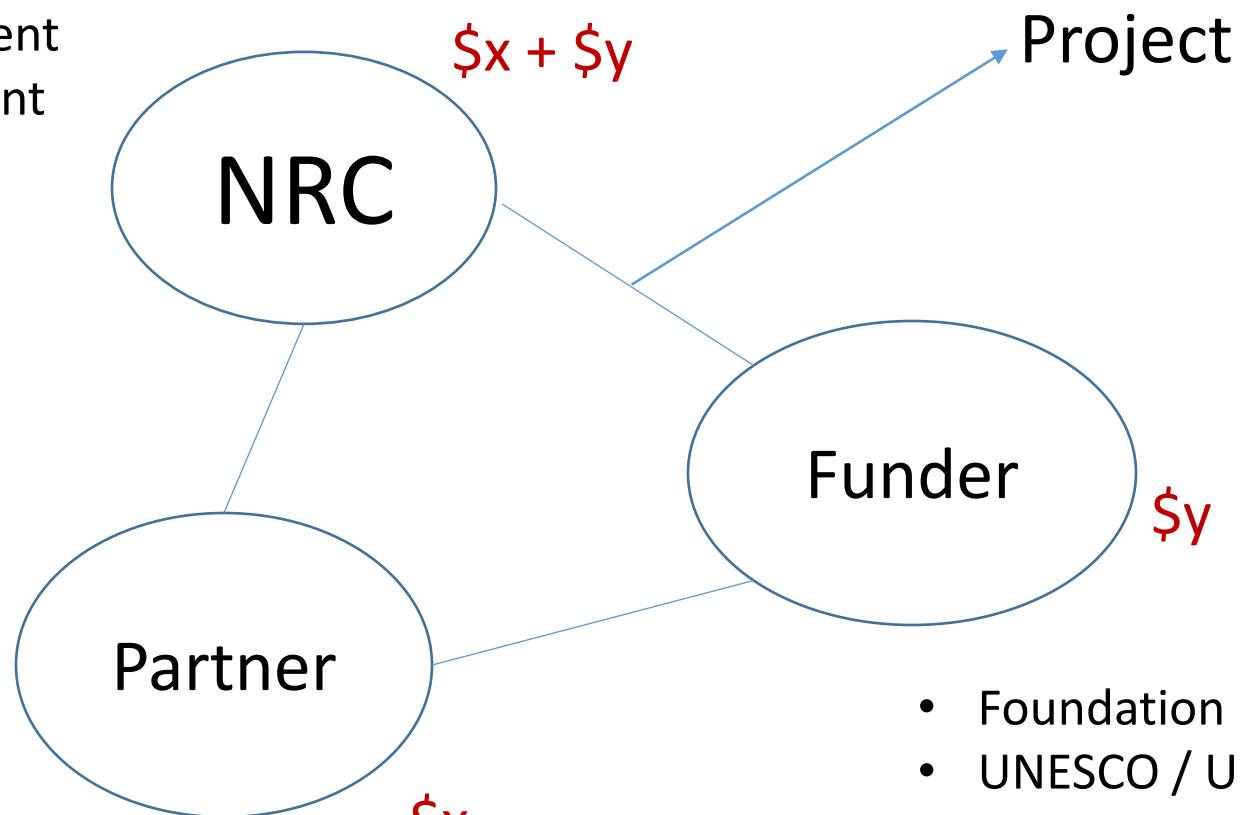


Ultimately, the objective is to support individual learning in a network

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

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





Stephen Downes

<http://www.downes.ca>

Success Factors

Success Factors (The Wealth of Nations)

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



The Semantic Condition

- Autonomy, diversity, openness, interactivity
- These conditions are the conditions for a constructive dialogue...
- And are thus the design principles for a MOOC



<http://itforum.coe.uga.edu/paper92/paper92.html>

The Objective of Learning

- Learning is not acquisition, it is growth
- It is about the personal development of each person
 - Not just what the person 'knows'
 - Equally important is a person's sense of value and place in society

Knowledge Translation

Knowledge Translation

CIHR – “CIHR, **knowledge translation** (KT) is defined as a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of **knowledge** to improve the health of Canadians.”

CIHR, <http://www.cihr-irsc.gc.ca/e/39033.html>

Synthesis

- the contextualization and integration of research findings of individual research studies within the larger body of knowledge on the topic.
- a systematic review, follow the methods developed by the Cochrane Collaboration, result from a consensus conference or expert panel or synthesize qualitative or quantitative results.

Dissemination

- “...summaries for / briefings to stakeholders, educational sessions with patients, practitioners and/or policy makers, engaging knowledge users in developing and executing dissemination / implementation plan.”

Exchange

- “interaction between the knowledge user (decision maker) and the researcher...”
- “results in mutual learning through the process of planning, producing, disseminating, and applying existing or new research in decision-making...”

Application

- “the iterative process by which knowledge is put into practice...”
- “...while keeping in mind that principles, values and laws can compete among and between each other at any given point in time.”

Criticisms...

- The 'knowledge translation model implies a set of facts that can be 'known' and applied to practice
- In practice, knowledge is often contextual and 'constructed' after the fact
 - Consider, for example, the case of recognizing your mother at the train station
 - Consider, for example, the practice of riding a bicycle (cf Polanyi)

Criticisms...

- “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**