EduCamp Colombia
Software social para la enseñanza y el aprendizaje

http://www.colombiaaprende.edu.co

Revolución
Educativa
Colombia aprende

Colombia
aprende
La red del conocimiento

Ministerio de
Educación Nacional
República de Colombia

Libertad y Orden

Stephen Downes
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Overview

1. E-Learning in Development
2. The Connectivist Approach
3. E-learning 2.0
4. The Personal Learning Environment

1. E-Learning in Development

Online Learning

- Has been around since 1995 or so

- Really grew with the World Wide Web

- Has advanced tremendously

Many positive developments in the last few years worth sharing…

Open Source Applications

- Learning Management Systems
  such as Moodle, Sakai, Bodington, ATutor

- Development and CommunityTools
  such as LAMS, Connexions, ELGG, Drupal, WordPress

- Supporting Software
  such as Firefox, Thunderbird, OpenOffice, Audacity

BRING BACK THE COUCH

Open Educational Resources

- MIT's OpenCourseWare project
  and the OpenCourseWare Consortium

- Open University's Open Courses

- OER initiatives
  Hewlett, Wellcome, OECD, UNESCO

- Creative Commons and CC materials
 in Flickr, Yahoo, Google, Wikipedia, Wikiversity, etc.

New Environments

- Multimedia explosion
  podcasts, vodcasts, YouTube, Slideshare, more

- Mobile computing
  mobile phones, PDAs, etc.

- The 3D web
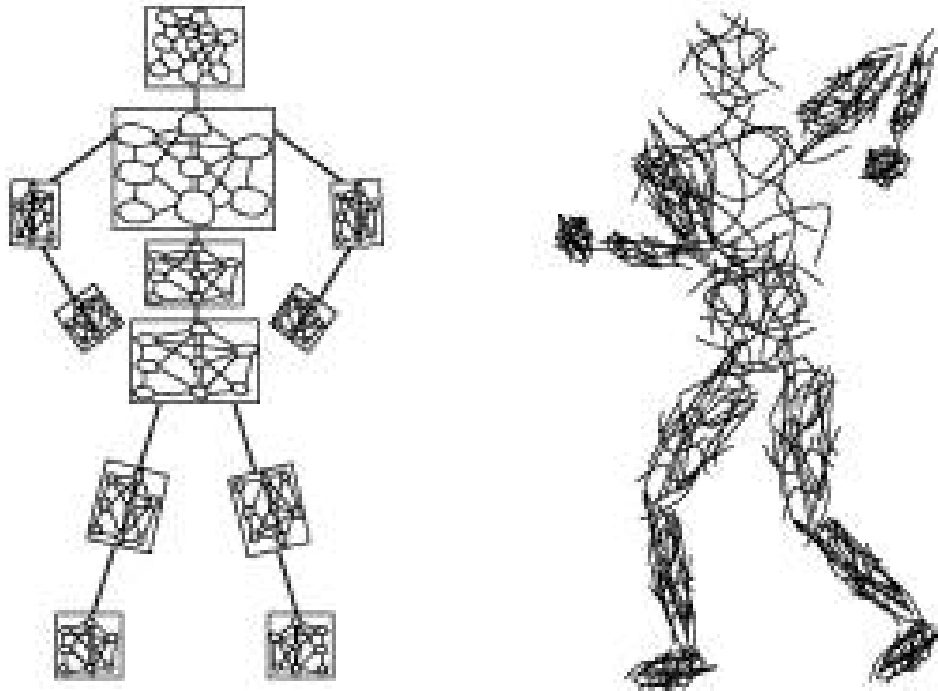 Second Life is a start, we will see more of this

Access…

- *One-to-one computing* such as the Maine laptop project, now spreading rapidly

- *One Laptop per Child* has launched – computers in Nigeria

- *Wireless access* 3G networks, WLAN…
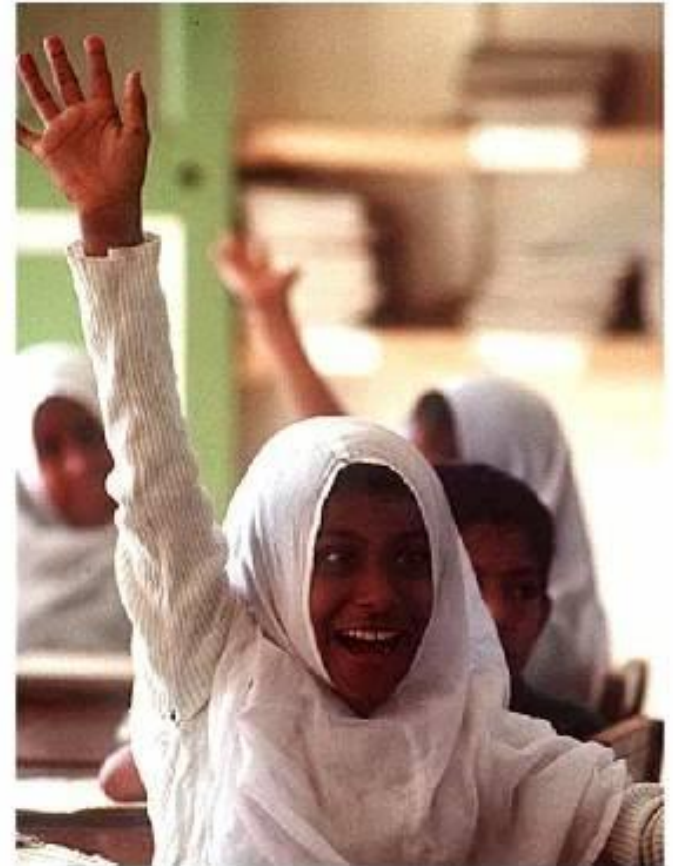
2. The Connectivist Approach

