The Massive Course Meets the Personal Learner
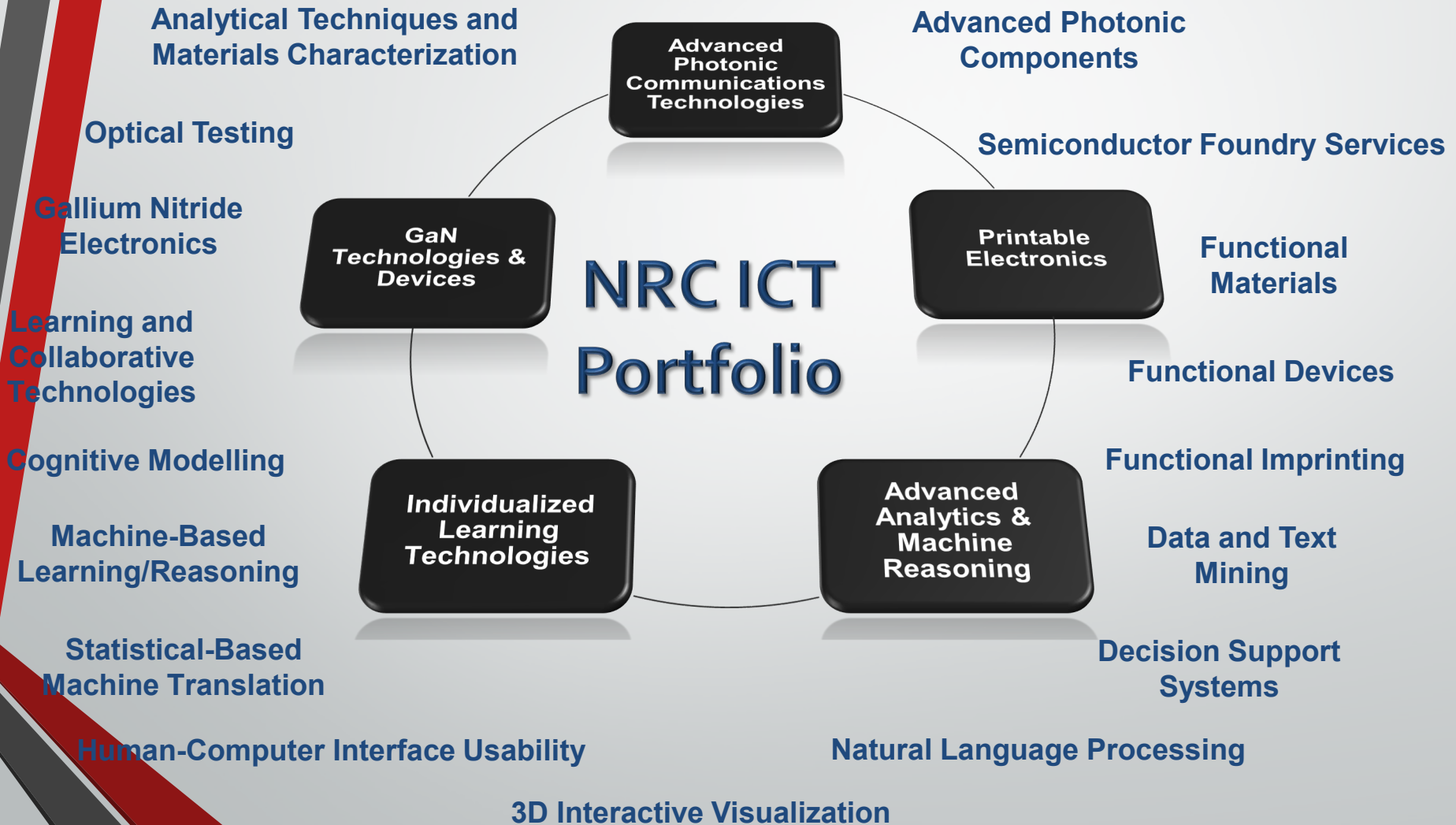
Stephen Downes

