

# Trends and Impacts of E-Learning 2.0

Stephen Downes  
ICOE 2007 Taipei, Taiwan  
13 June 2007

# Institutions and Individuals



So far, the story of open content has been told by institutions...

But there is another story to be told

# Another Timeline...

Stephen's  
Guide to the  
Logical  
Fallacies

Muddog Mud

1994

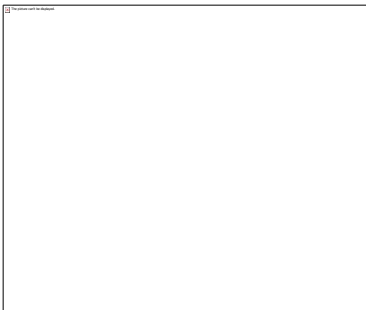
1995

1996



Athabaska BBS

Painted Porch



Maximus



# Future of Online Learning

CAE



Learning  
Objects

modules

1997

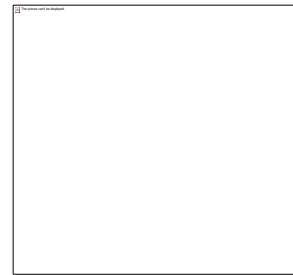
1998

1999

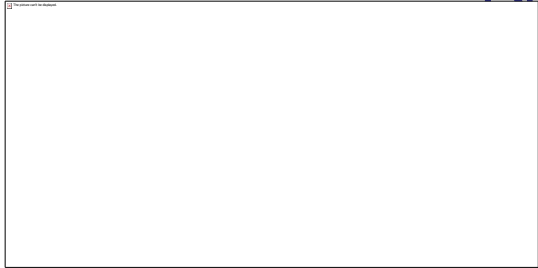


The  
Brandon  
Pages

Online Learning Environment



OLE

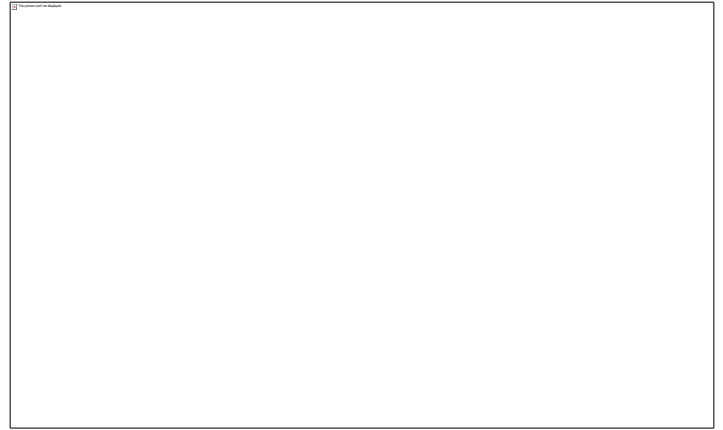


2000



Knowledge  
Learning  
Community

2001

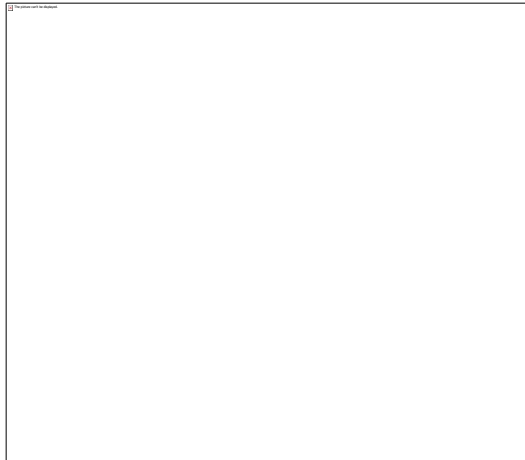


2002



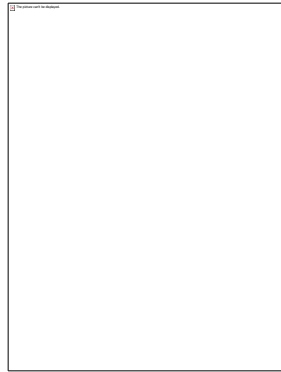
MuniMall

PEGGAsus

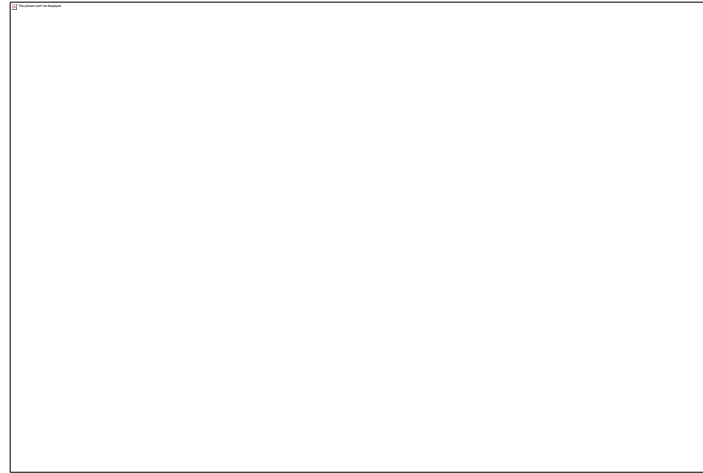


*OLDaily*

The  
Learning  
Marketplace



2003

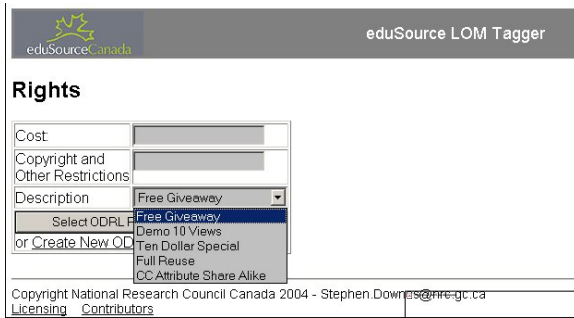


2004

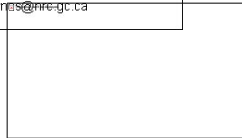
2005



Edu-RSS



DDRM

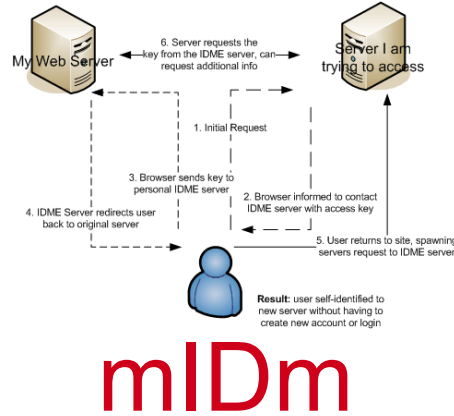


Ed Radio

Podcasting

# E-Learning 2.0

## Learning Networks



2006

2007

## Educational Blogging



## RSS Writr

# Web 2.0



# The Net Generation creates its own media...



*Identity Production in a Networked Culture: Why Youth Heart MySpace ...* Danah Boyd <http://www.danah.org/papers/AAAS2006.html>