Connectionism

Minsky: Symbolic vs. Analogical Man: Top-Down vs. Bottom Up

http://web.media.mit.edu/~minsky/papers/SymbolicVs.Connectionist.html

Un…

As in, unorganized

As in *not* managed

Unconference

Messy vs. Neat

Homogeneous Network

Fixed Learning Procedure

Output

Critics

Input

Uses only one way to learn

Society of Agents

Learn-1   C-Brain   Critic-1

Learn-2   B-Brain

Learn-3   A-Brain   Critic 2

Learn new ways to learn
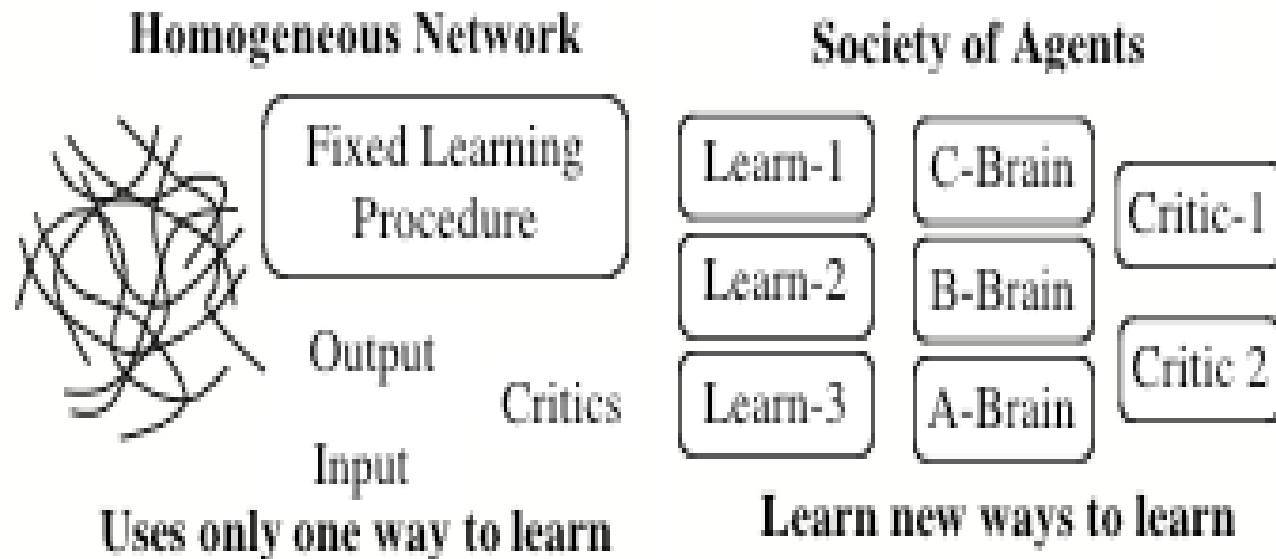
Figure. 7: Messy vs. Neat: Homostructural vs. Heterostructural