Istanbul, April 3, 2014

http://www.downes.ca/presentation/338

World-Renowned Competencies

Analytical Techniques and Materials Characterization

Advanced Photonic Components

Advanced Photonic Communications Technologies

Optical Testing

Semiconductor Foundry Services

Gallium Nitride Electronics

GaN Technologies & Devices

Printable Electronics

Functional Materials

NRC ICT Portfolio

Learning and Collaborative Technologies

Functional Devices

Cognitive Modelling

Functional Imprinting

Individualized Learning Technologies

Advanced Analytics & Machine Reasoning

Machine-Based Learning/Reasoning

Data and Text Mining

Statistical-Based Machine Translation

Decision Support Systems

Human-Computer Interface Usability

Natural Language Processing

3D Interactive Visualization

The Skills Shortage

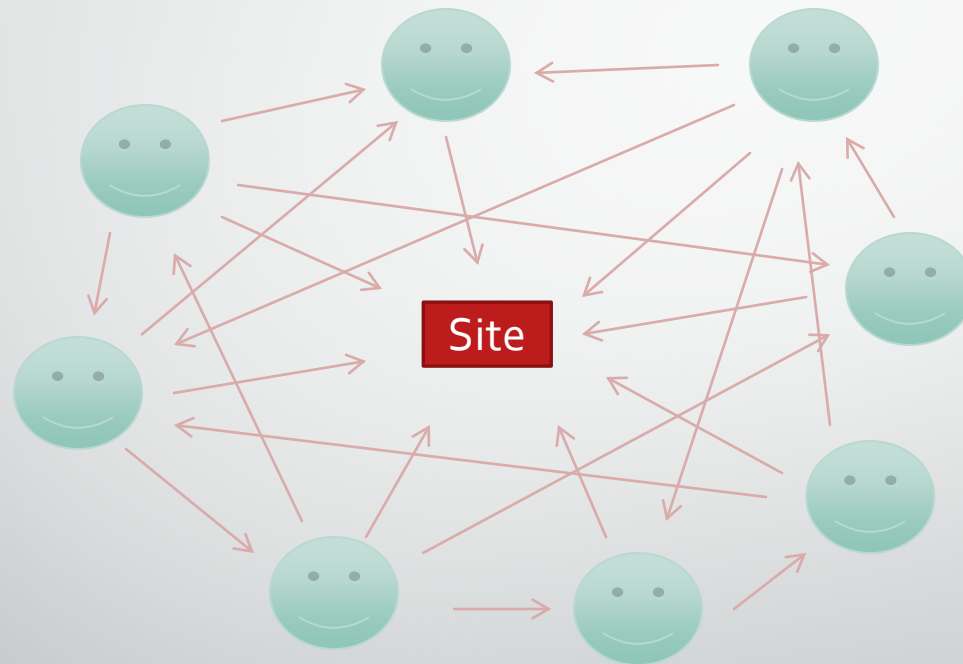# Traditional Course

In the traditional course, we just throw content at people, and hope it sticks.

Traditional Course Website
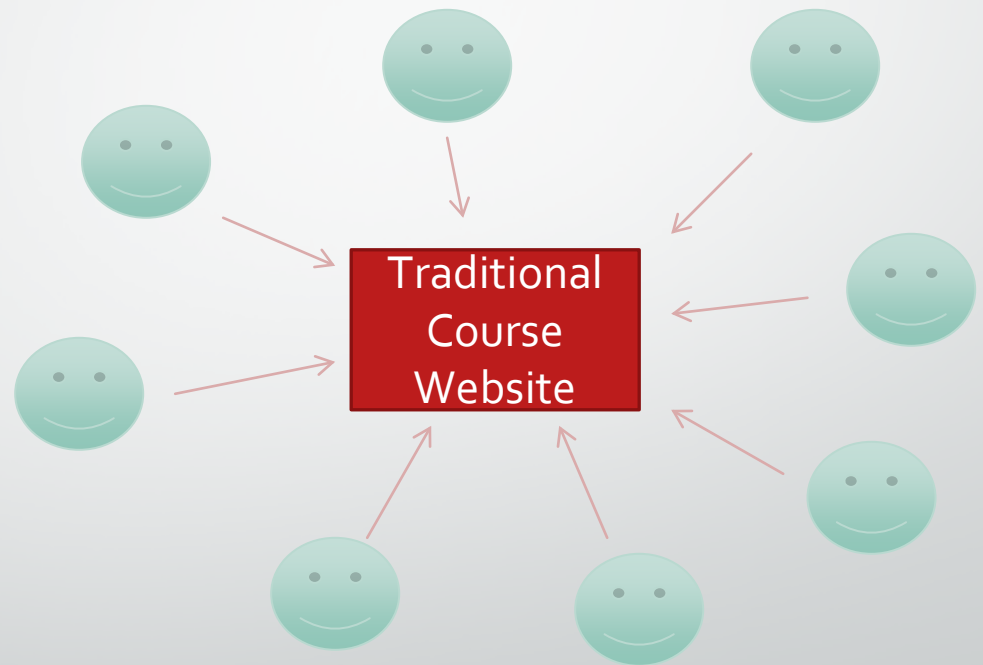
Most online courses are based on content-based websites (even Coursera, Khan and Udemy)

Massive Open Online Course

A MOOC is a Web, not a Website

http://wwwapps.cc.umanitoba.ca/moodle/course/view.php?id=20

2300 students

http://connect.downes.ca/cgi-bin/archive.cgi?page=thedai

Other Courses

PLENK2010
Personal Learning Environments Networks and Knowledge 2010

3000 students
http://edfuture.net/

1800 students
http://connect.downes.ca/

2800 students
http://change.mooc.ca/

Evolution of MOOCs

Learning Analytics

LAK11: How to measure success in a MOOC

MobiMOOC

Inge de Waard

Supporting Mobile Learning Technology

http://mobimooc.wikispaces.com/

The madness and mayhem of DS106

Jim Groom

DS = Digital Storytelling
DS106 redefined activities and participation

eduMOOC underground
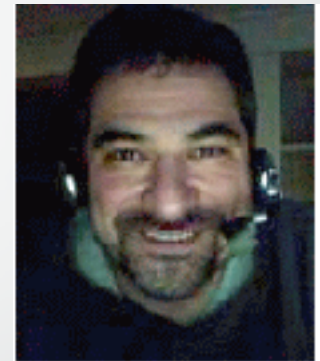
Jeff
Lebow

Jeff Lebow, Google+ hangout, and Livestream:
Taking something ordinary, and making it something
special – YOU make the MOOC
http://www.livestream.com/jefflebow/

