Future Trends in LIS Education

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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

- Ubiquitous E-Access
- Net Generation
- Perpetual Beta
- Participatory Culture
- Digitization of Everything
- Big Data + Analytics
- Mosaic of Trends
- Big Data + Analytics
# Changes and Trends

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

• '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

Scholarship
- Open access, creative commons
- Scholarly publishing

Higher Education
- Accreditation, accountability
- Regional responsibility

Information and Communication Technology
- Always on
- Web 2.0

Students
- New pedagogies, literacies

Society
- Regional, cultural contexts

Academic Libraries
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.

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

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)

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

<table>
<thead>
<tr>
<th></th>
<th>All adults</th>
<th>Non-students, 18-24</th>
<th>Undergrads</th>
<th>Grad Students</th>
<th>Community College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet user</td>
<td>75%</td>
<td>66%</td>
<td>93%</td>
<td>79%</td>
<td>57%</td>
</tr>
<tr>
<td>Broadband user</td>
<td>92%</td>
<td>82%</td>
<td>95%</td>
<td>79%</td>
<td>88%</td>
</tr>
<tr>
<td>Wireless (laptop or cell phone) user</td>
<td>98%</td>
<td>78%</td>
<td>92%</td>
<td>88%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Percentage using Social Networking Sites:
Adults: 60%
Non-students 18-24: 88%
UG: 86%
G: 82%
CommColl: 72%
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

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

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

• 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)
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
PERPETUAL BETA

Major Trends

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

Mediating Artifacts: 
Tools and Signs

Activity System (Engeström)
Communities of Practice (Wenger)

Subject

Object

Rules

Community

Division of labor

Sense Meaning

Outcome

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

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

<table>
<thead>
<tr>
<th>Qualities/Attributes/Skills</th>
<th>LIS Education</th>
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<tbody>
<tr>
<td>• Agility</td>
<td>• New areas/new practices</td>
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<tr>
<td>• Ability to adopt new sociotechnical practice in an era of perpetual beta</td>
<td></td>
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<tr>
<td>• New roles, new identity</td>
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<tr>
<td>• Understand/embrace</td>
<td>• Agility, innovation, learning-to-learn, personal but shared</td>
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<tr>
<td>• Contemporary knowledge production</td>
<td></td>
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<tr>
<td>• Net gen ‘users’ and practices</td>
<td></td>
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<tr>
<td>• Lifelong learning</td>
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<tr>
<td>• Dual/Blended approach</td>
<td>• People, technology, information (iSchools)</td>
</tr>
<tr>
<td>• Physical <em>and</em> Virtual</td>
<td>• <em>Design</em> as a response to and way to imagine with change</td>
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<tr>
<td></td>
<td>• ‘<em>Talking across difference</em>’, e.g., indigenous perspectives (FNCC), interdisciplinarity</td>
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<td></td>
<td>• E-learning in its wider sense</td>
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</table>
“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.