Connectivist Learning and the Personal Learning Environment

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April 3, 2009

The Plan....

- The Connectivist Learning Model
- What Personal Learning Looks Like
- The Connectivist Online Course
- The gRSShopper PLE
- Free Learning
- Designing Connectivist Learning

Learning...

- Two major aspects:
- 'knowledge' is to be organized in a certain way
- 'knowing' is like 'recognizing', ie., pattern matching

Connectivism

- The theory that knowledge and learning can be described and explained using network principles
- 'Learning' is not to acquire a set of facts, but rather, to develop or 'grow' into a certain neural configuration

Connectivist Learning theory

- Based on principles of associationism
- Four major ways to learn:
 - -Simple (Hebbian) associationism
 - Accidental association (by proximity)
 - Back-Propagation
 - Boltzmann learning

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'

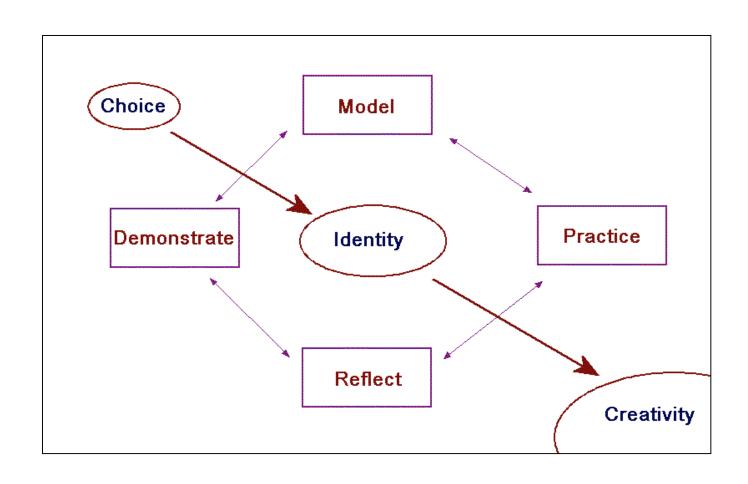
Role of the teacher

- 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
- To observe and emulate successful practice
- To be 'reflective', ie., to engage in conversation about the practice

The Connectivist Learning Model



Model

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

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

Demonstrate

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?

Reflection

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

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

Choice – Identity - Creativity

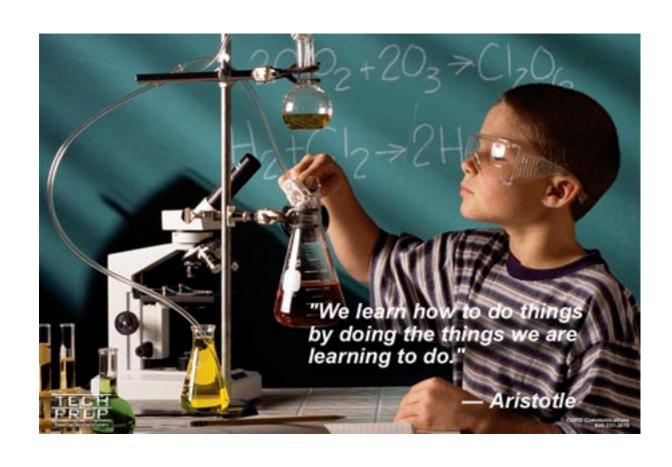
- simulated or actual environments that present tasks or problems
- OpenID, authentication, feature or profile development
- Portfolios & creative libraries

People talk about 'motivation'

- but the real issue here is

ownership

What does personal learning mean for learners?



A world of free learning resources...



http://educationvault.blogspot.com/2008/08/zaidlearn-ocw-oer-lists.html

Don't like the word 'free'? Deal with it...

User generated Content

-Personal, opinionated



Connections, connections...

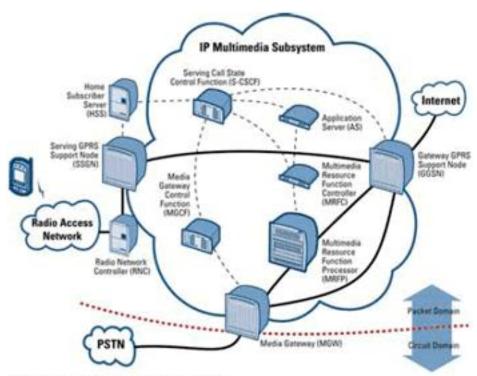


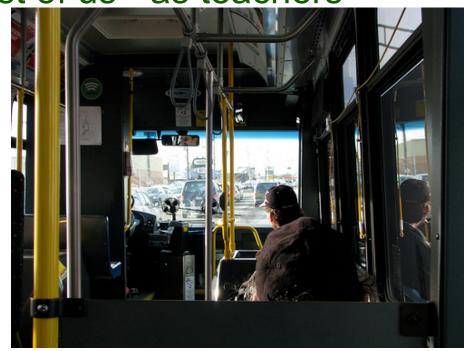
Figure 1: IP Multimedia Subsystem (IMS).