Currently

MOOC REL 2014
http://rel2014.mooc.ca

Pedagogical Models

- Instructivist – knowledge as transmission

- Discovery – knowledge as experience

- Constructivist – knowledge as representation

- Connectivist – knowledge as recognition
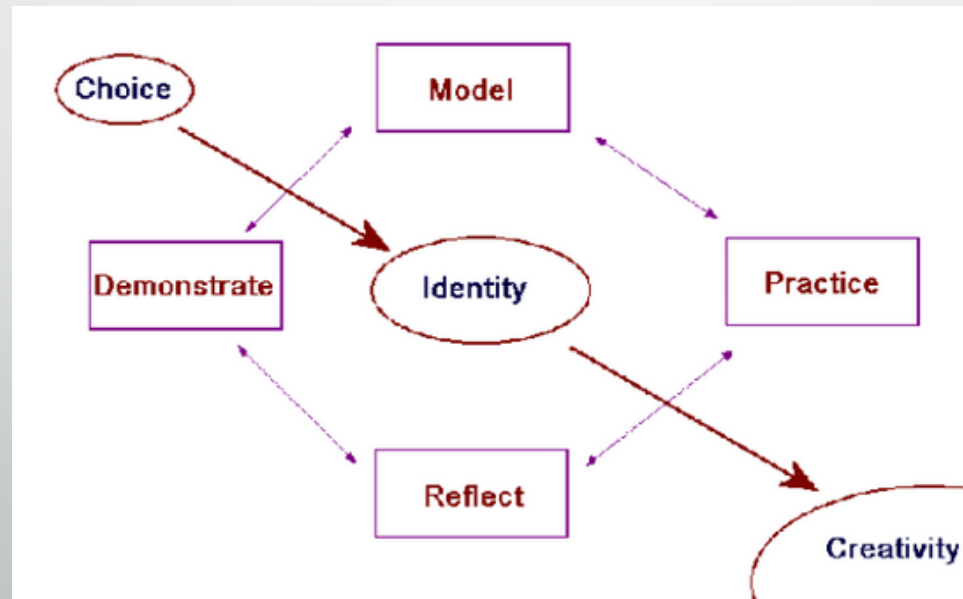
Connectivist Learning Design

- A non-curricular based approach
  - course content is the 'McGuffin' vs (Freire) the 'banking system'
  - learning takes places through interaction and creativity
    - Seymour Papert – constructionism
    - Aggregate, remix, repurpose, feed forward
- Learning a matter of growth, not accumulation

Self-Organizing networks
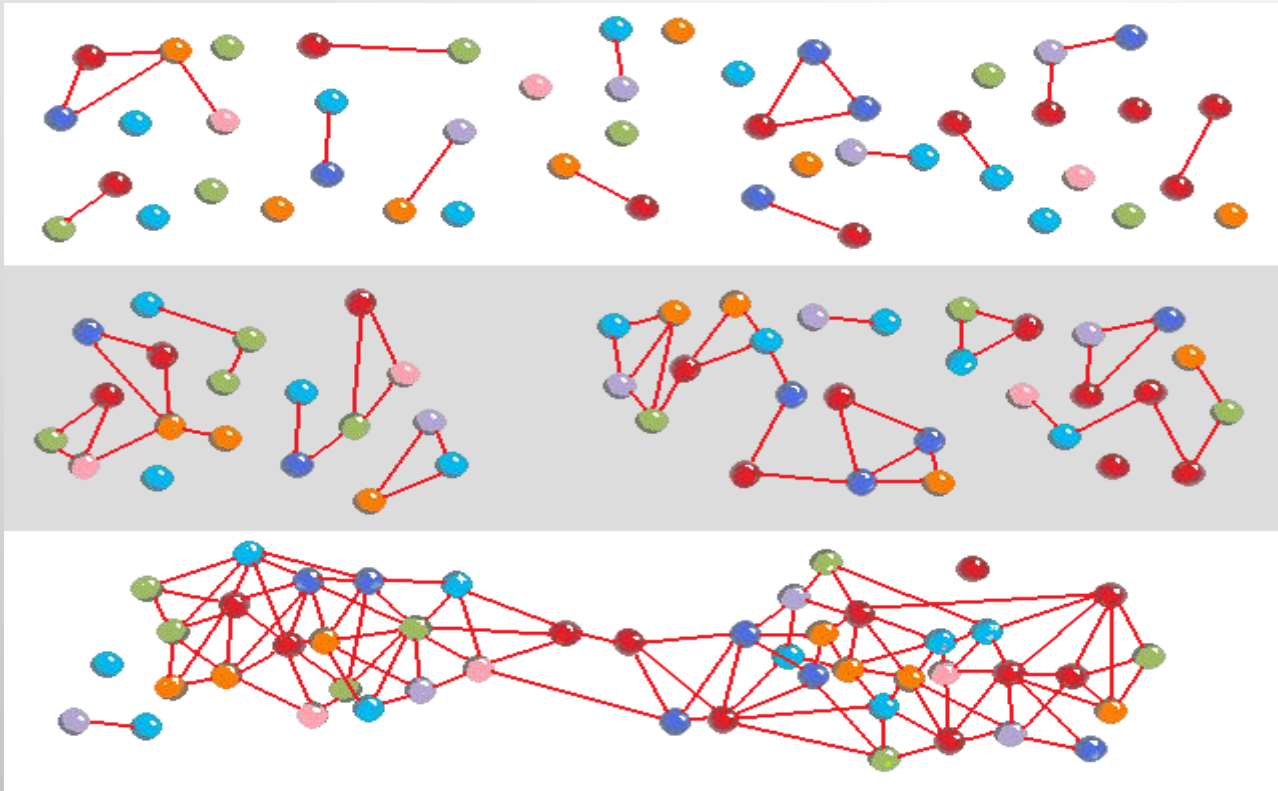
These are at once perceptual systems and reasoning systems