User-Generated Content
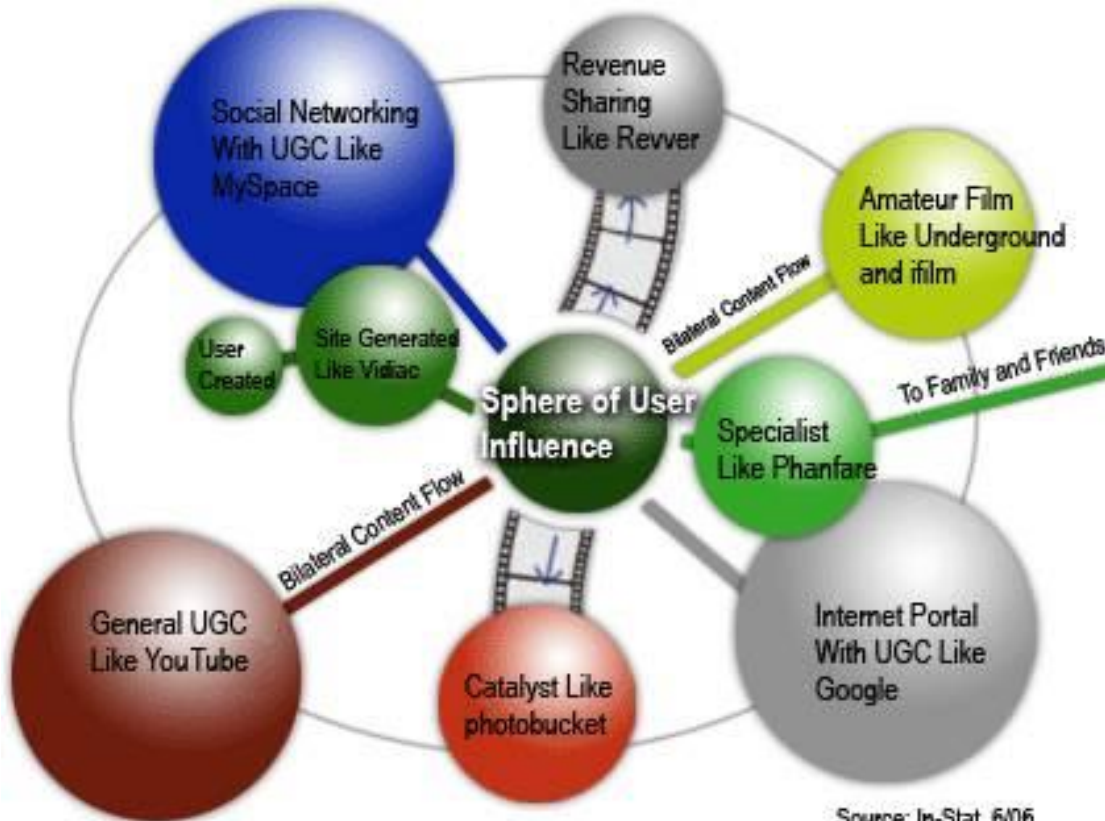
Flow

- IM and SMS expanded – Twitter
- Facebook 'status' updates – the now
- RSS, podcasting and other content feeds
- Mode – the idea of flow – how do you survive in a world of constant change? Stop thinking of things as static

Connectivist Pedagogy

- To 'teach' is to model and demonstrate
- To 'learn' is to practice and reflect
- Both imply participation in what might be called 'an authentic community of practice'

Role of the teacher

- To practice one's work in an open manner; to work transparently
- To 'work' is to engage in a community
- To be openly reflective, eg., to write about the work

Role of the Learner

- To attach oneself to an authentic environment
  - Eg. A role-playing game
  - Eg. Electronic Performance Support
  - Eg. Community of Practice
- To observe and emulate successful practice
- To be 'reflective', ie., to engage in conversation about the practice

4. E-Learning 2.0

E-Learning 2.0

The idea is that learning is *not* based on *objects* and *contents* that are stored, as though in a library

Rather, the idea is that learning is like a utility - like water or electricity - that flows in a network or a grip, that we tap into when we want

The way networks learn is the way people learn…

| Network Learning | ←→ | Personal Learning |
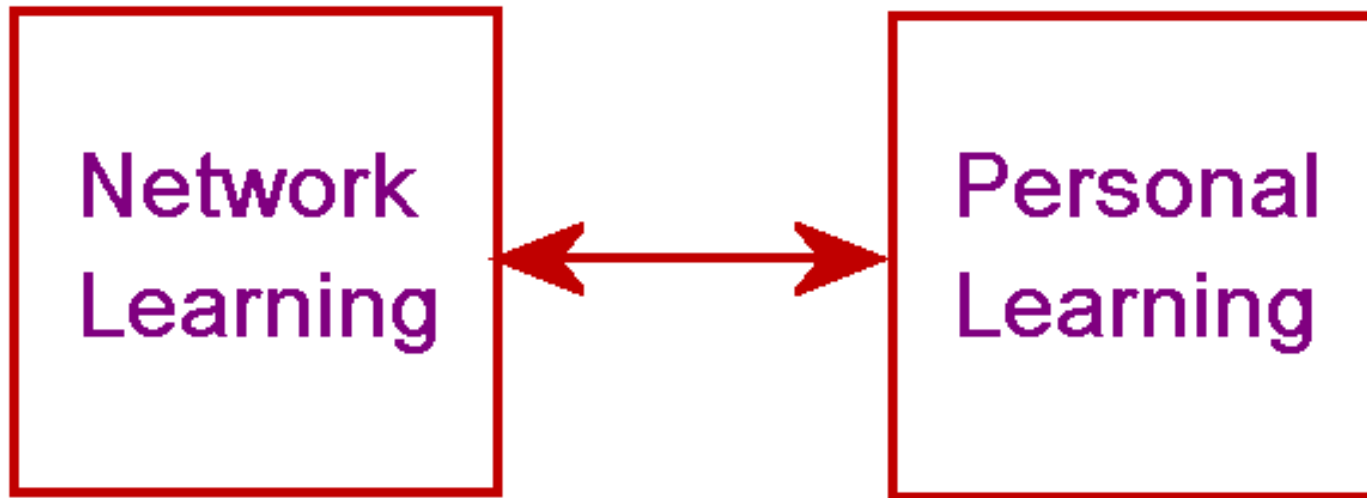
- they are both complex systems
- the organization of each depends on connections