“The dynamics of identity production play out visibly on MySpace. Profiles are digital bodies, public displays of identity where people can explore impression management.”

# Blogs and Wikis

"Never have so many people written so much to be read by so few..."

-- Katie Hafner NY Times.



[Blogger](#) - [Live Journal](#) - [Movable Type](#) - [Wordpress](#)

[Educational Blogging](#) – article

[Educational Weblogs](#) - [Edublogs.org](#)

[Wikipedia](#) – as [compared to Britannica by Nature](#)

# Photos, Podcasting and Vodcasting

[Flickr](#)

[Podcasting](#) - wikipedia

[iPodder](#) - [Odeo](#) -

[Liberated Syndication](#)

[Youtube](#) - video

Podcasting in Learning

[Ed Tech Talk](#) - [Ed Tech Posse](#) - [FLOSSE Posse](#)

[Bob Sprankle](#) - [Education Podcast Network](#)



# The Core Technologies



- Social Networking

- Tagging

- Asynchronous Javascript and XML (AJAX)

Jesse James Garrett in February 2005.



- Representational State Transfer (REST)

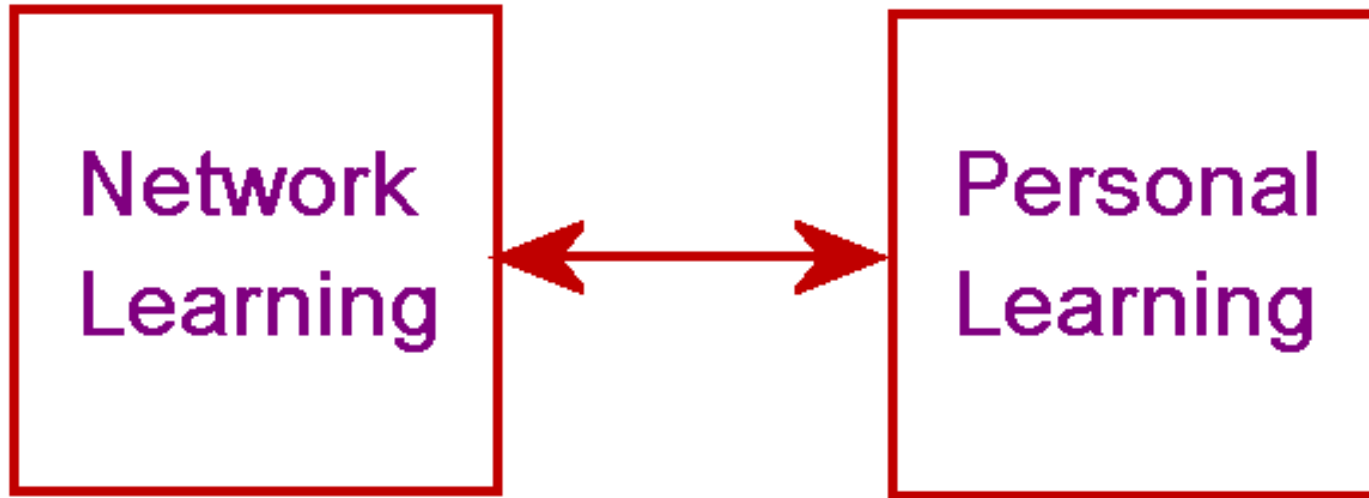


- Application Program Interface (API) and Mash-Ups

- Javascript  
Object  
Notation  
(JSON)

- OpenID

The way networks learn is the way people learn...

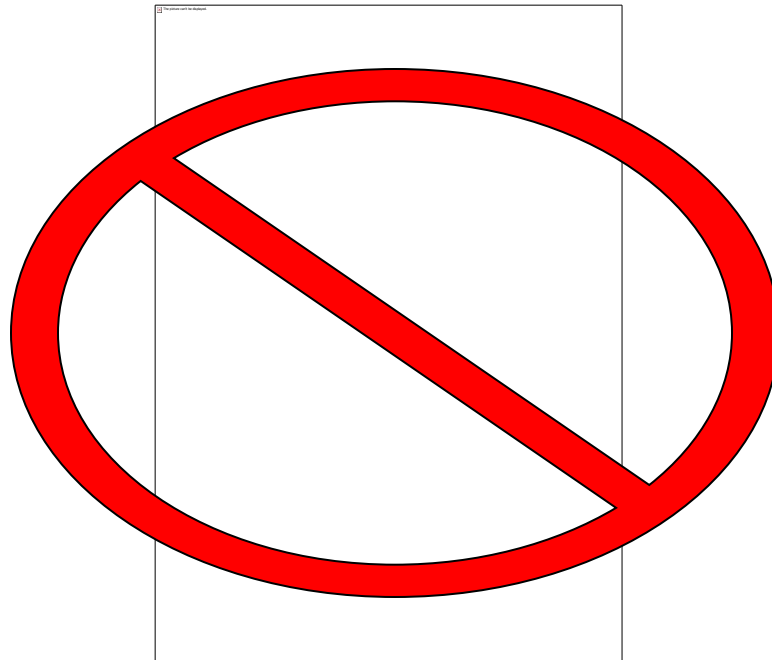


- they are both complex systems
- the organization of each depends on connections