Design Principles

Autonomy
- Choice of contents
- Personal learning
- No curriculum

Openness
- Open access
- Open content
- Open activities
- Open assessment

Diversity
- Multiple tools
- Individual perspective
- Varied content

Interactivity
- Encourage communication
- Cooperative learning
- Emergent knowledge

The MOOC

Image: Gordon Lockhart
http://gbl55.wordpress.com/2011/03/08/cck11-man-this-mooc-is-something-else/
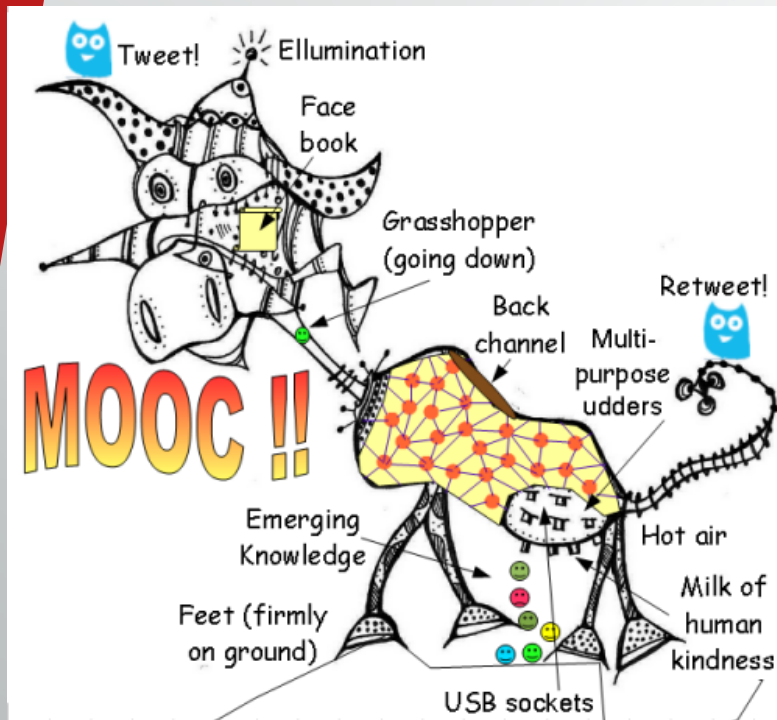
- **Massive** – by design
- **Open** – gratis and libre
- **Online** – not blended, not wrapped
- **Courses** – not communities, websites, video collections, etc

Connectivist MOOCs

Image: Matthias Melcher
http://x28newblog.blog.uni-heidelberg.de/2008/09/06/cck08-first-impressions/

