



# {Future} Trends in LIS Education

**Caroline Haythornthwaite**

Director and Professor

School of Library, Archival and Information Studies

The iSchool@UBC

Photos by Ksenia Cheinman



# Asked to Talk About

- *How might future trends in LIS education transform our practice, our profession, our discipline?*
  - Some say we don't need librarians, some say we need them more than ever
  - Some suggest new hires will be different: have PhDs; come from other disciplines; be shared or cross appointed with other units
  - Should LIS education change? Are academic librarians lacking certain qualities/ attributes/ skills that prompt some of these provocative observations?

# Current Challenges for Academic Libraries

- Challenge of embracing new role(s) and identity/identities
- Uncoupling of information from traditional format, location
  - The book, the library, the reference desk
  - Authority of the publisher, reviewer
  - *Tension of the physical and virtual*
- Digital libraries
  - E-resources, e-journals \*\* well described by Dr. Spiteri today
- New scholarly practices
  - Blogs and wikis, e-learning, e-journals, google
  - Open access
- Net generation learners and scholars
  - Always on, mobile, participatory



# Future Challenges for Academic Libraries

- Shift to the
  - To the *data side* of data-information-knowledge
  - To the *communication side* of information and communication technology
  - In the *information side* as attention to people, technology, and information
  - In *authority* as user-generated, user-determined, and user-evaluated
  - From providing access to *designing access*