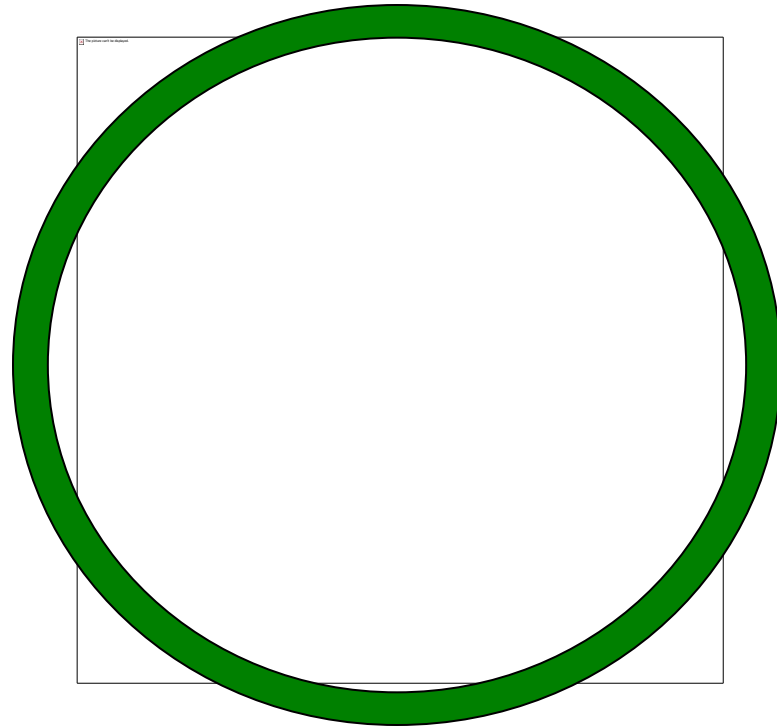
Connectivism (George Siemens)

# 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 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**

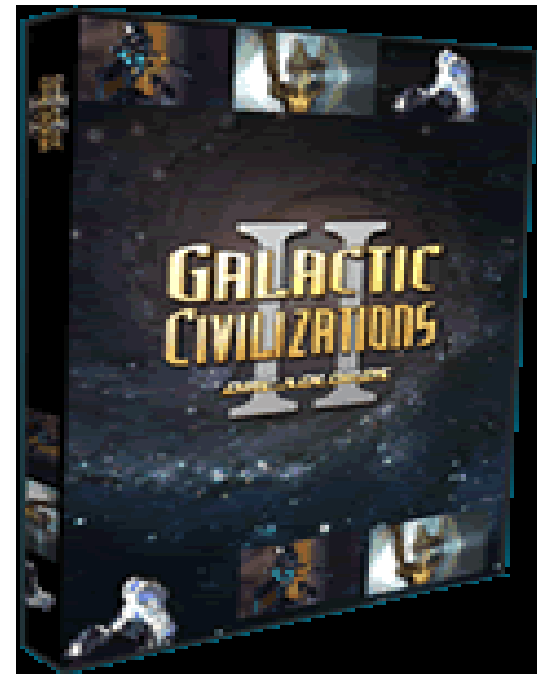
The computer connects the student to the rest of the world

Learning occurs through connections with other learners

Learning is based on conversation and interaction

# Examples

- Game-based learning

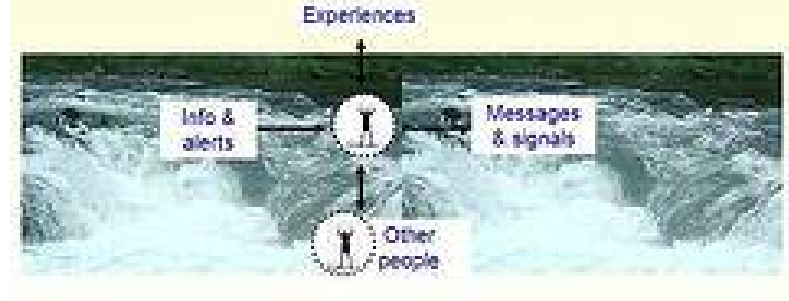
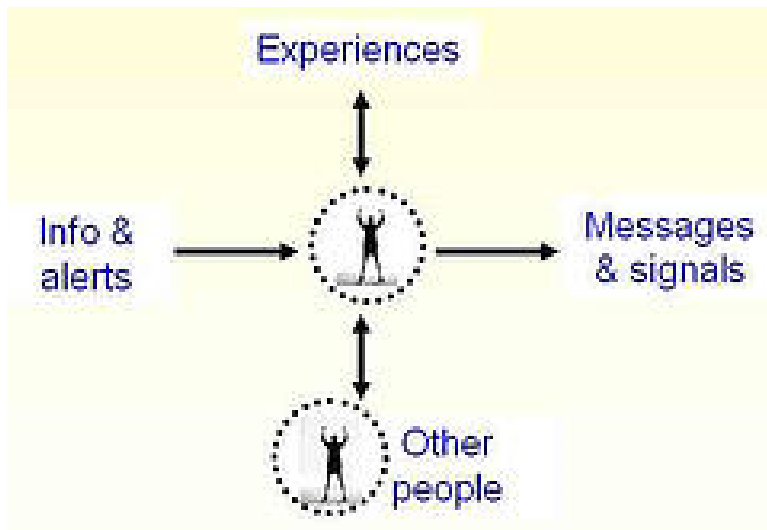


Types:

Branching, Spreadsheet, Quiz Game, Simulation Lab...