Course Provider Perspective

Student content

Subscribed students

Site

Course content

Event recordings

Live online events
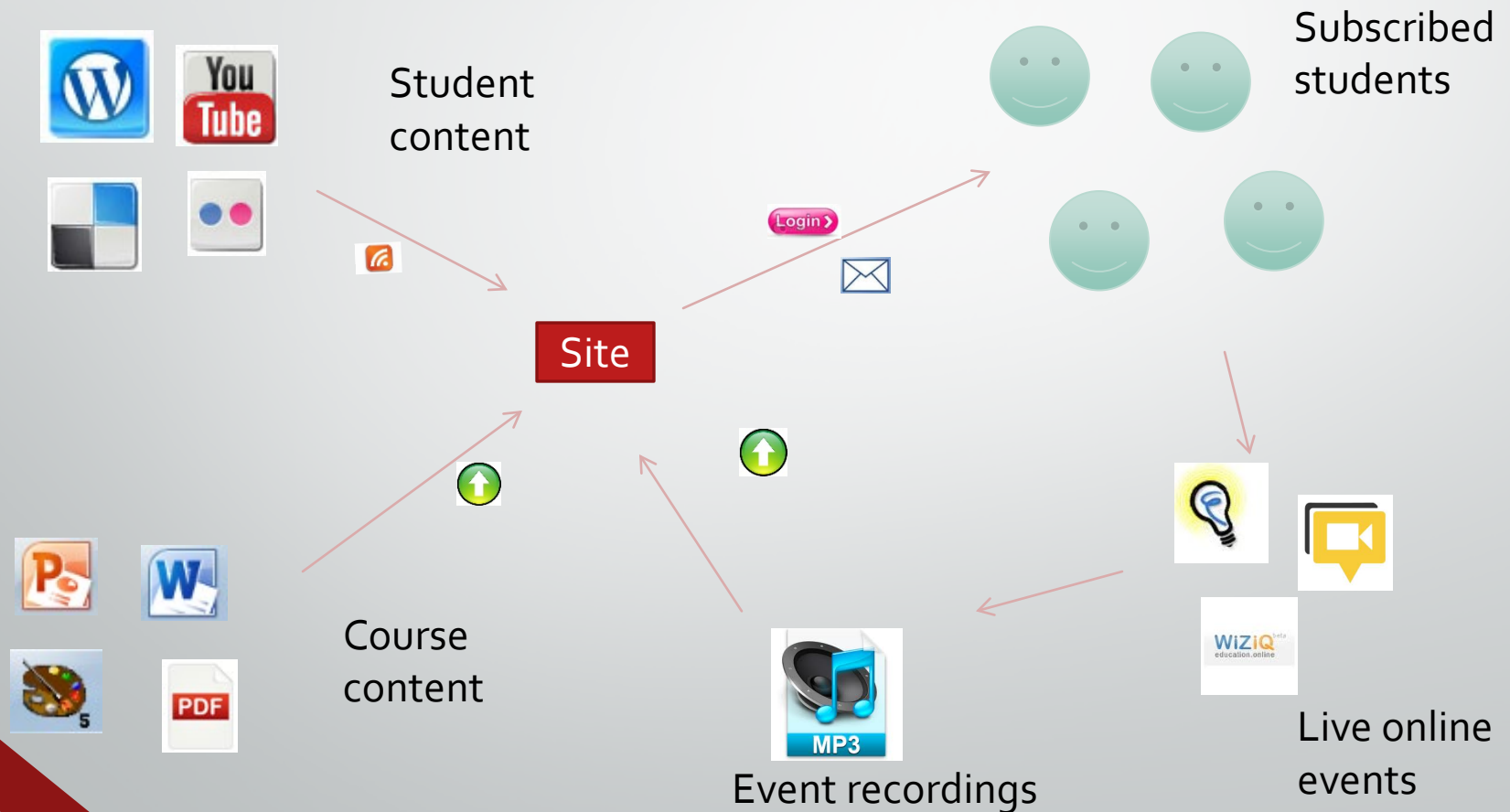
Underlying MOOC Support