Immersive Learning

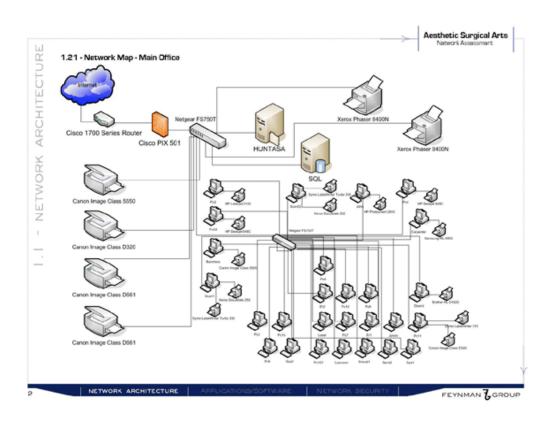


New Roles

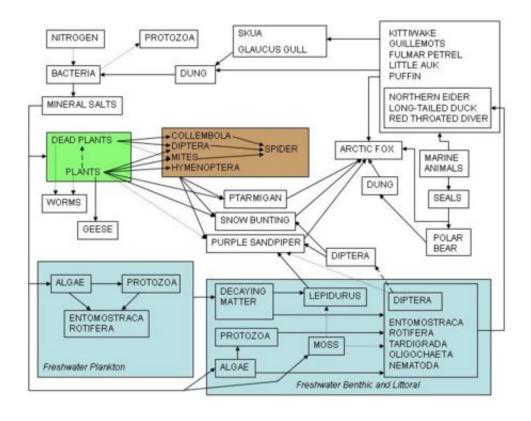
- For students as creators of learning
- For teachers as coaches and mentors
- For the rest of us as teachers



Learning as a network phenomenon...

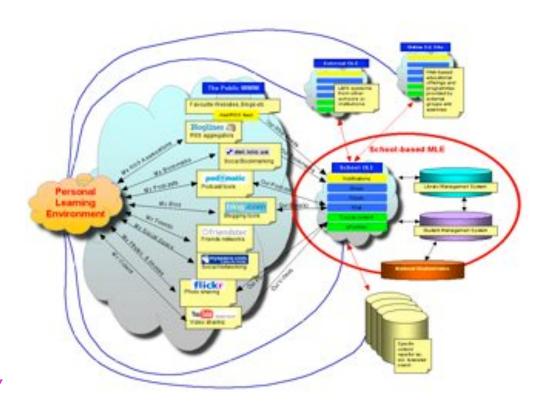


Networks of interactions
 (aggregate, remix, repurpose, feed forward) – syndication



An ecology...

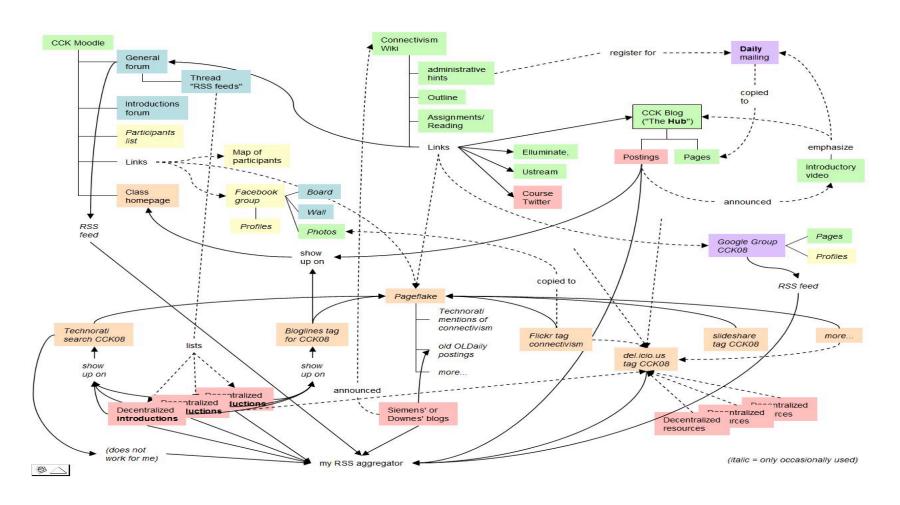
The personal learning centre



Autonomy

http://blog.core-ed.net/derek/2006/11/more_on_mles_and_ples.html http://getfeedforward.org/

Connectivism & Connective Knowledge



The Best Example...

- 12 week course, readings, activities...
- The course on connectivism is probably the best (early) example of what we mean
 - We began with the course itself what we wanted to cover
 - We then added communications tools
 - And then the students took over...

Overview...

- George Siemens and I ushered roughly 2200 students through a 12 week online course
- Some of these paid tuition and are getting credit, but most of them attended the 'open' course

The Course

- Offered through the University of Manitoba
 - 12 weeks long
 - credit in Certificate in Adult and Continuing
 Education and Certificate in Emerging
 Technologies for Learning
 - Explored the concepts of connectivism and connective knowledge

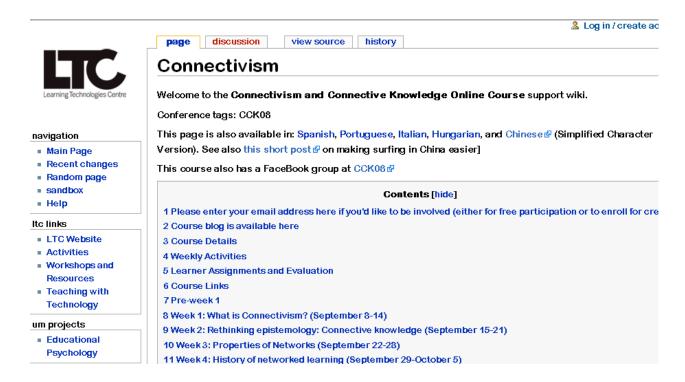
Connectivism

"At its heart, connectivism is the thesis that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks."

What Connectivism Is

http://halfanhour.blogspot.com/2007/02/what-connectivism-is.html

The Wiki...



http://ltc.umanitoba.ca/wiki/Connectivism

Course Components (2)

Open Enrollment

24 Final Project

Please enter your email address here if you'd like to be involved (eithe for free participation or to enroll for credit).