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

- Workflow (Informal) Learning



Types: EPSS, Community of Practice, Environment, Visualization...

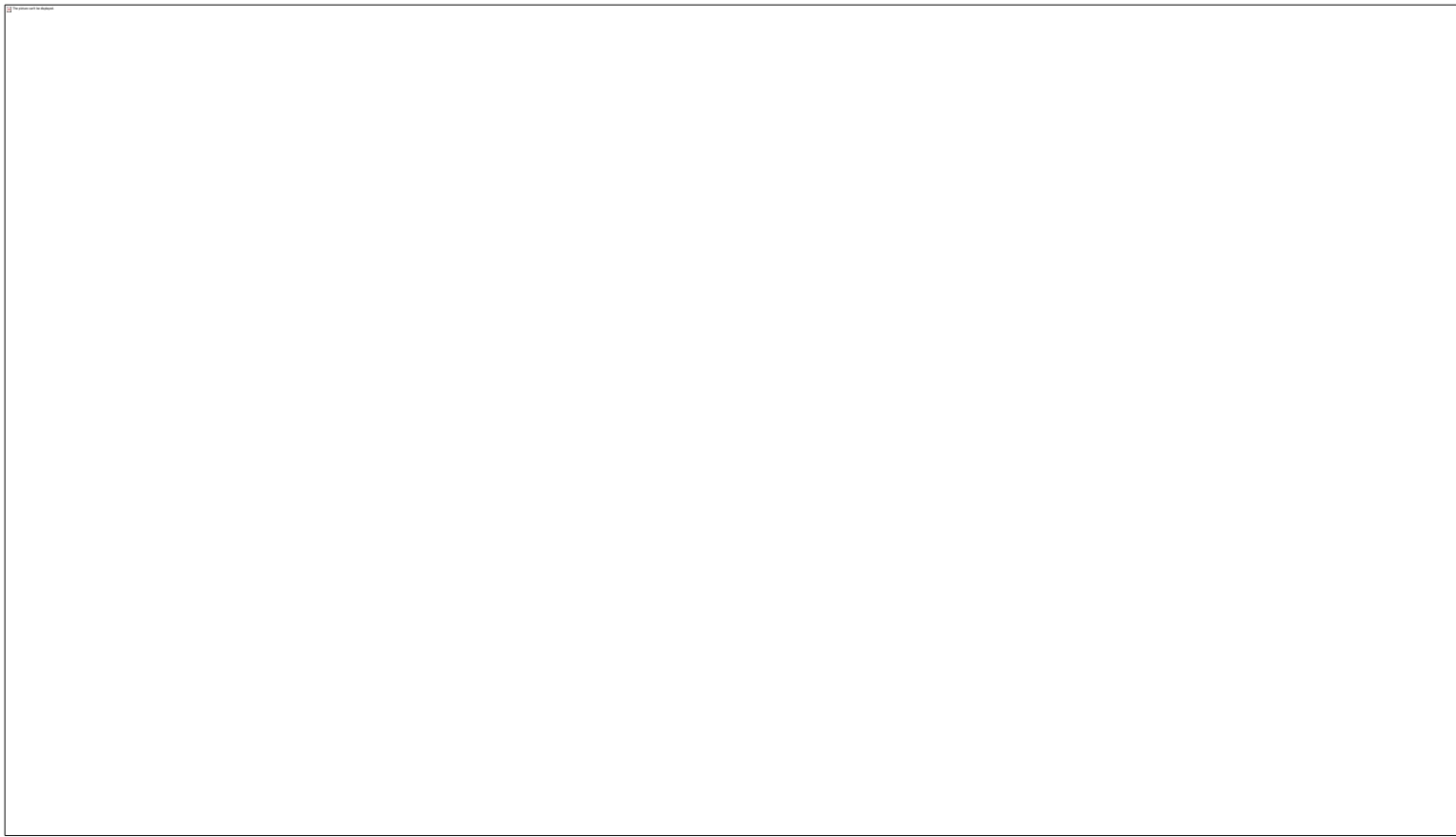
<http://metatime.blogspot.com/>

- Mobile Learning



Examples:

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



<http://www.pwlan.org.tw/ct.asp?xItem=200&CtNode=501&mp=5>

# Online Learning at the Crossroads

- On the one hand – we have developed tools and systems intended to support traditional classroom based learning
- On the other hand – we *could* (should?) be developing tools and systems to support immersive learning. **We should be developing for dynamic, immersive, *living* systems...**

# First Iteration: User-Produced Media

- Blogs and Blogging
- Podcasting and Vodcasting
- Game mods and other multimedia