Connectivism (George Siemens)

The Concept

- Learner centered

Learning is centered around the interests of the learner

Learning is *owned* by the learner

This implies learner choice of subjects, materials, learning styles

- Immersive learning

This learning is immersive – learning by doing

- Connected Learning

  The computer connects the student to the rest of the world

  Learning occurs through connections with other learners

  Learning is based on conversation and interaction

Examples

- Game-based learning
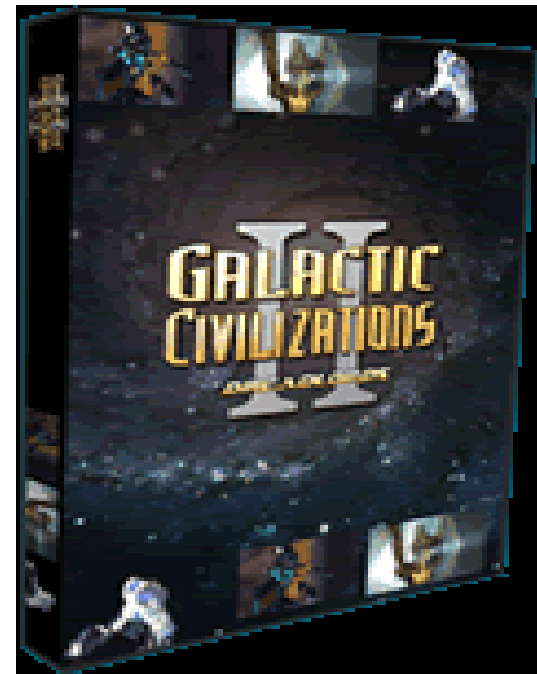
Types:

Branching, Spreadsheet, Quiz Game, Simulation Lab…

http://www.downes.ca/post/11

- Workflow (Informal) Learning
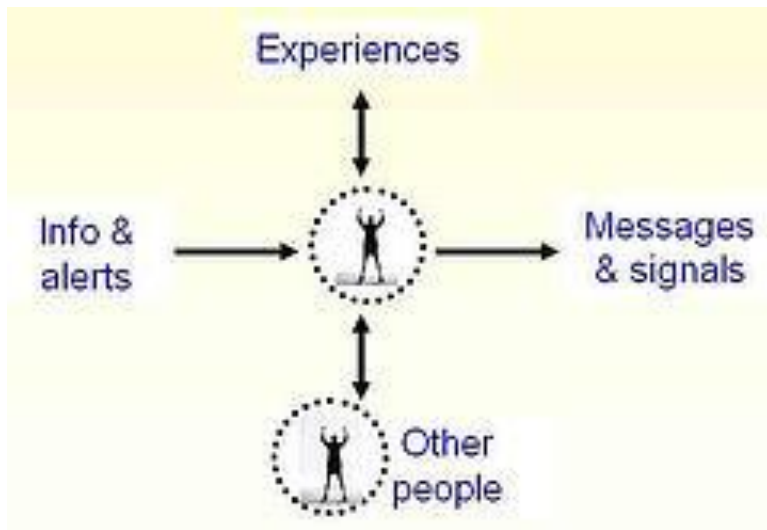
Types: EPSS, Community of Practice, Environment, Visualization…

http://metatime.blogspot.com/

- Mobile Learning

Examples:

Co-op learning, drill and flash-card, instant mesaging, field trips, resource capture (like this talk!)

First Iteration:
User-Produced Media

- Blogs and Blogging

- Podcasting and Vodcasting

- Game mods and other multimedia

Web 2.0: The Learning Network

- The intersection between the worlds for education, work, and home

- Key requirement is easy-to-use tools and hosting services*

- *E.g. the "e-Portfolio-as-blog" approach

  http://www.cetis.ac.uk/members/scott/entries/20050523083528

Personal Learning

- *Interaction* – participation in a learning community (or a community of practice)

- *Usability* – simplicity and consistency

- *Relevance* – or *salience*, that is, learning that is relevant to you, now

Interaction: principles

- <u>Pull</u> is better than <u>push</u>…

- Speak in your own (genuine) voice (and listen for authenticity)

- Share your knowledge, your experiences, your opinions

- Make it a habit and a priority

Usability: principles

"… probably the greatest usability experts are found in the design labs of Google and Yahoo!"