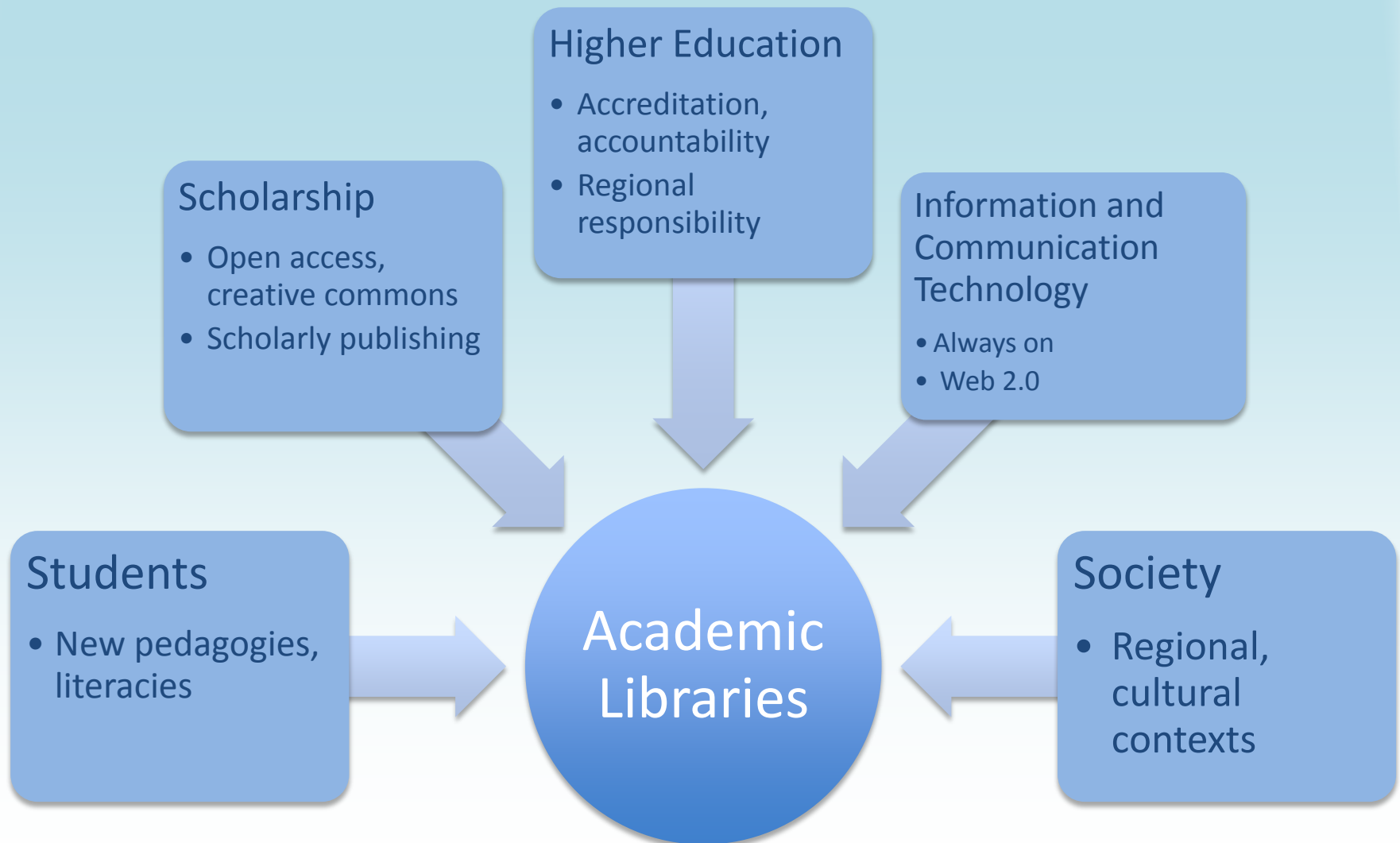
# Mosaic of Trends



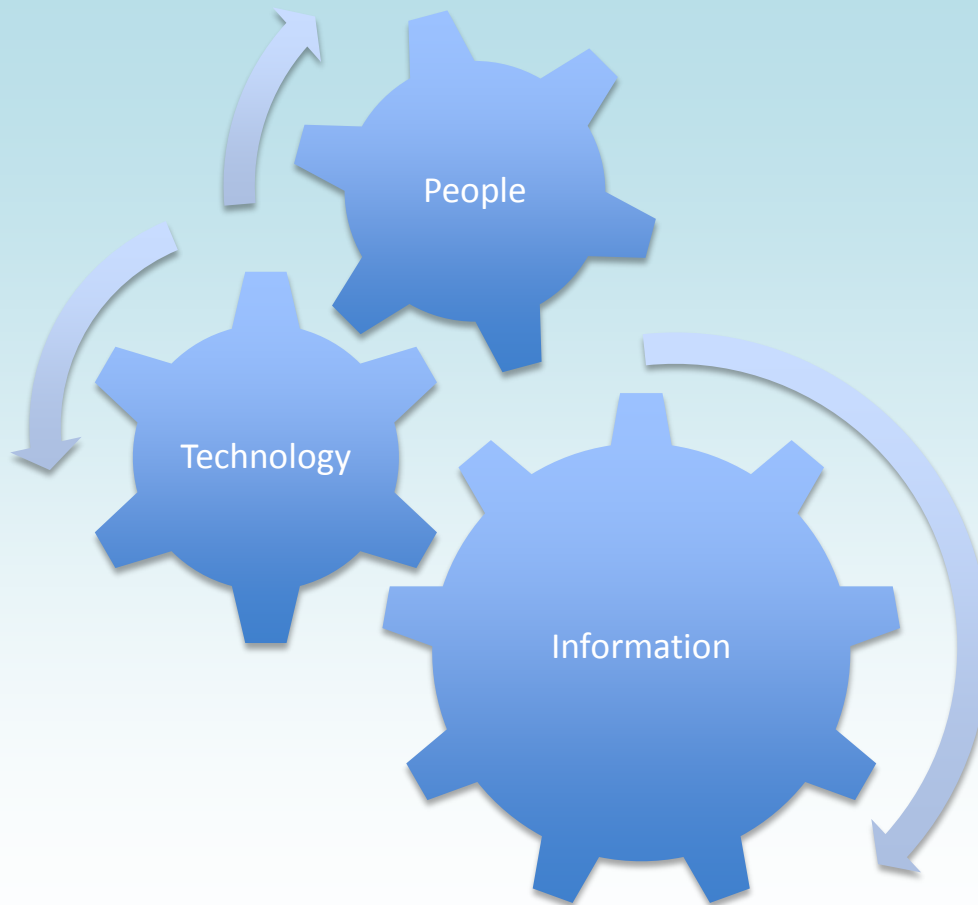
# Changes and Trends

- Net Generation
  - Immersed in electronic access
- Digitization of Everything
  - E-resources, e-journals, e-books, digitization
  - Open access, creative commons
  - Ethical collection, creation and use
- Ubiquitous E-Access
  - Wireless, mobiles, internet
- E-learning
  - LMS, blended, distributed
- Participatory Culture
  - Social networking, crowdsourcing, online communities
- 'Big Data' & Analytics
  - Data production, data sources, analytic tools
  - Academic analytics
  - Learning analytics
- Perpetual Beta
  - Continuous change, emergent practices
- Virtual & Physical
  - Supporting both

# Changing and Overlapping Contexts



# iSchools



‘learning and understanding  
the role of information in  
human endeavors’

- <http://www.ischools.org/>

SLAIS, The  
iSchool@UBC

- human information interaction
- engagement
- e-learning
- analytics, visualization
- digital libraries
- archives and the web
- community informatics
- social media
- ... And more