Course blog is available here ₽

Connectivism Research

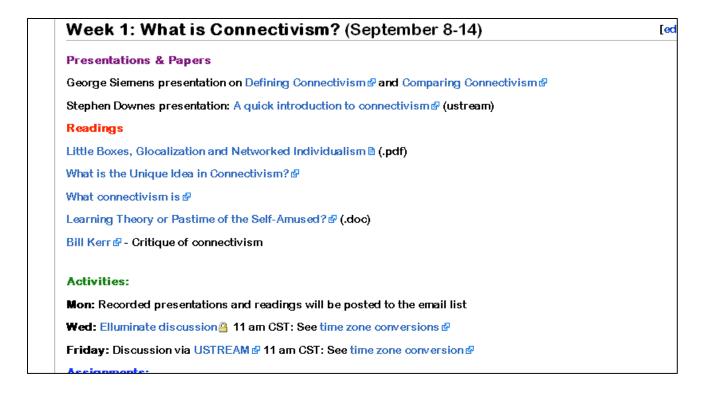
Course Details

Delivered in partnership with: Extended Education and Learning Technologies Centre, University of Manitol

Course Code: 98813- 08-01

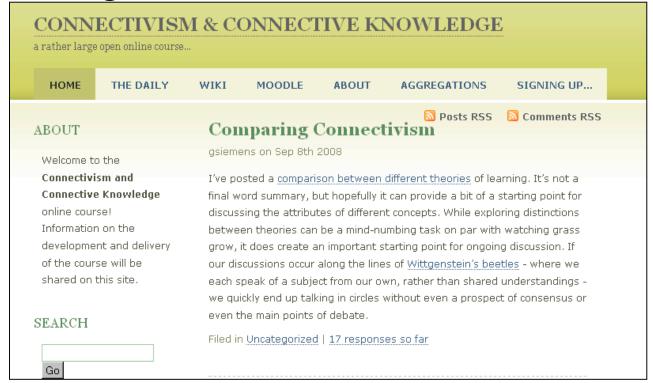
The course was advertised in both of our blogs...

Readings....



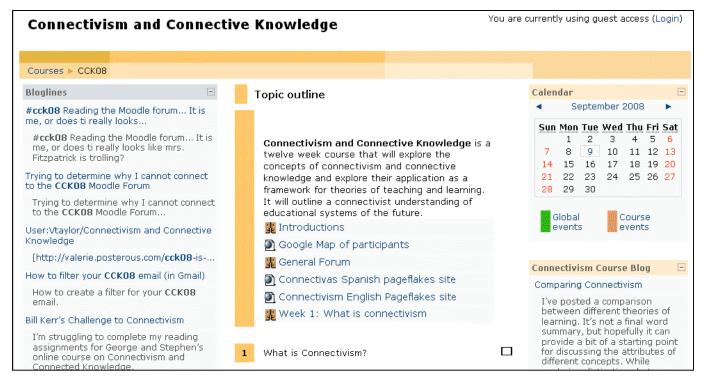
Course Components (3)

The Blog



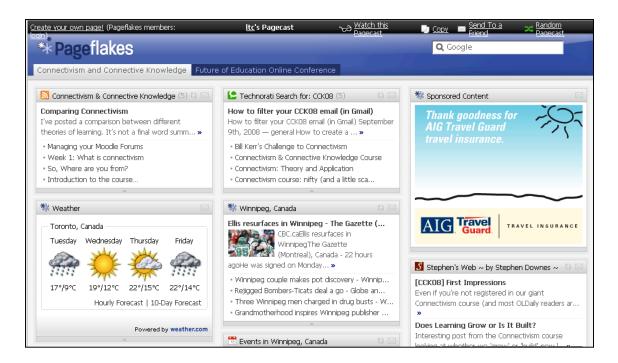
http://ltc.umanitoba.ca/connectivism/

Course Moodle Forum



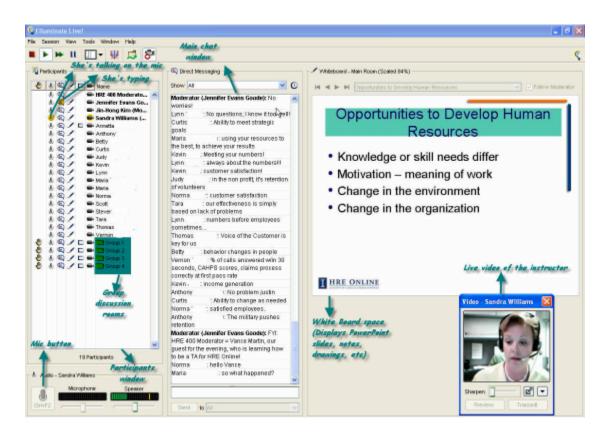
http://ltc.umanitoba.ca/moodle/course/view.php?id=20

Pageflakes Site



http://www.pageflakes.com/ltc

Elluminate Discussions (Wednesdays)

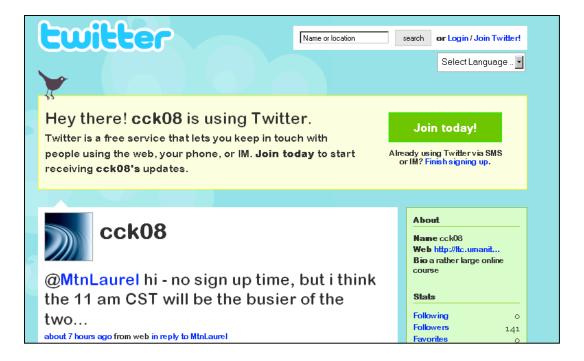


Ustream



http://www.ustream.tv/recorded/688902

• Twitter...