1. First student creates resource and sends info to course

Site

2. Second student sees resource info in newsletter and RSS feed

3. Second student accesses the resource directly

4. Second student finds link to third student's resource

Personal Learning

http://dmlcentral.net/blog/howard-rheingold/diy-u-interview-anya-kamenetz
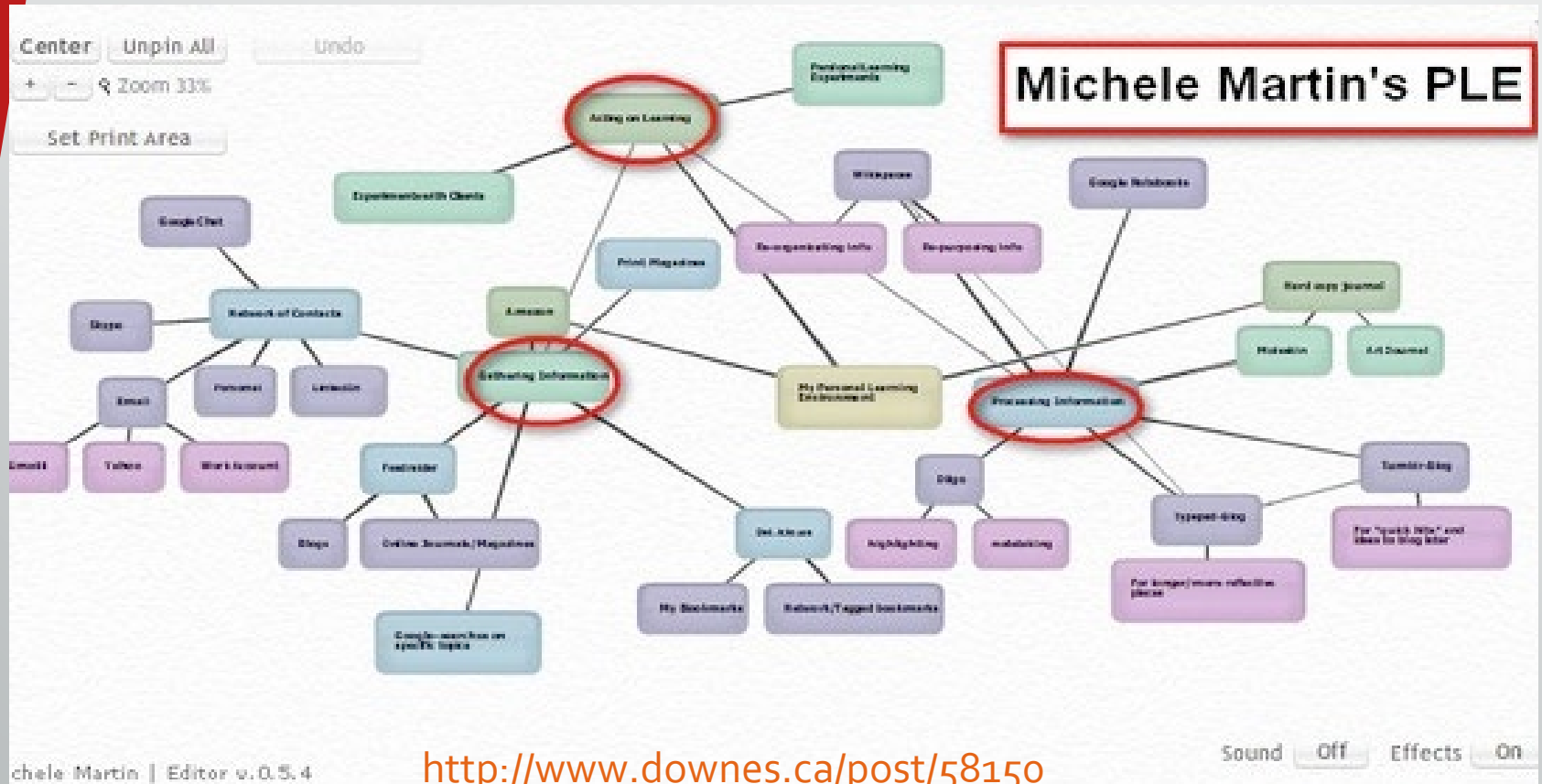
The Student's Perspective
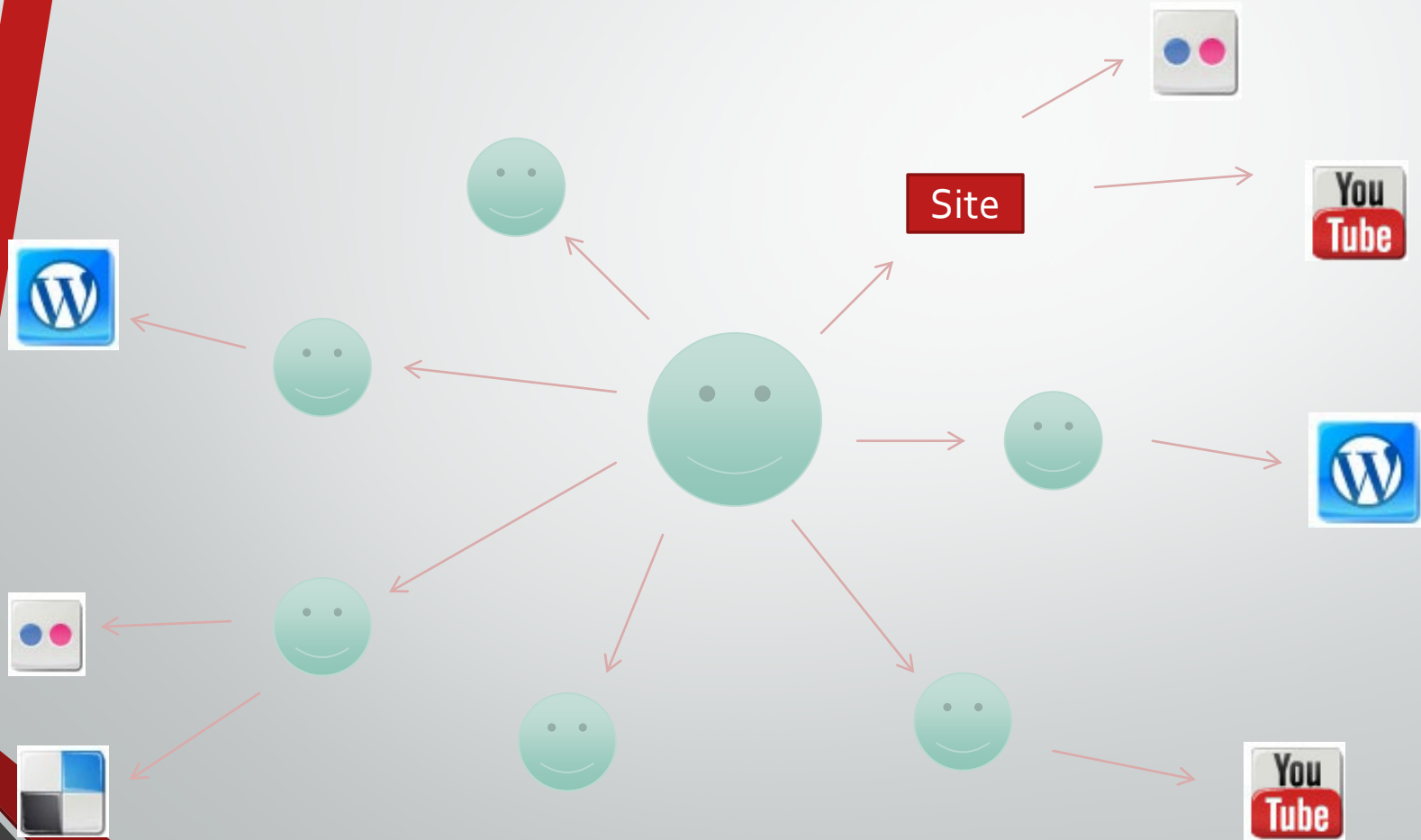
A range of different resources and services