# A More Detailed Look at Some Trends

- Net Generation
- Participatory Culture
- Perpetual Beta
- Data
- Digitization of Everything

Major Trends

# **NET GENERATION**

# Net Generation

**US.** Pew: <http://www.pewinternet.org/Static-Pages/Trend-Data/Whos-Online.aspx>

## Statistics Canada, 2010

80% use the Internet

-Slightly higher in urban areas

-Lower in Eastern Canada

Home access

- 97% of households with incomes of \$87K+

- 54% of households with incomes of \$30,000 or less

<http://www.statcan.gc.ca/daily-quotidien/111012/dq111012a-eng.htm>

## Demographics of internet users

*Below is the % of each group of American adults who use the internet, according to our August 2011 survey. For instance, 76% of women use the internet.*

	% who use the internet
<b>All adults</b>	78
Men	80
Women	76
<b>Race/ethnicity</b>	
White, Non-Hispanic	80
Black, Non-Hispanic	71
Hispanic (English- and Spanish-speaking)	68
<b>Age</b>	
18-29	94
30-49	87
50-64	74
65+	41
<b>Household income</b>	
Less than \$30,000/yr	62
\$30,000-\$49,999	83
\$50,000-\$74,999	90
\$75,000+	97
<b>Educational attainment</b>	
No high school diploma	43
High school grad	71
Some College	88
College +	94

**Sources:** The Pew Research Center's Internet & American Life Project's August Tracking Survey conducted July 25-August 26, 2011. N=2,260 adults age 18 and older, including 916 interviews conducted by cell phone. Interviews were conducted in both English and Spanish.

# ICT practices of 18-24 year olds (US)

- Devices

- **96 % have cell phones** (66 percent have smart phones)
- 70 % have laptops
- 69 % a music player (iPod or equivalent)
- 63 % a game console
- 23 % a tablet computer (iPad or equivalent)

- Connecting

- Send an **average of 109 text messages a day** (median: 50)
- 85 % use social networking sites
- Average of **318.5 social network friends**
  - compared to 197.6 for next age group, 35-46 years

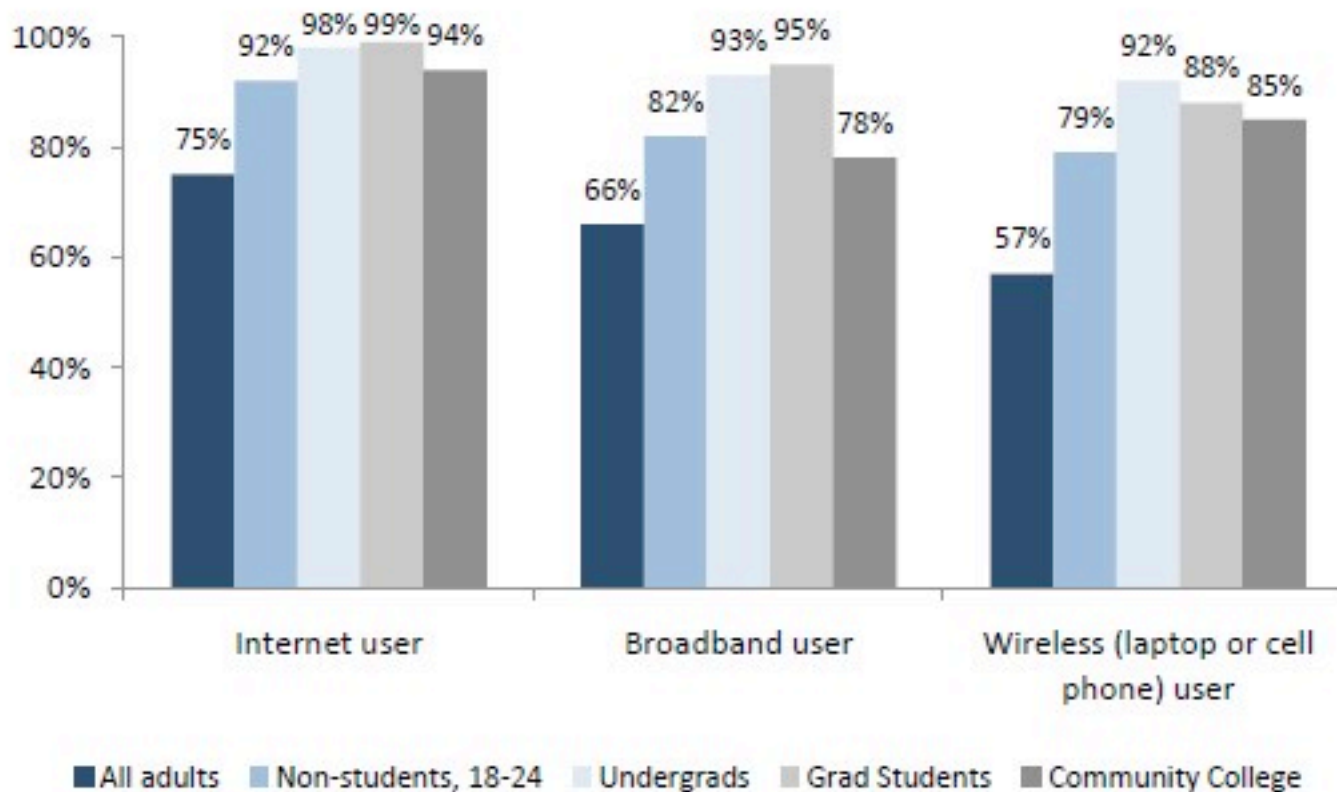
- Pew Internet and American Life Project, Rainie, 2012