# Web 2.0: The Learning Network

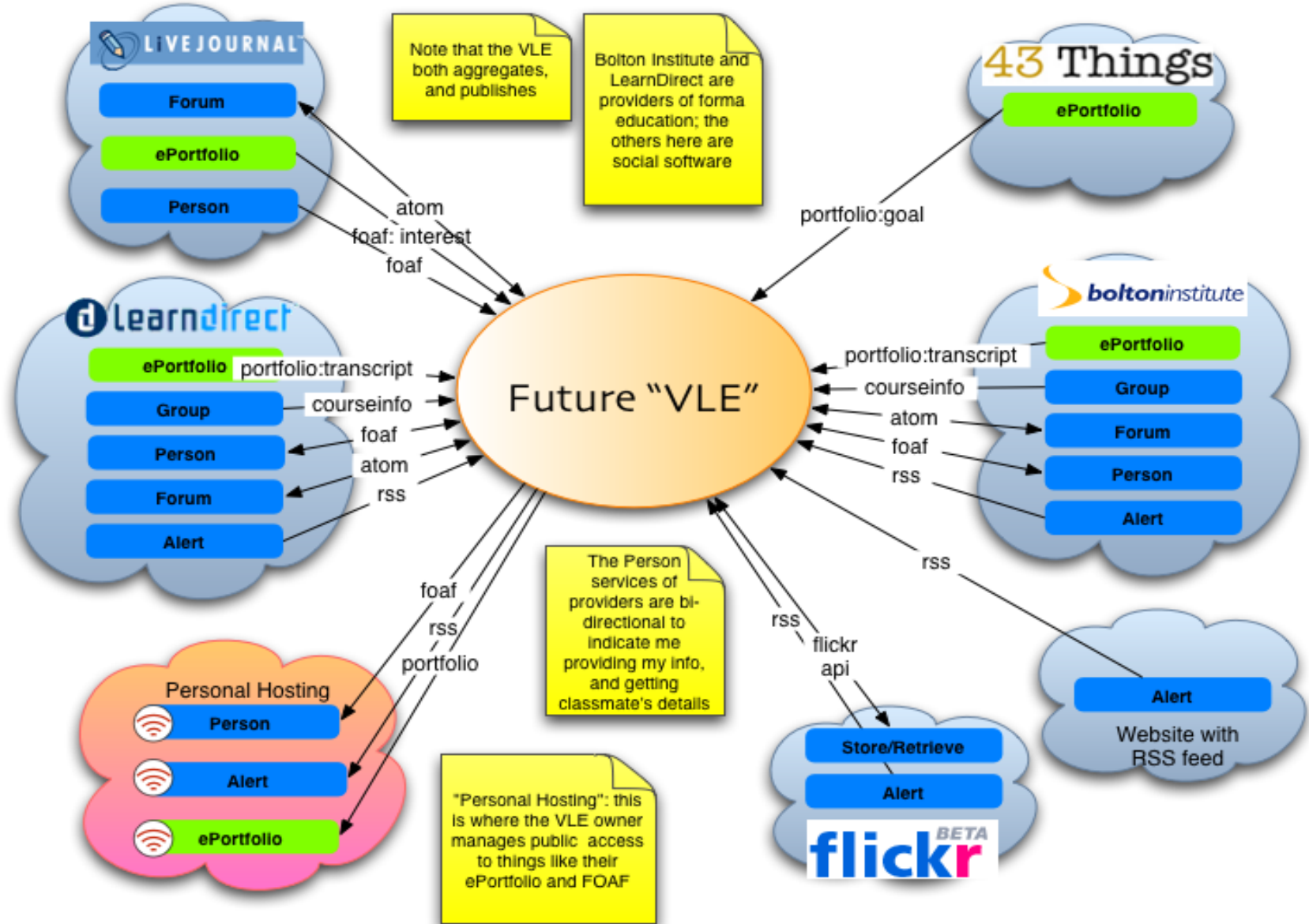
- The e-Portfolio lives in the intersection between the worlds for education, work, and home
- A model for e-Portfolio as a learner-managed construct
- Key requirement is easy-to-use tools and hosting services\*
- \*E.g. the “e-Portfolio-as-blog” approach

Scott Wilson:

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



# The Idea of the PLE...



# Plex Personal Learning Environment Example

The screenshot displays the Plex Personal Learning Environment interface. The main window is titled "Plex" and contains several panes:

- Opportunities Explorer:** A tree view showing a hierarchy of opportunities. The selected item is "learn three chord rock guitar".
- Opportunity Viewer:** A detailed view of the selected opportunity. It shows the title "learn three chord rock guitar", the number of registered people (1), the provider (43 Things), and the location (http://www.43things.com/thing:). A "Browse" button is visible next to the location field.
- Search Results:** A pane showing search results for the selected opportunity. It includes a "Find It!" button and a "Filter results by:" field. Below is a table of results:

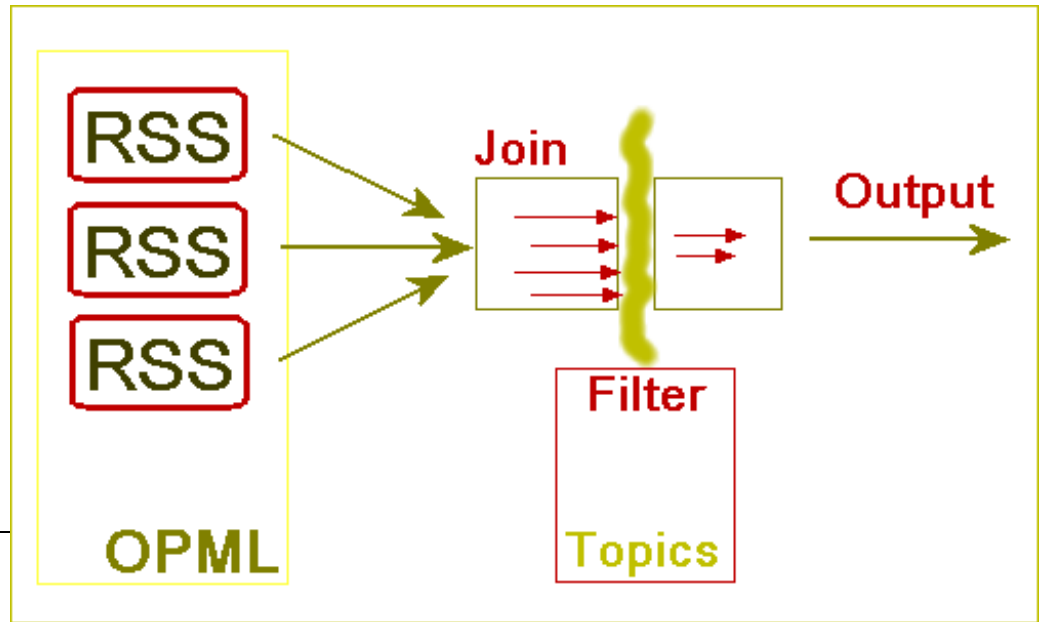
Title	Provider	Location
Leran to play the guitar like no one has ev...	43 Things	http://www.4...
learn to play acoustic guitar, also get a gu...	43 Things	http://www.4...
Learn to play the guitar guitar properly an...	43 Things	http://www.4...
meet Mcfly and just chill out with them an...	43 Things	http://www.4...
Create a music room downstairs, with a dr...	43 Things	http://www.4...
i wnat to keep playing guitar and play infr...	43 Things	http://www.4...
i want to learn to play the guitar and then...	43 Things	http://www.4...
Sing and play bass guitar at the same tim...	43 Things	http://www.4...