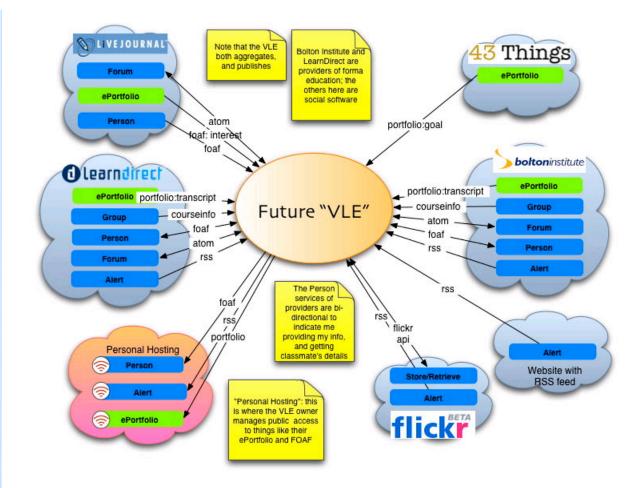
http://twitter.com/cck08

• gRSShopper...





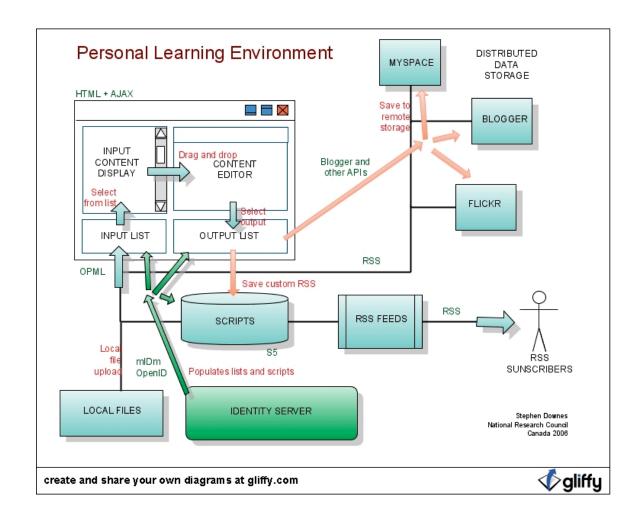
The Main Idea



The web of the future isn't about visiting sites, it's about connecting resources.



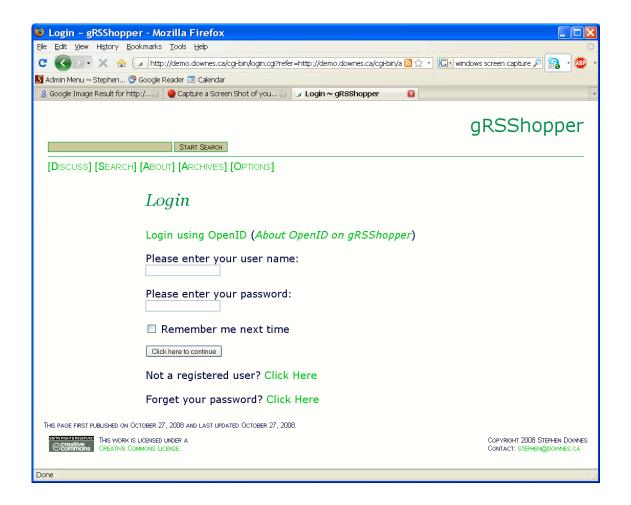
Architecture



The application provides mechanisms to input, process, and distribute content.



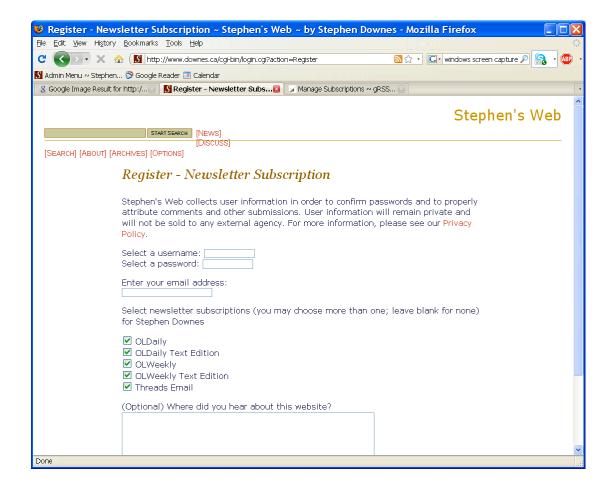
Login



gRSShopper instances are *personal* sites intended to support single users or small groups (though visitors can sign in).



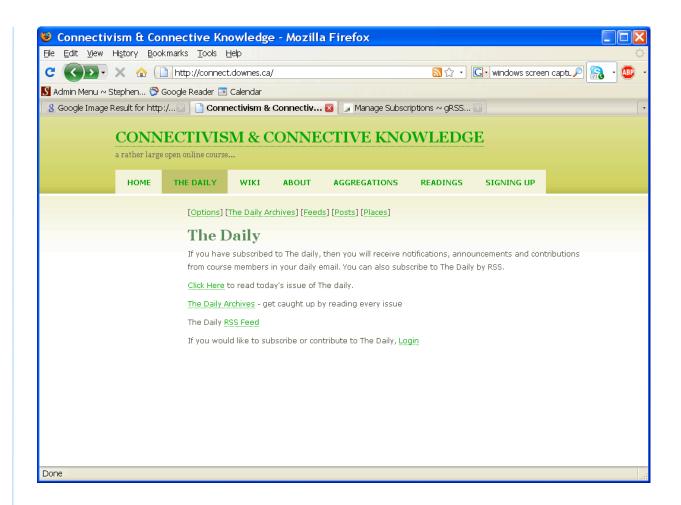
Subscriptions



Visitors have a one-click way to subscribe to site newsletters (or they can sign up for RSS).