# College Students and Technology (Pew 2011)

<http://www.pewinternet.org/Reports/2011/College-students-and-technology/Report.aspx>

## Connected college students

*Percentage of American adults in each group who use the internet, have broadband at home, and connect wirelessly*



Percentage using **Social Networking Sites:**

Adults: 60%  
Non-students  
18-24: 88%  
UG: 86%  
G: 82%  
CommColl:  
72%

Source: Pew Research Center's Internet & American Life Project 2010 tracking surveys. All include landline and cell phone interviews. N for all adults=9,769; n for 18-24 year old non-students=717; n for four-year undergrads=246, n for grad students=112, n for community college students=164.



# Multi-tasking students

- Project Information Literacy
  - 560 interviews with undergraduates on 10 university campuses
- During 'crunch time', in the last hour
  - 81 % checked for messages, (email, Facebook, texts, etc.)
  - 60% of these had also prepared assignments for submission and
  - 52% had reviewed materials for class

# The Independent Learner

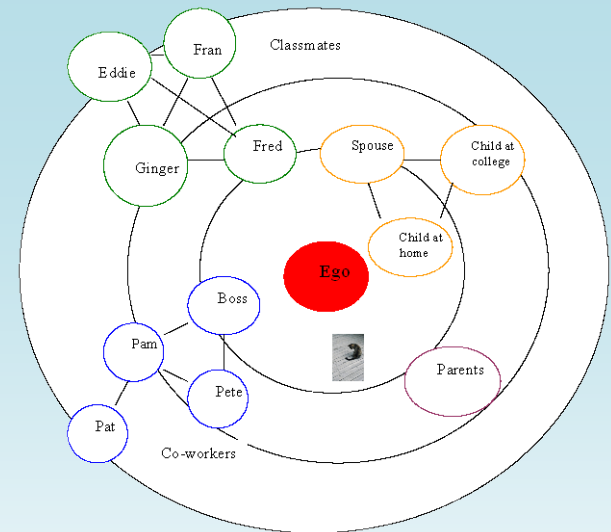
- Current and new ways of learning and connecting
  - Personal learning
  - Entrepreneurial learning
  - Information literacy
  - Multi-modal literacy

NB. Focus on learning rather than information access and use.

- Future ways of learning and connecting
  - E-learning
  - Massively open online courses (MOOC)
  - Continuing education
  - Continuing information and technology literacy

# Design for Personal Learning

- *Self*-directed, entrepreneurial
- Personalized information space, learner-centered ecologies
- Mobile, multi-media, multi-channel
- Individually and informally situated and accredited
- Independent recognition
  - New: 'badges', learning badges, <https://wiki.mozilla.org/Badges>



- Personal *identity* within a community of practice
- Managing as an individual learner *juggling social worlds*

# Information literacy

- Competencies to recognize information needs and to locate, evaluate, apply and create information within cultural and social contexts;
- Crucial to ... competitive advantage
- Provides the key to effective access, use and creation of content to support economic development, ...
- Extends beyond current technologies
  - to encompass learning, critical thinking and interpretative skills across professional boundaries and empowers individuals and communities.