Below the search results, there is a browser window showing the details of the selected opportunity on the 43 Things website. The address bar shows the URL: http://www.43things.com/things/view/161919. The page content includes a search bar and a notification that "1 person wants to do this...".

[learn three chord rock guitar]

# 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

The screenshot shows the RSS Writr web editor interface. At the top left, there is a search input field and a "Start Search" button. Below this are navigation links: [Change Theme], Stephen's Web, [OLDaily], [Archives], [Threads], [Best Of], [Search], and [Options].

The main content area is divided into two columns. The left column contains the heading "Welcome to RSS Writr" and three paragraphs of instructional text: "Select a content source from the list (see the panel at the lower right hand side of the page).", "When you see an item that interests you, drag it into the editing area (at right). You can drag multiple items into the editor.", and "When you have finished editing, save your new post to your blog." The right column contains a "Title:" input field, a rich text editor toolbar with icons for Bold (B), Underline (U), Italic (I), Bulleted List, Numbered List, Indent, Outdent, Undo, and Redo, and a text area containing the word "Hello".

Below the editor is a "Content Sources" section with a dropdown menu currently showing "Stephen's MyGlu Test".

<http://www.downes.ca/editor/writr.htm>

# Edu\_RSS Viewer

## Stephen's Web

[START SEARCH](#) [[NEWS](#)] [[DISCUSS](#)] [[SEARCH](#)] [[ABOUT](#)] [[ARCHIVES](#)] [[OPTIONS](#)]

← **EDU-RSS RECENT** →

You are logged in as Stephen Downes

[\[Logout\]](#)

*Formation and professional certification open and remote on the free software \*\*\**

Tally of the general project, history, objectives, concepts  
[From: [Thot](#), April 10, 2007] [Tags: [Project Based Learning](#)]  
<http://thot.cursus.edu/rubrique.asp?no=25673>

[Blog This!](#)

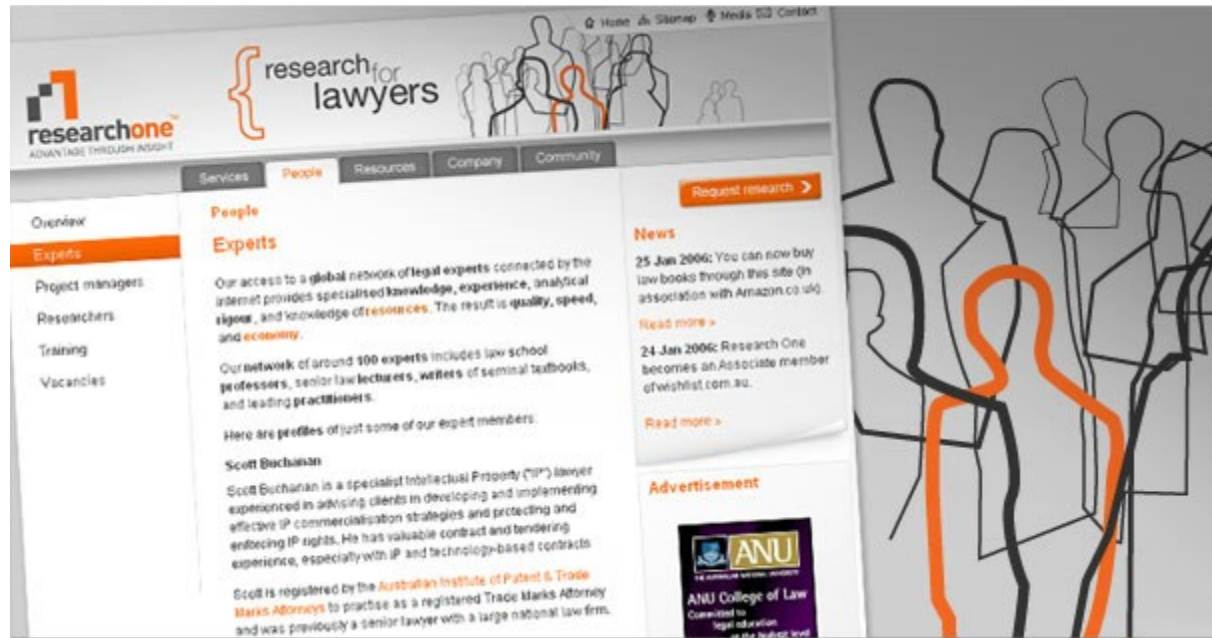
1 of 1594

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CONTACT: [STEPHEN@DOWNES.CA](mailto:STEPHEN@DOWNES.CA)

<http://www.downes.ca/cgi-bin/page.cgi?action=viewer>

# The Challenge...



## How to find the *right* resource...

- at the right time
- for the right person

# The old way – use descriptions

<b>General</b> Identifier Title Language Description Domain Idea Structure	<b>MetaMetaData</b> Create MetadataScheme <b>Technical</b> Format Size LocSpec Requirements Type Name MinimumVersion MaximumVersion	<b>Educational</b> PedagogicalType CoursewareGenre Format Approach InteractivityLevel SemanticDensity EducationalUse Role Difficulty Level Duration	<b>RightsManagmnt</b> Role Description Conditions Reciprocity Attribution Prize MonetaryUnit Amount UnitOfPricing
<b>Life Cycle</b> Version Create			

<http://www.capuano.biz/Papers/ITS%202000/ITS%202000.htm>

- Dublin Core
- Learning Object Metadata

# The New Way: Recommender Systems

A are mapped between:

- User profile – properties of given users
- Resource profile – properties of the resource
- Previous evaluations of other resources

**The Match.com Profile**

Basics Photos **Personality** Physical

Next Step →

How creative are you? Are you shy or outgoing, whimsical or pragmatic? find out in **only 5 minutes!**

Explore your personality traits and quirks and find out what type of personality is right for you using Match.com's Ph.D.-designed Personality Test.