Elements of Usability

- **Consistency …** *I know what to expect…*

- **Simplicity …** *I can understand how it works…*

Relevance: principles

- Information is a <u>flow</u>, not a collection of objects

  - Don't worry about remembering, worry about <u>repeated exposure</u> to good information

- Relevance is defined by <u>function</u>, not topic or category

- Information is relevant only if it is available <u>where it is needed</u>

Network Learning

Reliability
(AKA the Semantic Condition)
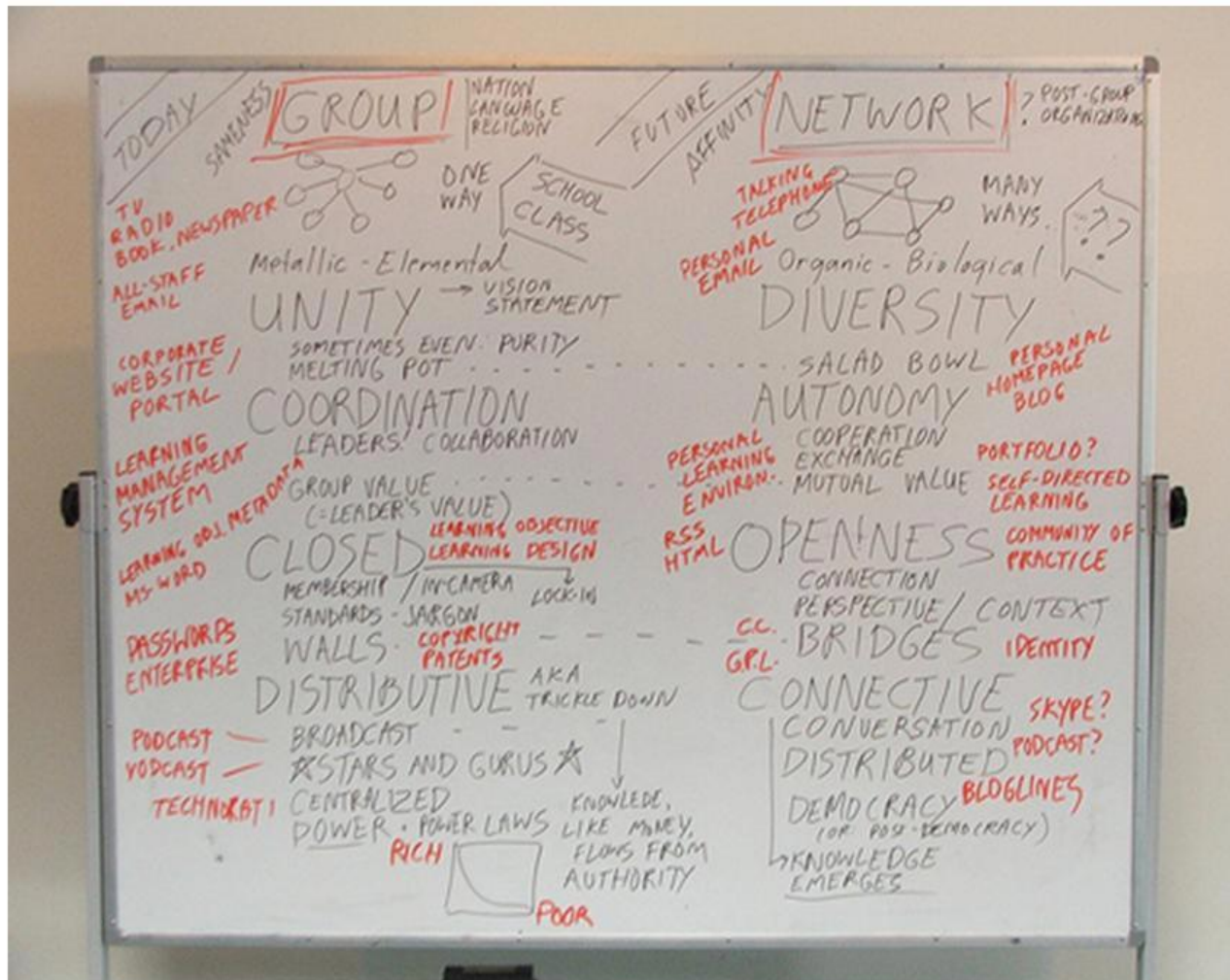
Diversity

- Did the process involve the widest possible spectrum of points of view?

- Did people who interpret the matter one way, and from one set of background assumptions, interact with people who approach the matter from a different perspective?

Autonomy

- Were the individual knowers contributing to the interaction of their own accord, according to their own knowledge, values and decisions?

- Or were they acting at the behest of some external agency seeking to magnify a certain point of view?

Openness

- Is there a mechanism that allows a given perspective to be entered into the system, to be heard and interacted with by others?

Connectivity

- Is the knowledge being produced the product of an interaction between the members, or is it a (mere) aggregation of the members' perspectives?

- A *different* type of knowledge is produced one way as opposed to the other.