*The Alexandria Proclamation on Information Literacy and Lifelong Learning (IFLA, 2005)*

# Sociotechnical Fluency



- Fluency with balancing the social and the technical in design, co-construction and application to learning
- Continuously emergent optimization of technology and practice
- Managing the sociotechnical fluency of self and others



Major Trends

# **PARTICIPATORY CULTURE**

# New Modes of Production

## Web 1.0 Mode

- Posting
- Broadcast
- Self-construction
- Serial production
- Whole is the sum of the parts



## Web 2.0 Mode

- Participation
- Conversation
- Co-construction
- Collective production
- Whole is greater than the sum of the parts

# Personal but Shared

## Personal

- Stimulation, entertainment
- Interest for work, learning and/or play
- Self-promotion, career promotion



## 'Personal but shared need' (Raymond, Benkler)

"They may be teachers, parents, academics, or hobbyists, but they are all likely to be unusually committed as a common project to producing materials that are useful to teachers and students."

(Benkler, 2004)

## Shared (internal)

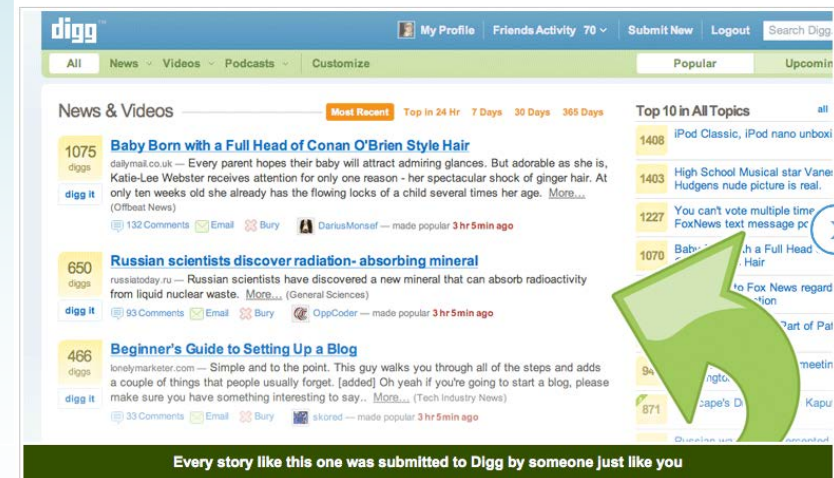
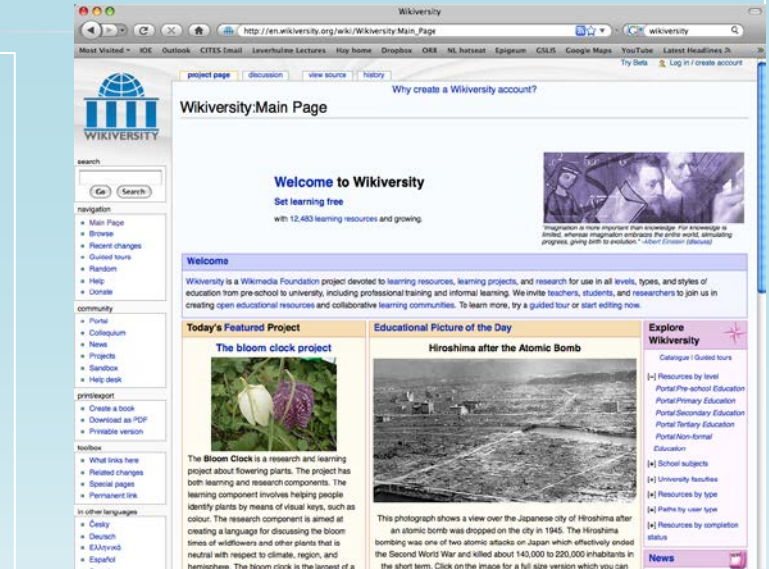
- Shared with community
- Social presence
  - being there with others
- Attention to others' opinion of own work

## Shared (external)

- **Coorientation** to topic, method or philosophy of production (e.g., open access)
- **Shared cause** (environmentalism, regionalism)
- **Trust** in use of contribution, the 'social contract'

# Adopting Participatory Culture

- “A **participatory culture** is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices.
- A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another (at the least they care what other people think about what they have created).” (Jenkins, 2006, p.3)



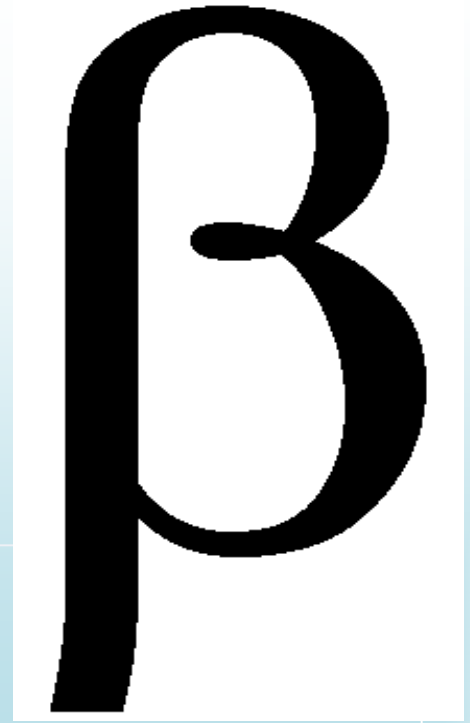
Every story like this one was submitted to Digg by someone just like you