When you're finished, we'll send your FREE Personality Report and allow you to include highlights from it in your

**Your Match.com Profile**

✓ Basics	
Photos	
Personality	25% completed
Physical	

How social is she?

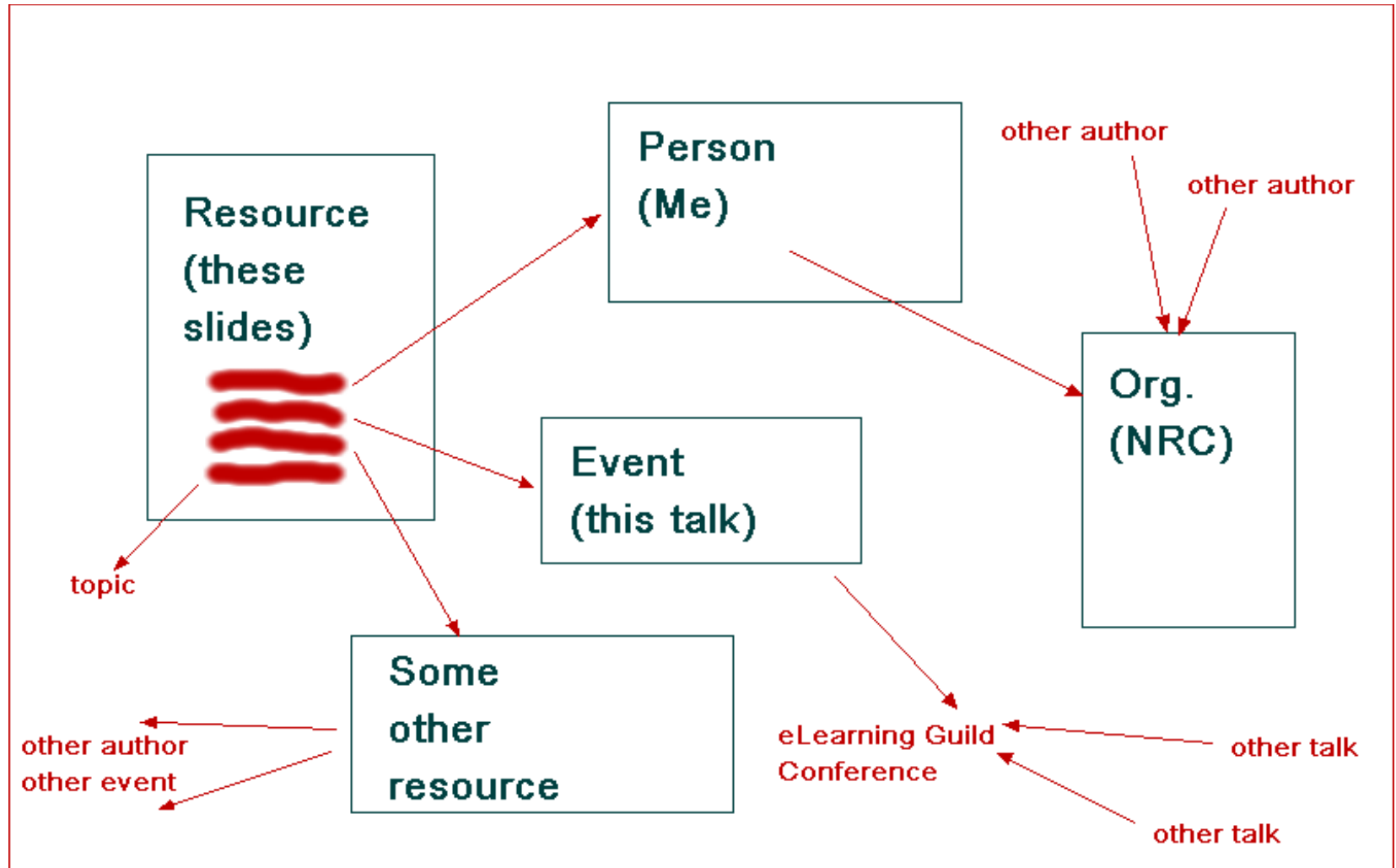
mostly shy & introverted    your ideal    mostly outgoing

<http://www.slideshare.net/Downes/projecting-quality>

<http://www.slideshare.net/Downes/quality-standards-its-all-about-teaching-and-learning/>