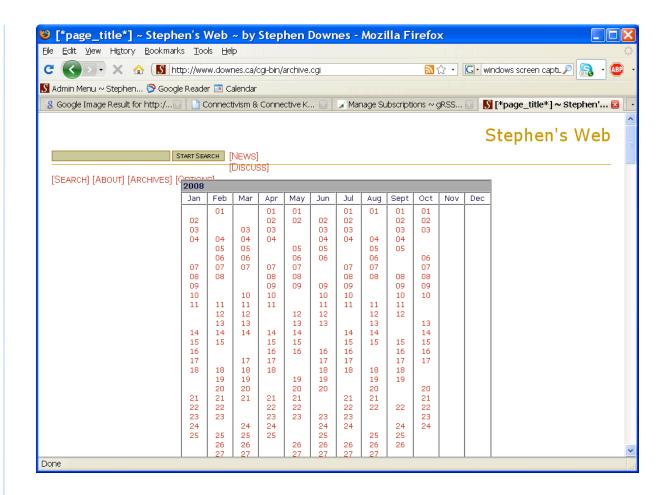
Custom Pages



Content is organized into pages



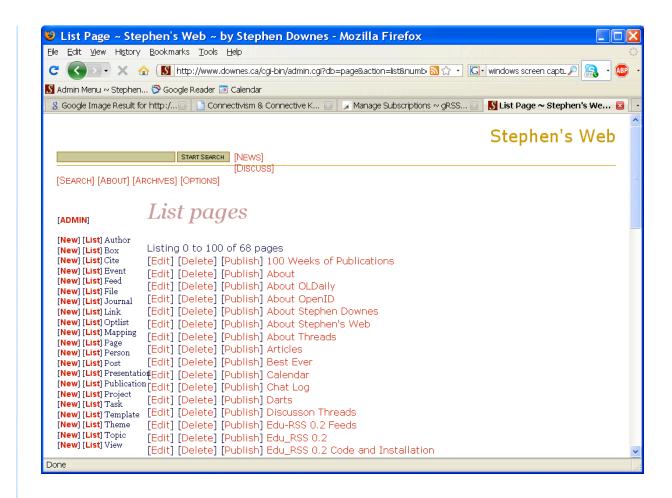
Archive



Pages auto-archive



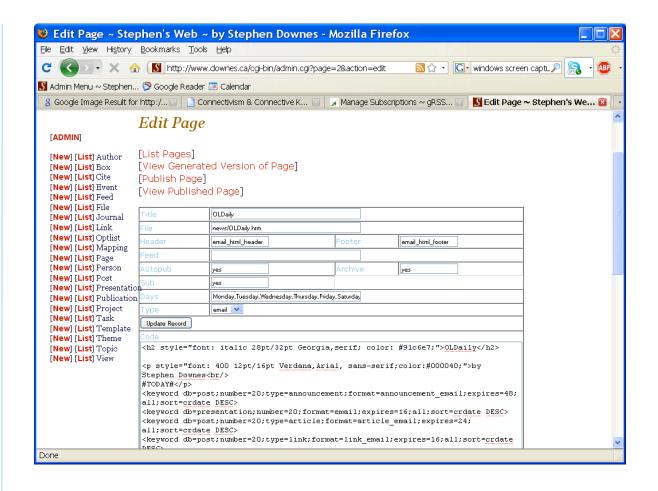
Custom Pages



Multiple pages can be created; each page can be a newsletter (or not; you decide)