LPSS program
Personal Learning and Performance Support

Single point of access to all skills development and training needs

- Individual learning path
- Context-aware support
- Searchable and verifiable
- Tailored to industry needs
- Always available

LPSS Program Overview

- LPSS is a $19 million program over 5 years, average 30 FTEs per year

- Based on hosted services used to develop and monetize core technologies, which are then transferred to commercial receptors

- Will work with Canadian learning technology providers and target verticals to address critical skills shortages in that industry

- Revenues during program execution, with potential for ongoing licensing revenues

Learning and Performance Support System:
Core Technology Development Projects

- Learning services network and marketplace

- Automated skills development and recognition

- Lifetime management of learning and training records and credentials

- Personal learning assistant to view, update and access training

Resource Network

Learning Assistant

Personal Learning Records

Automate Skills Dev.
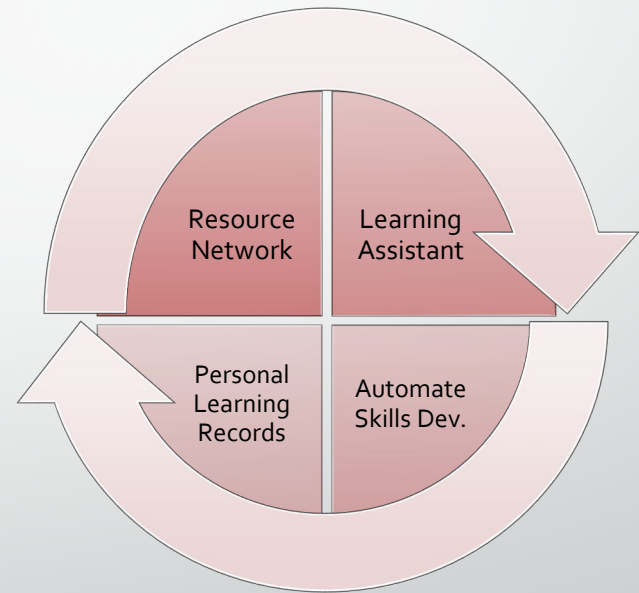
- Learning as a cloud service and deep integration with external systems

Why Is This Difficult?

- It's not one big thing…

- … but a set of many small things
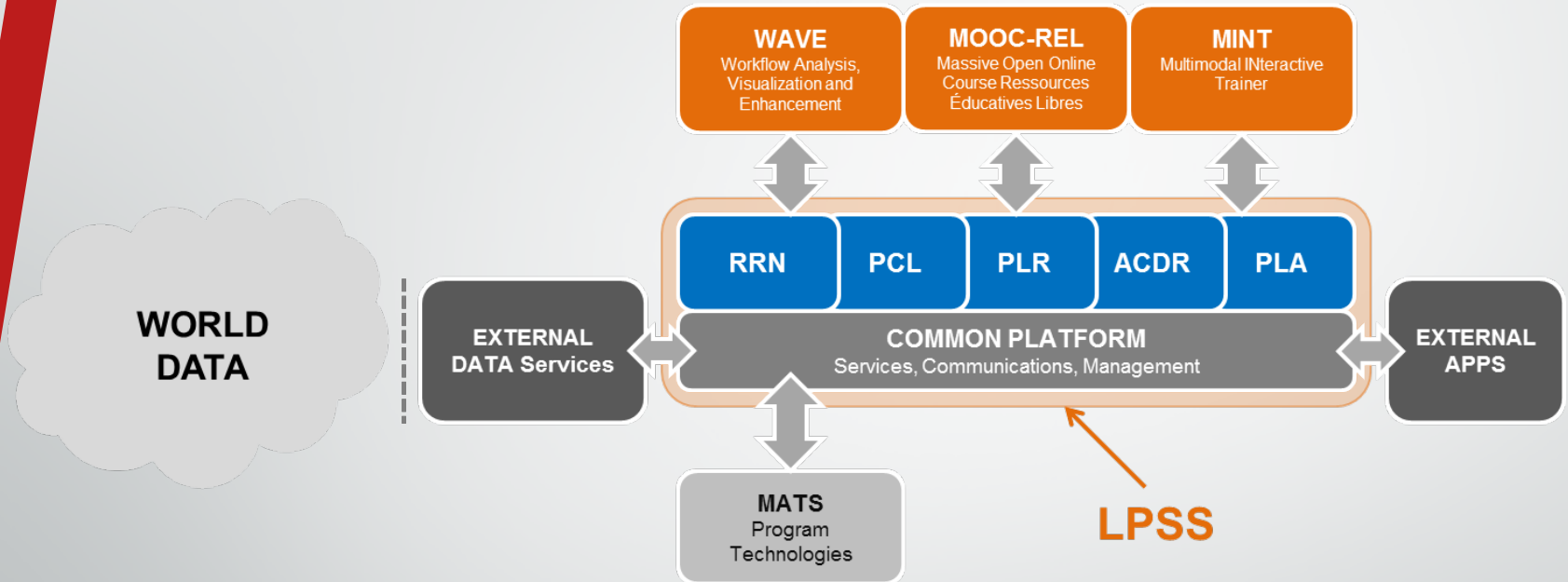
- Tasks that are simple in an enterprise system…

  - Like data storage

  - Like content distribution

  - Like authentication

  - Like analytics

  … become that much more difficult

What is LPSS?