# Distributed Teamwork

- Understanding the dynamics of distributed, online, collaborative groups
- How to be a group that knows how *to be* a distributed group
- How to learn and work with group knowledge







Major Trends

# PERPETUAL BETA

*The term is from computer software production:*

- *ALPHA version for in-house testing*
- *BETA version released to select clients for testing*

*Thus, BETA has the idea of a temporary, mutable version even when nearly fully functional*

# Perpetual Beta

- Response to dynamic information and technology base
- Meeting contributory and participatory practices
  - Non-fixed resources
- Always on
  - Connected to resources and people
- Learning mixed for and with work, school, leisure, and pleasure

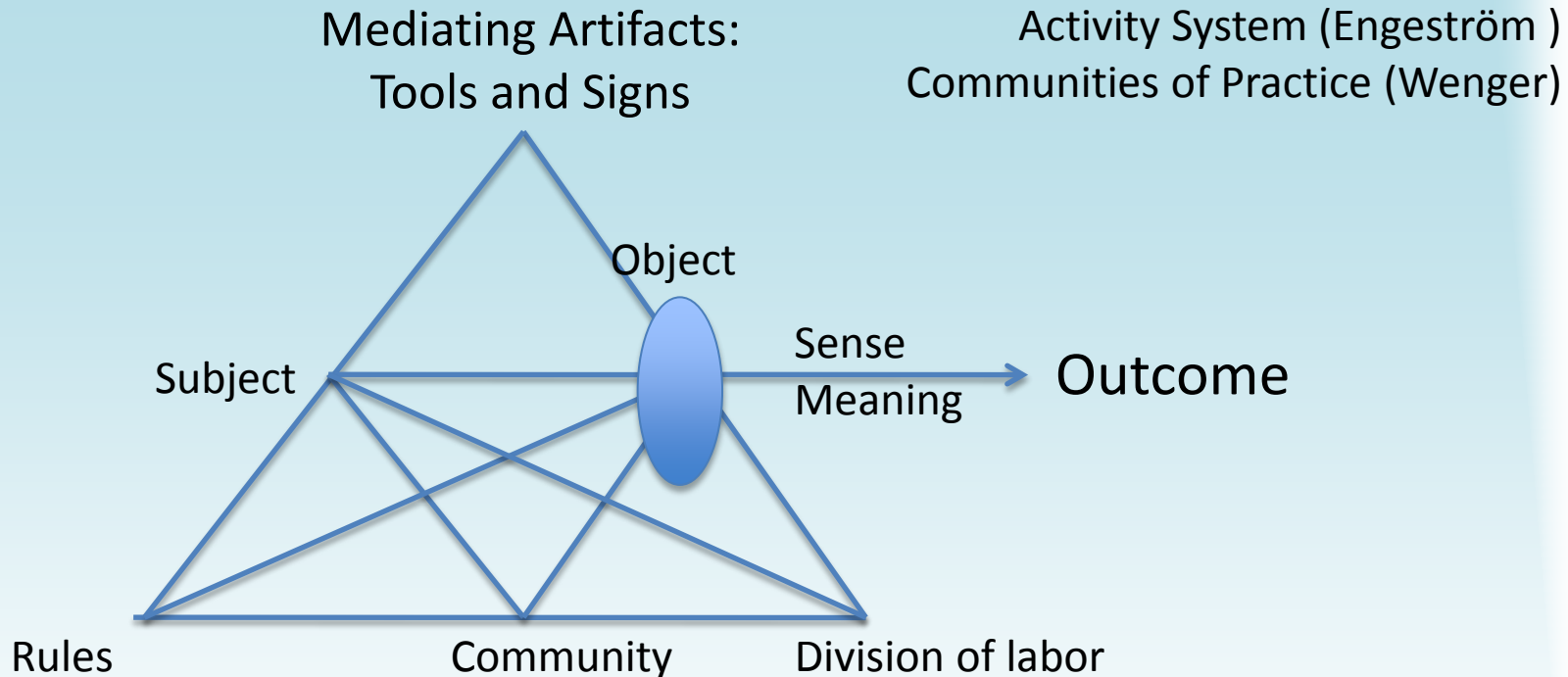