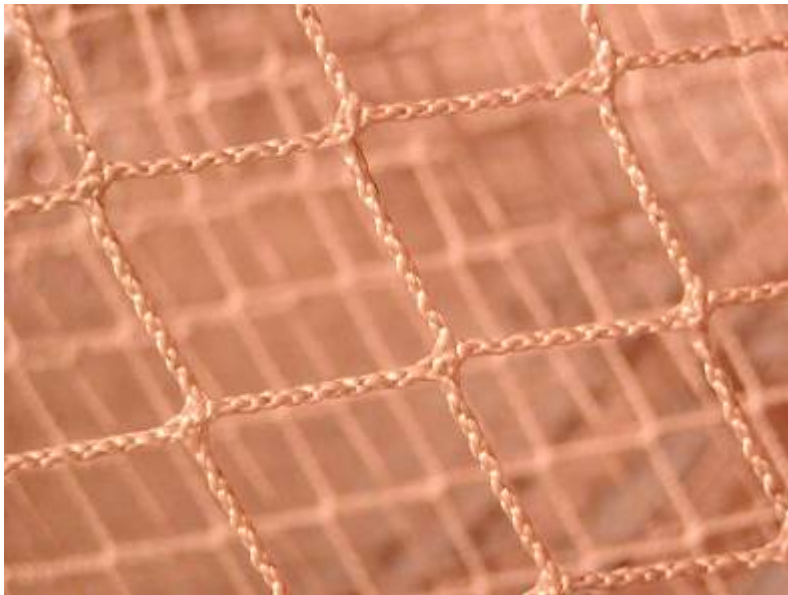


# Relations between Entities...



# Finding Resources is like Finding Patterns in the Mesh

the knowledge is in the network



**Old: universals**

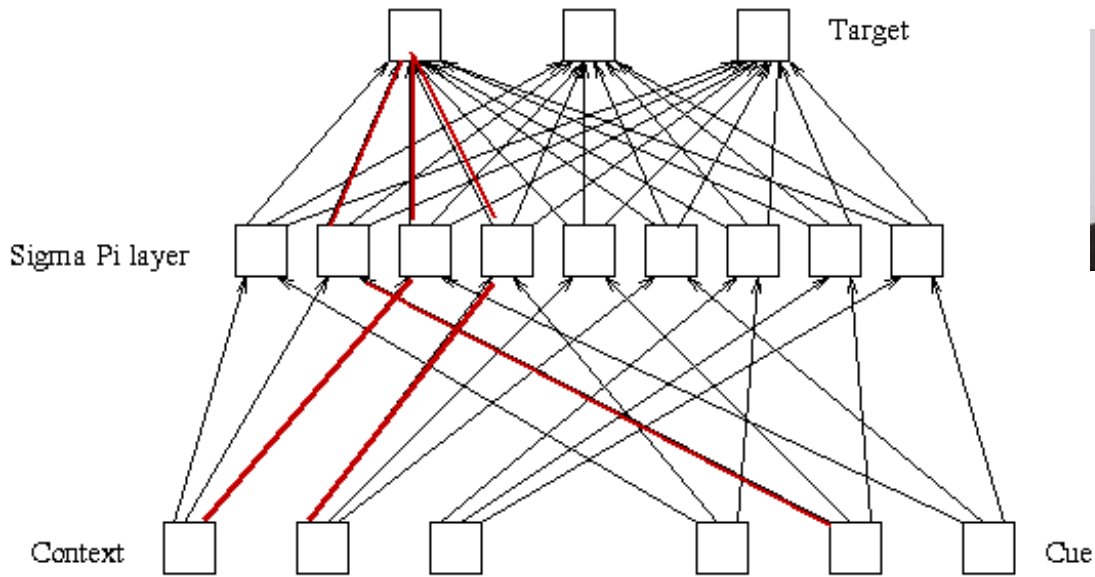
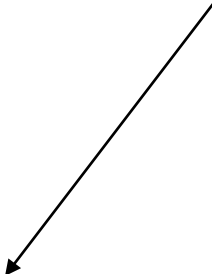
- rules
- categories

**New: patterns**

- patterns
- similarities

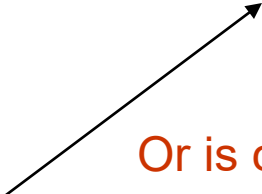
the knowledge *is* the network

stands for?



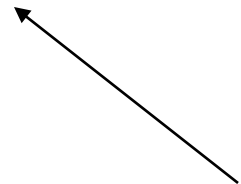
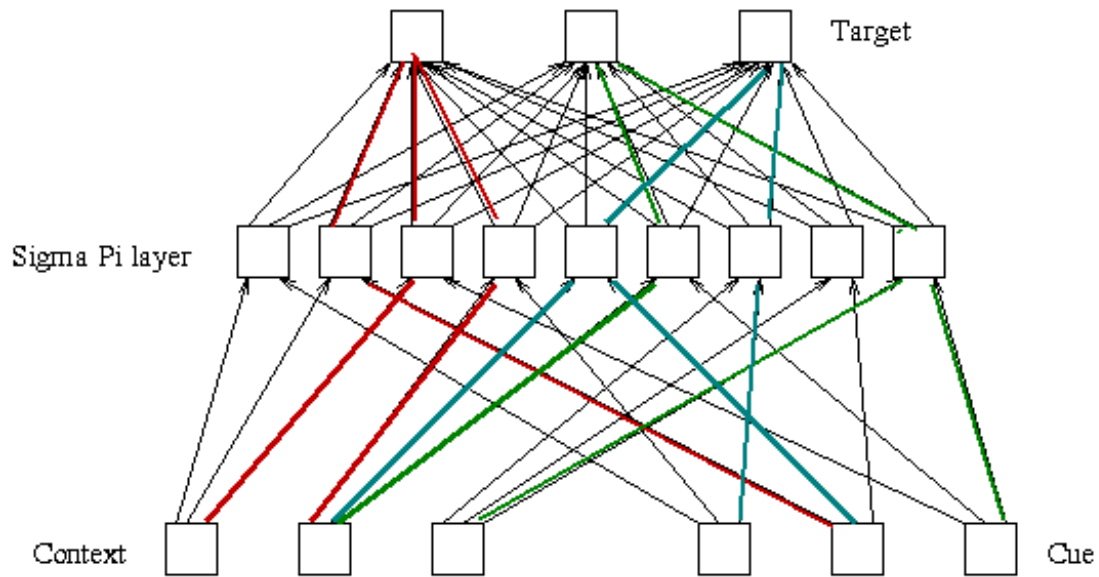
Hopfield

Or is caused by?



# Distributed Representation

= a pattern of connectivity



# Where is the PLE?