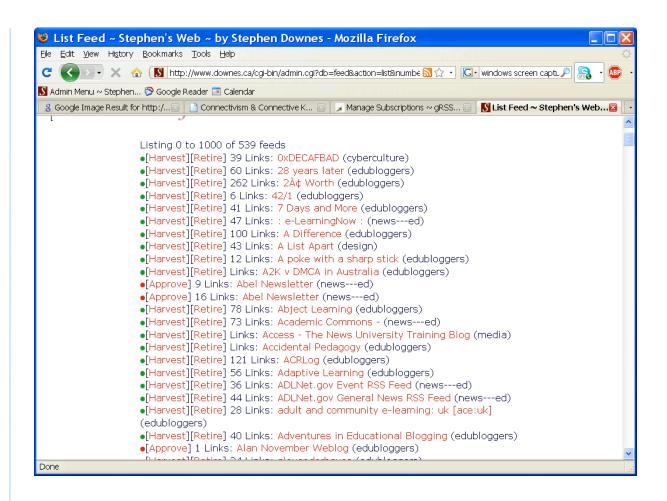
Page Creation



Pages are created automatically from a database of content types



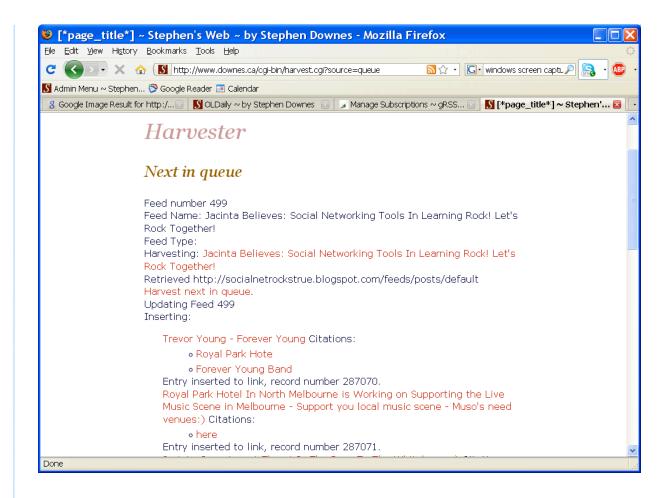
Feed Management



Content input comes from RSS feeds harvested by gRSShopper



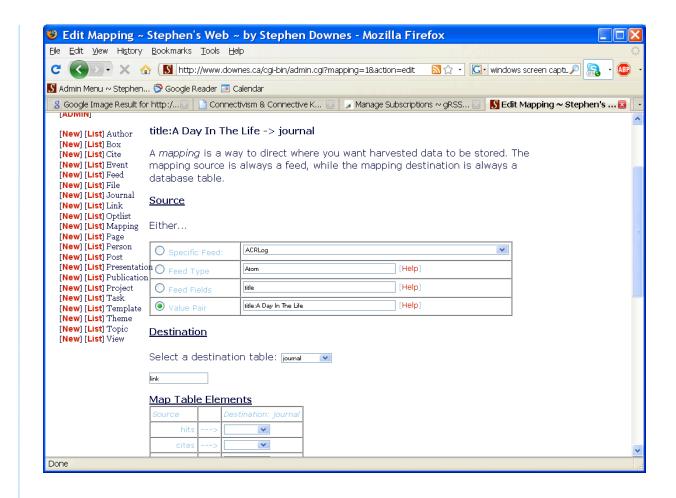
Harvester



Harvester captures and analyzes incoming data (by topic, links, etc)



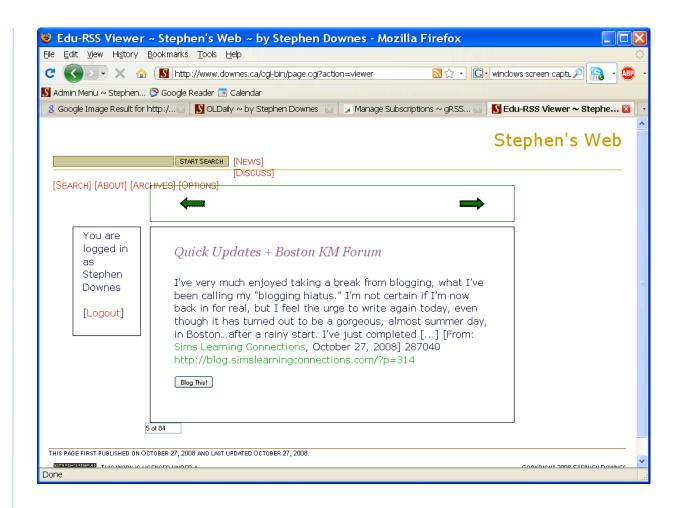
Mapping



Incoming content can be mapped to any of a variety of data types



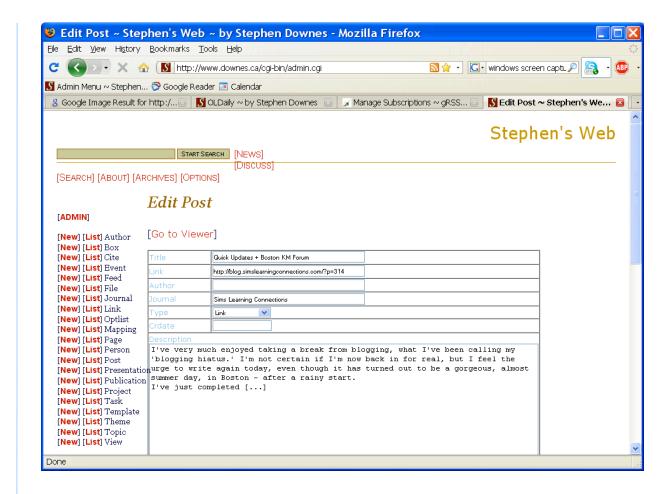
Viewing Harvested Content



Harvested contents may easily be scanned in a viewer



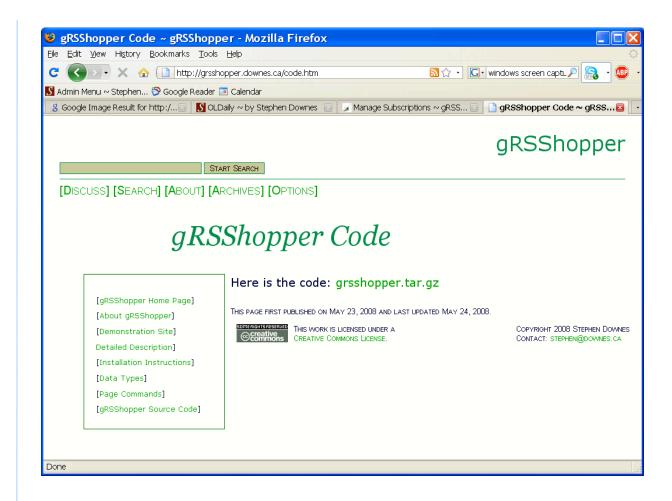
Post Editor



Work with aggregated content to create new content



Open Source



gRSShopper code is available as an open source download



More



http://www.downes.cahttp://grsshopper.downes.ca

The Daily

Connectivism & Connective Knowledge

[Home] [The Daily] [Wiki] [About] [Aggregations] [Readings]