## Acquiring Agility

With new technology, new use scenarios, continuous and emergent design

## Nimble and agile

for  
(continuous)emergence  
of practices

# Continuously Emergent Identity



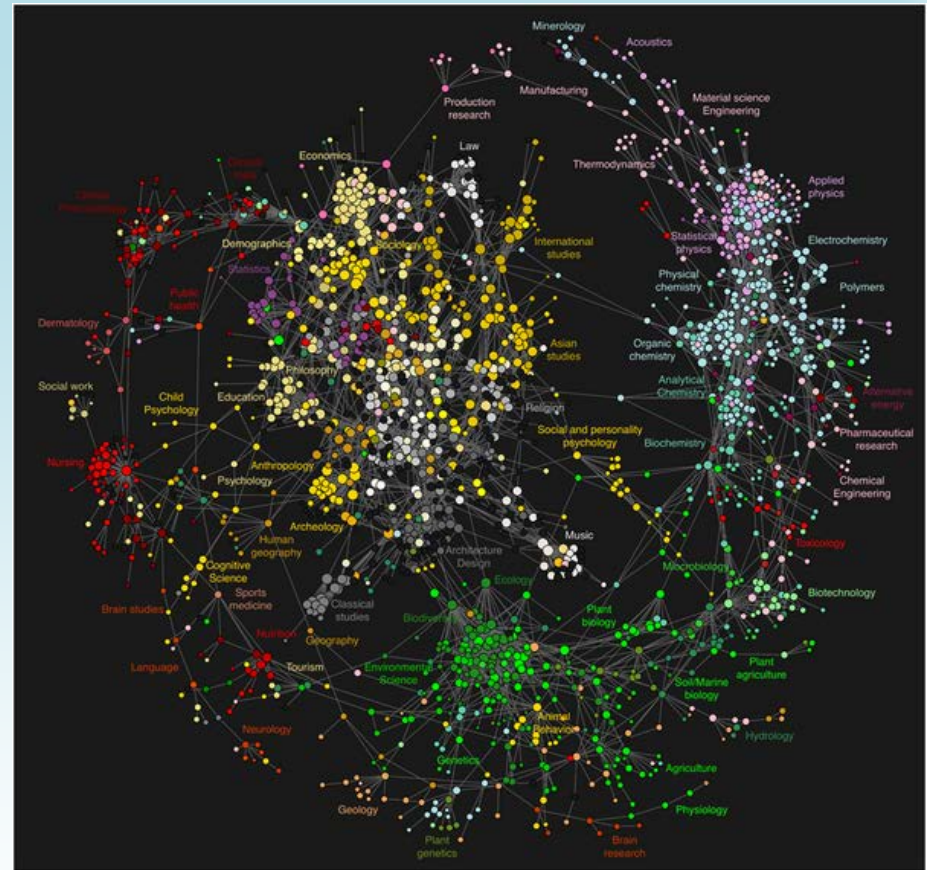
Important point: This is an **active** system, continuously in tension between the elements, with the outcome *continuously emergent*

Major Trends

# **DATA & ANALYTICS**

# Big Data/Library Data

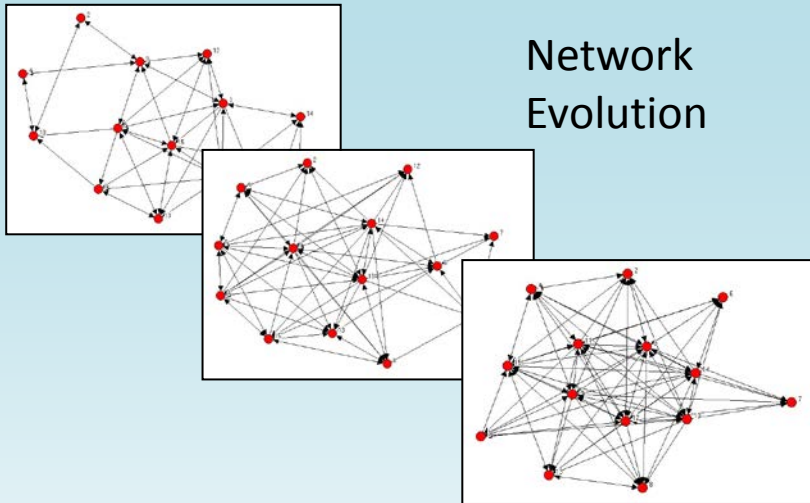
- Data management / data curation
  - Data reporting for research grants
  - Data management for research
  - Embedded data managers
  - **Open data** production and application
- Analytics
  - Academic analytics
  - Learning analytics
  - ***Library Analytics?***
- Visualization
  - Making sense of big data, rapidly streaming data
  - Visual literacy