5. Personal Learning Environment

Content as Vocabulary

http://icanhascheezburger.com/

Content as Creation

Aggregate

Remix

Repurpose

Feed Forward

The Idea of the PLE…
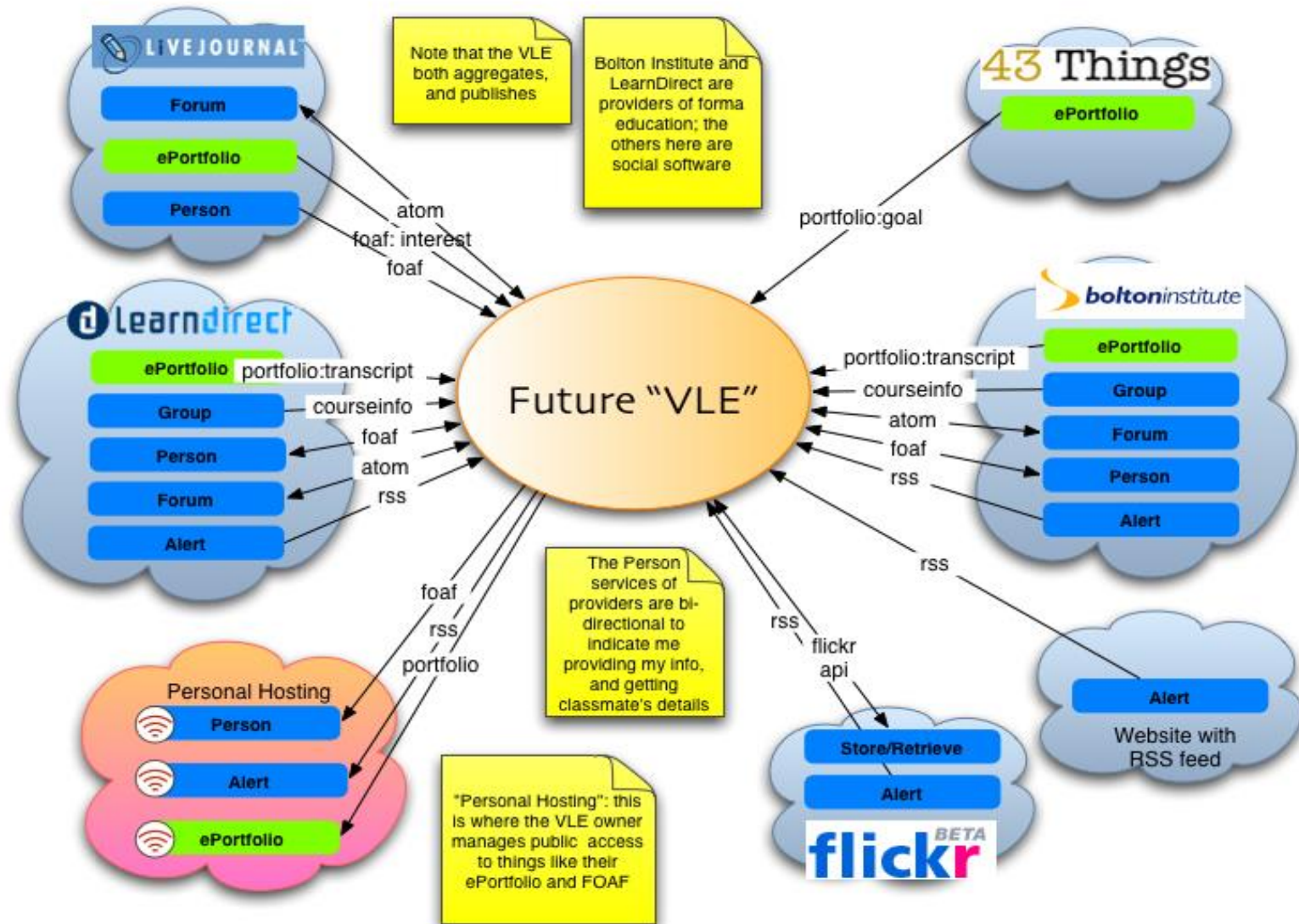
Plex Personal Learning Environment Example

Collecting and Filtering RSS

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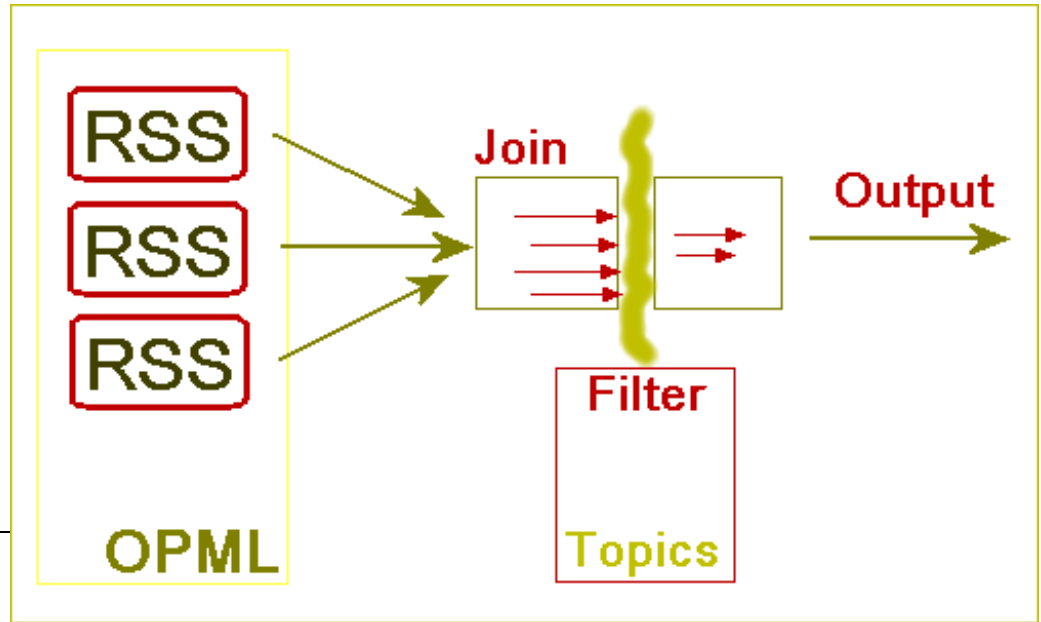
MyGlu