The Daily

September 9, 2008

Highlighted Resources

Time Change for Wednesday Session

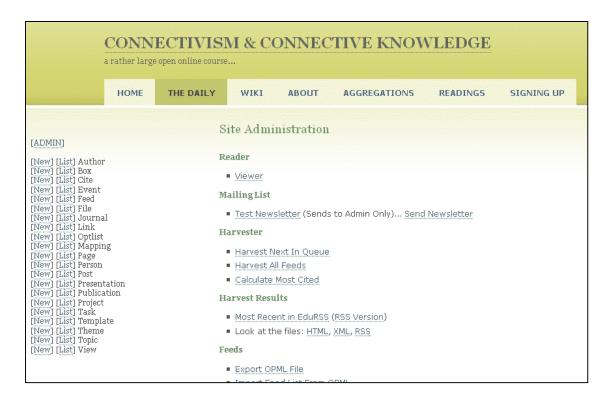
Important: We've made a change to our Wednesday (in our part of the world) schedule. The elluminate session will be held at 11:00 am CST (see conversion here). The event will be held in ellumnate (link here). Sorry about this last minute change. If the time doesn't work for those in Australia and Asia, please let me know (gsiemens@elearnspace.org) and we can try and arrange a smaller discussion group at a different time). CCK08, , September 9, 2008 [Link] [Tags: none] [Comment]

Connections, Learning, and Ptolomeus (CCK08-W1)

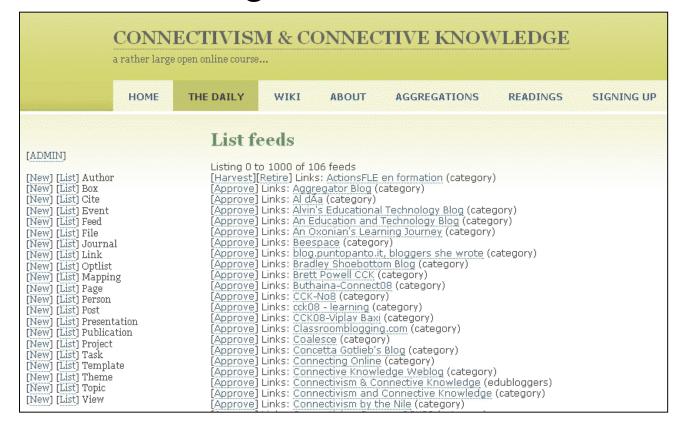
Nice post on the question of whether we 'grow' or 'build' new learning. Diego Leal cites John Medina's book *Brain Rules* (I'll have to get that one) on learning: "No defined structure, no progressive storage. Just the creation and recreation of connections between neurons. So, the process seems to be closer to something growing out (or expanding?) than to something being built." Here's the Brain Rules website, if you want to have a look. Diego Leal, .Edu.Co.Blog, September 9, 2008 [Link] [Tags: none] [Comment]

http://connect.downes.ca/

Managing Content



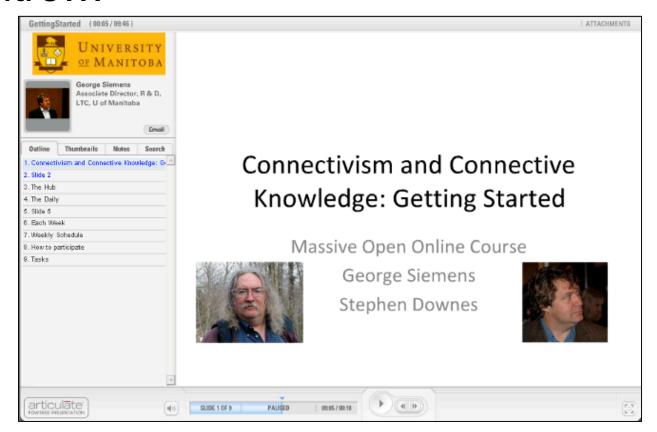
Feed Harvesting



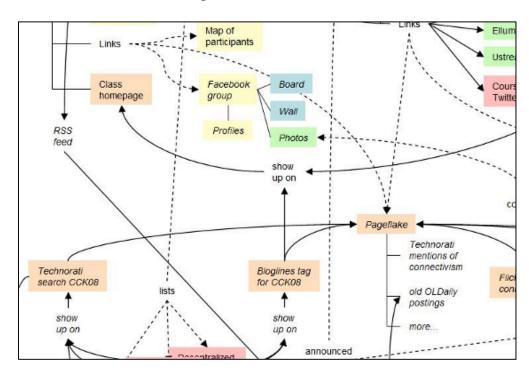
OPML...

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    <dateModified>Tue, 9 Sep 2008 16:19:04 -0400</dateModified>
    <ownerName>Stephen Downes</ownerName>
    <ownerEmail>CCK08 <stephen@downes.ca></ownerEmail>
    <expansionState/>
    <vertScrollState/>
    <windowTop/>
    <windowLeft/>
    <windowBottom/>
    <windowRight/>
  </head>
-<body>
    <outline description="A rather large open online course..." htmlUrl="http://ltc.umanitoba.ca/connectivism" text="Co
    Knowledge" title="Connectivism & Connective Knowledge" type="RSS 2.0" version="RSS 2.0"
    xmlUrl="http://ltc.umanitoba.ca/connectivism/?feed=rss2"/>
    <outline description="" htmlUrl="tst" text="Test" title="Test" type="RSS 2.0" version="RSS 2.0" xmlUrl="tst"/>
    <outline description="" htmlUrl="tst" text="Test" title="Test" type="RSS 2.0" version="RSS 2.0" xmlUrl="tst"/>
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• Intro...



The Course Map...