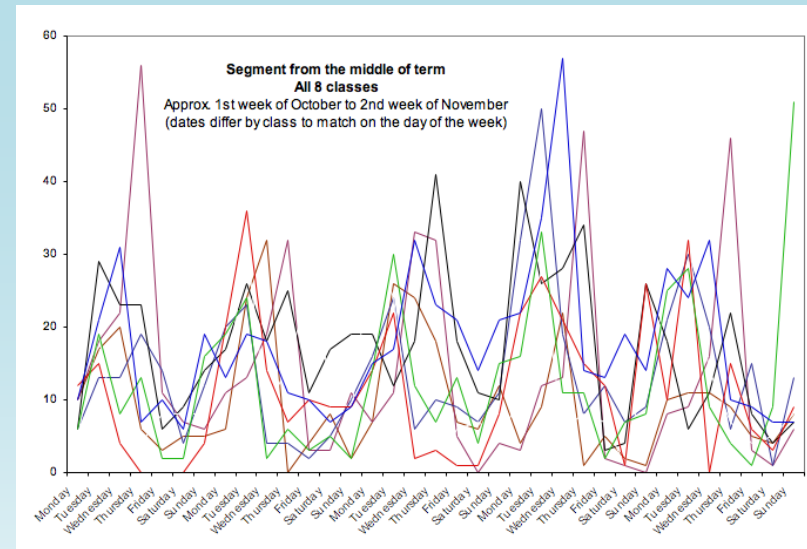
Visualization of journal connections based on “clickstream” data. Bollen et al (2009)



# Learning Analytics



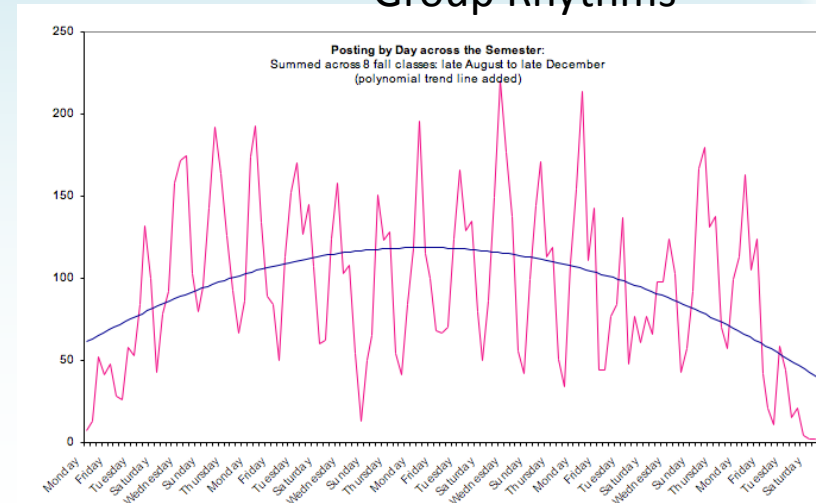
Network  
Evolution



Group Rhythms

## Academic analytics and the library

- What data can you gather, analyze, visualize to show the use, place, importance, relevance of the library to academic success?



Major Trends

# **DIGITIZATION OF EVERYTHING**

# Digitization of Everything

- Copyright
  - Open access, publisher contracts, etc.
- New structures of knowledge production
  - Formal and informal
  - Fixed and non-fixed/conversational
- Ethics
  - Community Informatics
  - Indigenous Knowledge
- Collection, E-Access, Retention
  - Formal *and* Informal resources



# Summary

## Qualities/Attributes/Skills

- Agility
  - Ability to adopt new sociotechnical practice in an era of perpetual beta
  - New roles, new identity
- Understand/embrace
  - Contemporary knowledge production
  - Net gen 'users' and practices
  - Lifelong learning
- Dual/Blended approach
  - Physical *and* Virtual

## LIS Education

- New areas/new practices
  - Agility, innovation, learning-to-learn, personal but shared
  - People, technology, information (iSchools)
  - *Design* as a response to and way to imagine with change
  - '*Talking across difference*', e.g., indigenous perspectives (FNCC), interdisciplinarity
  - E-learning in its wider sense



# LIS Education

- “A tool is ... a theory, a proposal, a recommended method or course of action. It is only a proposal and not a solution per se because it must be tested against the problematic material for the sake of which it has been created or selected.”
  - Hickman, 1992, re John Dewey’s pragmatic technology.