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 Writr

Edu_RSS Viewer

Relations between Entities…
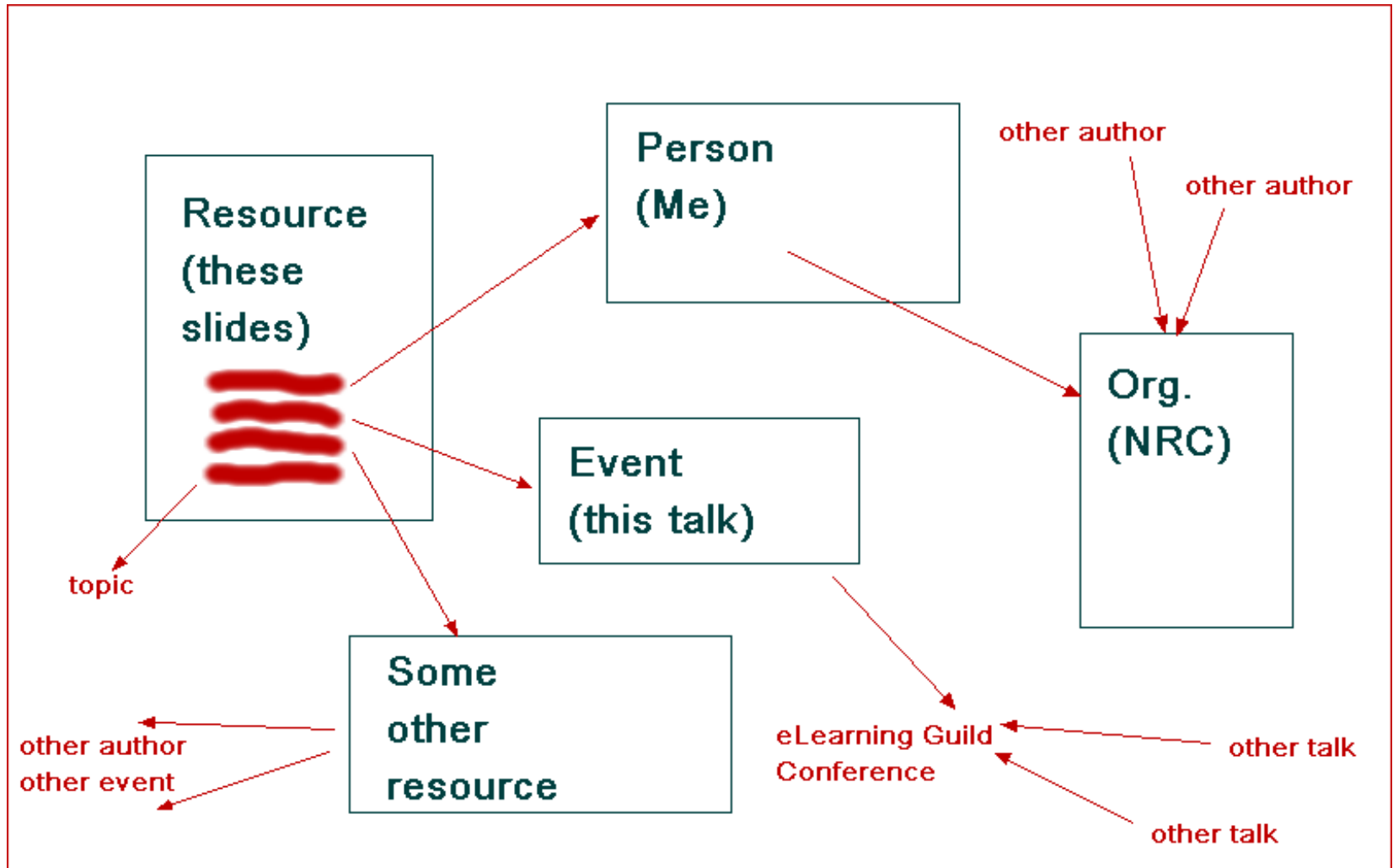
What is the PLE?
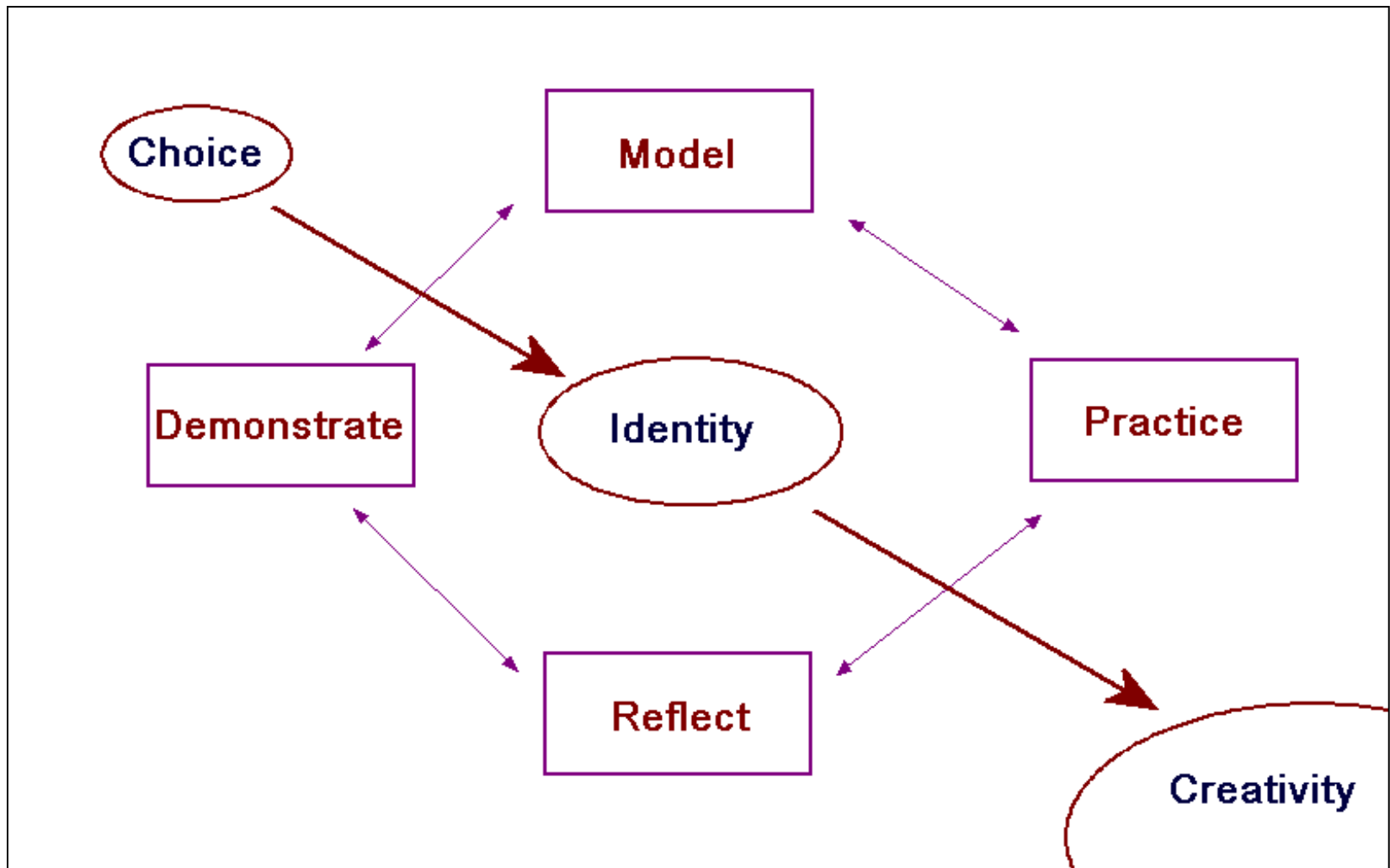
We can get an idea of what the PLE looks like by drilling down into the pieces…

The question is – how to transport and represent models that are actually used?

Model

- conceptual frameworks
    - wiki (wiki API, RSS)
    - concept maps (SVG, mapping format)
    - gliffy (SVG?)
- reference frameworks
    - Wikipedia
    - video / 2L 3D representation – embedded spaces

Demonstrate

- reference examples
  - code library
  - image samples

- thought processes
  - show experts at work (Chaos Manor)

- application
  - case studies
  - stories

The question is, how can we connect the learner with the community at work?

Practice
- scaffolded practice
    - game interfaces
    - sandboxes
- job aids
    - flash cards
    - cheat sheets
- games and simulations
    - mod kits
    - mmorpgs

The question is, how can we enable access to multiple environments that support various activities?

The question is, how can we assist people to see themselves, their practice, in a mirror?

Reflection

- guided reflection
  - forms-based input
  - presentations and seminars
- journaling
  - blogs, wikis
- communities
  - discussion, sharing

People talk about 'motivation' – but the real issue here is *ownership*

Choice – Identity - Creativity
- simulated or actual environments that present tasks or problems
- OpenID, authentication, feature or profile development
- Portfolios & creative libraries

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http://www.downes.ca