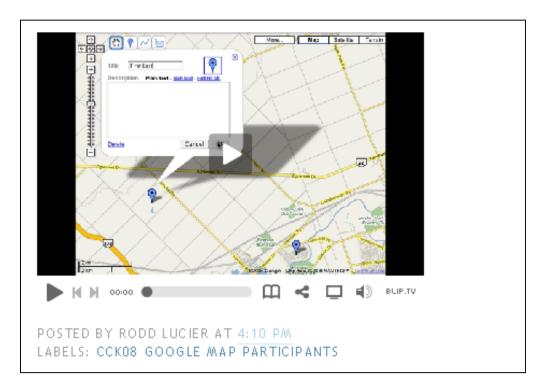
http://x28newblog.blog.uni-heidelberg.de/2008/09/06/cck08-first-impressions/

The Other Course Map...



http://tinyurl.com/cck08map

Add to the Map - Video



http://thecleversheep.blogspot.com/2008/09/cck08-is-truly-global.html

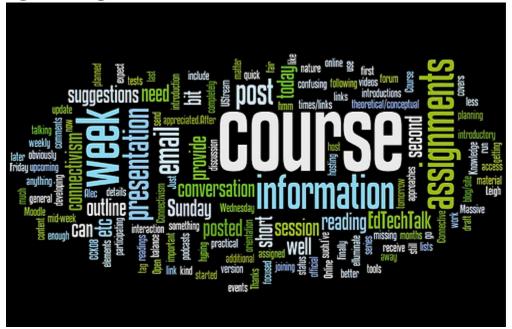
• Wordle... 1

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• Wordle... 2



• Wordle... 3



http://www.flickr.com/photos/25838481@N04/

Word of Mouth



http://fleeep.net/blog/2008/08/03/educators-cck08-connectivism-connective-knowledge-course/

Google Groups



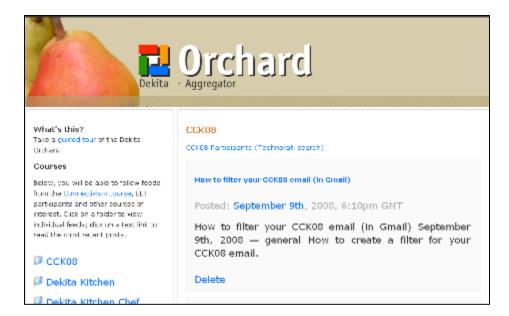
http://groups.google.com/group/connectivism

Translations...



http://ltc.umanitoba.ca/wiki/Conectivismo - Curso online

Dekita...



http://dekita.org/orchard/CCK08_/

- Second Life...
- Diigo...
- de.l.icio.us
- WordPress...



Blogs about: Ccko8

Free Learning

- The picture of learning you should have is one of a large set of connected nodes (like the neurons in a brain)
- Teachers are nodes, students are nodes
- Both teaching and learning consists of sending and receiving communications to other nodes

- The *learning* in such a picture happens in two ways:
- First, society learning as the network of connections between individuals takes shape
- Second, individuals learn as the process of being a node shapes connections in their own brains

- The communications between nodes were, in former days, text based (consisting of language)
- The materials used for such communications were free - the letters, the words, the grammar, the syntax
- Nobody owned language (though there are pressures to change that)

- Communications today are in the form of (what might be called) multimedia objects
- We send cultural artifacts back and forth to each other, as though the were words
- Example: lolcats, YouTube videos,
 Flickr images, the rest

- Cultural artifacts, as the new language, need to be free - otherwise we can't communicate - otherwise, we are stifled, muted
- The free movement of cultural artifacts fosters learning - the hindered movement of such artifacts fosters control

- Al Gore The Assault on Reason clearly describes the consequences of this
- Gore: a society that used to think for itself (through reading) is now one that has its thinking done for it (through television)

Understanding ed delivery

- Today's dominant understanding of educational technology is as a system
- This needs to be contrasted (as before) with one based on standards
- By this I do not mean 'learning object metadata' (which is totally a publisher mindset)

Educational institutions need to think of their offerings as entities that will be a part of, and interact with, the larger environment

- For example, again: the photo editor that connects to Flickr
- Think about what an art appreciation resource would do with Flickr photos

- Not just that they need to use this data to form composite wholes
- Eg. The application that takes photos tagged 'St. Peters' to create an image built from thousands of Flickr photos
- (This is the fundamental understanding behind connectivism)

Educational institutions need to:

- Make resources available for use in other contexts (rather than having students come to them)
- Such material will be offered to people automatically, in other contexts, and may or may not be used (deal with it)

Resources will be offered:

- Student-selected, from a 'library' (which you share with other 'publishers')
- Event-driven, by the system, which will offer a resource at an appropriate time
- Time-driven (think of Tony Hirst's RSSdriven course)
- Instructor (or mentor, or coach) driven as in a blog offering or RSS feed

These resources need to:

- Be able to learn about the environment they are being offered in
- Be able to learn about the student
- And to get this information, not just locally, but from anywhere on the internet
- Communicate state and other information to other (authorized) systems and services

Where we are

- Not 'there' yet...
- Institutions do not (yet) understand how to deliver to external systems
- But we are seeing first signs eg.,
 iTunes University
- We may see it inside 'courses' first but the long-term trend is to open delivery

1. Diversity

We want to encourage students to engage in diverse readings, diverse environments, diverse discussions

2. Autonomy

We want students to chart their own course, to select their own software, to pursue their own learning

3. Interaction / Connectedness

The knowledge in this course emerges as a result of the connections among the students and staff – and is not some 'content' shoveled from experts to recipients

4. Openness

We don't draw barriers between 'in' and 'out' – which means we can accommodate the full engaged, the partially engaged, and the rest – creating strong ties and weak ties

Thanks!

http://www.downes.ca