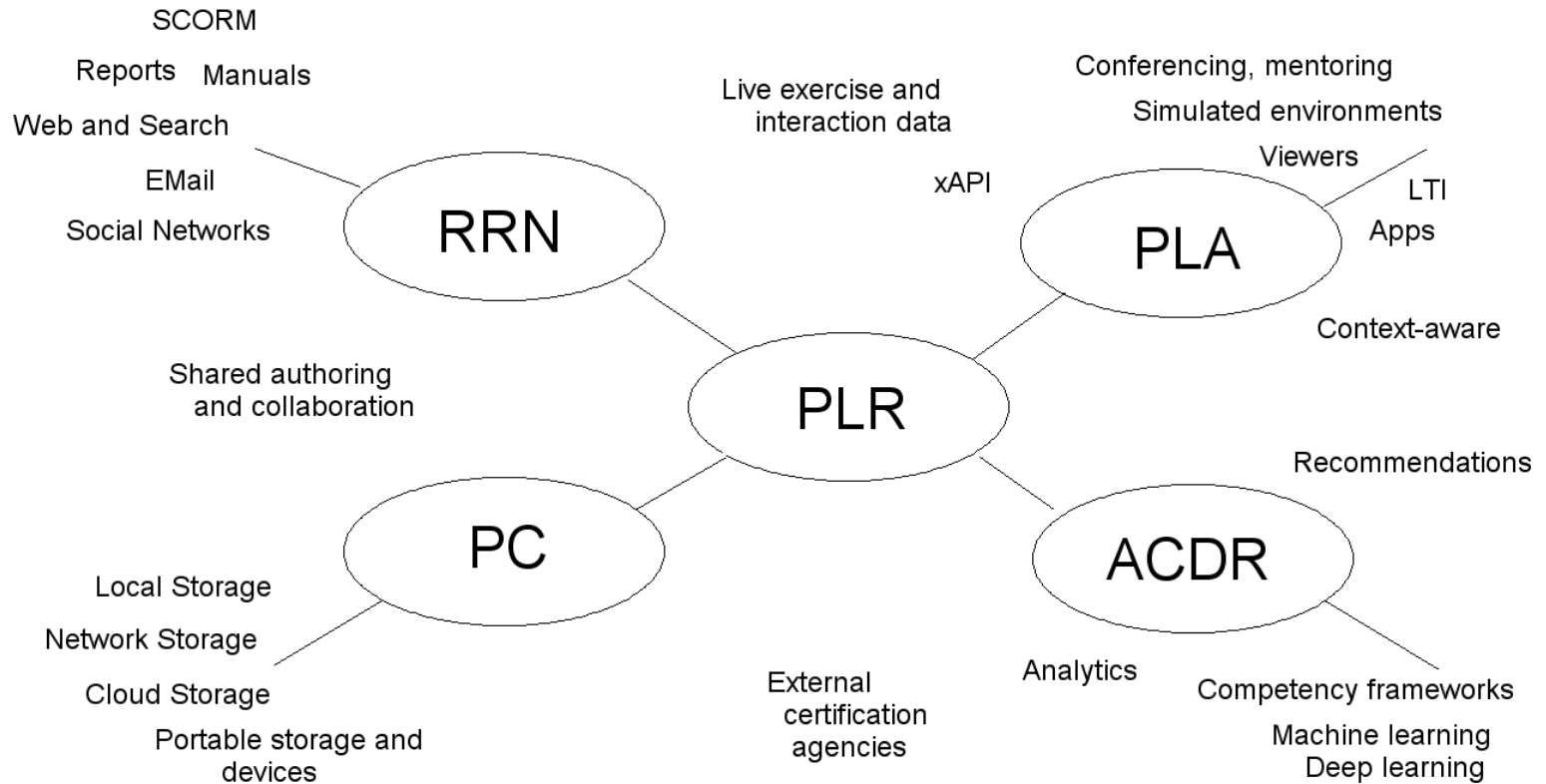- ▶ It's a network of personal learning environments…
- ▶ … connected to a large array of learning services

http://halfanhour.blogspot.com.es/2013/12/learning-and-performance-support-systems.html

http://www.nrc-cnrc.gc.ca/eng/solutions/collaborative/lpss.html

Core Projects

Triad Model

- Students, Teachers, Community = presence

- Sunshine Project, Slave Lake, Canada
  http://www.huffingtonpost.com/stephen-downes/the-role-of-the-educator_b_790937.html

- Educamp Colombia, Bogota and Medellin
  http://www.irrodl.org/index.php/irrodl/article/view/884/1677

- Jaaga – via EdgeX, India http://jaaga.in/study/

http://www.downes.ca

Stephen Downes
Stephen.Downes@nrc-cnrc.gc.ca