The Changing Information Landscape: The Need for Innovating Librarian Education

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Trends

- Changes in information
- Changes in technologies
- Changes in higher education
- Changes in demographics
- Changes in Services and need for innovative education
Changes in Information
Changes in Information

- **Quantity and Availability**
  - An LoC of indexing everyday
  - 24 hours of video loaded on YouTube every minute
  - 400 million tweets per day
    - Over 1 billion every 72 hours
    - 340 million tweets per day in *March*
  - Data.gov is now up to about 450,000 datasets
    - It’s about big data

- **Speed of information**
  - Within minutes of your tweet, it’s indexed and searchable in Google
  - What used to require effort is at your fingertips
    - Not reinventing the search - chances are it’s been sought before and captured
  - Connection is instantaneous
Changes in Information

- Information is Social
  - More is out there
  - More is connected
    - Through social media
  - More is shared
  - Crowdsourcing enables more uses, sharing, problem solving through concentrated bursts of information sharing
    - Hackathons
  - Data.gov is about creating data communities to use data to build apps and solve societal challenges – environment, health, etc.
Big data – local challenges

- Challenge: +100,000 people in Louisville have asthma (> state and national averages)
- Deployment of 500 tracking inhalers from Asthmapolis
- CDC data, City of Louisville, Asthmapolis, IBM, Norton Healthcare, University of Louisville
- Mashups of collected data with
  - Air quality
  - Pollen outbreaks
  - Traffic congestion
Summary

- More information, more directly to users
- Our ability to access, use, and interact with information is changing
- Information is increasingly enhanced and linked in a range of ways
- The social nature of information enables stronger ties between people, communities, information sources, information providers, governments, intermediaries
  - To solve a range of challenges
Changes in Technology
Some Major Trends

• **E-reading**
  ◦ More e-reading
  ◦ Across platforms – smartphones, tablets, computers

• **Mobile**
  ◦ User-owned devices

• **Natural interfaces**
  ◦ Motion sensing
  ◦ Touchscreens
  ◦ Voice activation - Siri

• **Online learning technologies**
  ◦ Peer to Peer
    • Not just about connecting individuals to one another, but also
      • Learning communities/commons
  ◦ **STEM**
    • MITx, TED-Ed, Khan Academy
Some Major Trends

- **Web apps**
  - Yes, native apps (apple, Google), but
  - Increasingly HTML 5
    - Non-device/OS dependent

- **Open**
  - Open source technology
  - Open source textbooks
  - Open educational resources
    - Journals
    - Repositories
  - Open data

- **Self serve**
  - Vending machines, print on demand
    - “in a box”
    - Espresso
Summary

- New technologies
  - Allow for different experience with information
  - New understandings of information
  - Moving towards
    - Customization
    - On the go
    - From everywhere
    - Open
Changes in Higher Education
Trends in Higher Education

- Have entered a period of large-scale change
  - Value of higher education being questioned
    - Cost/benefit
  - It’s not just about articulating value, but rather creating value
    - What is it that we do that contributes to the economy, workforce, societal challenges?
  - Globalization
    - Western universities expanding into Middle East and Asia
    - Investments in higher education abroad, while cuts at home
      - Rise of university rankings in China, India
  - Rise of online instruction
    - For own students
    - Massive Open Online Courses (MOOC)
      - Coursera (https://www.coursera.org/)
      - Open access
        - OpenCourseWare (http://ocw.mit.edu/index.htm)
Changes in Demographics
Changing Demographics

- Population is increasingly diverse
- Nation on its way to being majority-minority population
  - Cities, regions, and some states already are or will be shortly
Selected Impacts and Implications
Academic Libraries

- Decreased funding overall and as a percentage of university budgets
- Decreased (often pronounced) usage of print materials
  - Even when controlling for increased enrollment
- Increased e-resources (collections and use)
  - E-books, digitized content, licensed resources
- Increased preference for e-content
  - User behavior is changing
  - “E-ready” population
Academic Libraries

- Mobile access
  - Nearly all major vendors have mobile apps and mobile-ready systems
  - Use of apps and tablets in and out of classroom
  - Replacing print textbooks with preloaded tablets
  - Interactive publications
  - Capturing lectures, tutorials, and more

- Different populations have different relationships with technology, information, digital literacies, and libraries
Academic Libraries

- Patron-driven e-book acquisition
- Open access
  - Trying to move away from bundled licensed resources
- Active participants in scholarly communication
  - E-journals, monographs, conference proceedings, repositories, management of research datasets, and more
Academic Libraries

- More digital content means
  - Need for digital curation
  - Digital preservation
  - Need for policy expertise
    - Copyright
    - Licensing

- Rethinking collaborations
  - Shared digitized resources
  - The FDLP – can we rethink this?

- Co-production
  - In this together – data, services, curation, preservation
    - Increasingly no one entity controls/manages
Academic Libraries

- Space
  - As libraries remove unused print materials, move is towards
    - Group spaces that promote learning and innovation

- And more....
The Next Generation Librarian
Selected Skills

- Policy and legal issues
  - Copyright
  - Licensing
- Serving diverse populations
- Digital literacy
- Data curation
- Digital resource management and preservation
- Assessment, evaluation, value articulation
- Creating value
  - Library as publisher
  - Library as data manager/repository
Selected Skills

- Big data
  - Open data
  - Scientific data
  - Mashups
    - Especially geocoded data
Moving Forward

- It’s still about helping users with library resources, but increasingly about being active leaders in
  - Creating
  - Managing
  - Sharing
  - Preserving
  [digital] resources
Foundational Knowledge

- Understanding and serving user information needs
  - How users seek and interact with information
- Information infrastructures
  - Management and curation of digital and physical collections
  - Information creation through preservation
- Organizational excellence
  - Visioning
  - Leadership
  - Planning
  - Management
  - Partnerships
Foundational Knowledge

- Information policy
- Professional ethics and values
- Methodologies for articulating, demonstrating, and creating value
Knowledge for Innovation

- Digital inclusion and literacy
  - Empower people (students, faculty) and organizations to apply information technology in ways that result in greater participation in our growing knowledge-based society
    - Familiarity with a range of technologies and devices
    - Familiarity with Internet-enabled services and resources
  - Transliteracy
Knowledge for Innovation

- Digital curation
  - Managing digital assets
  - Designing, developing, and implementing strategies to manage digital assets
    - From pre-creation disposition (disposal or retention)
  - Managing digital (and digitalized) assets selected for long-term retention, preservation, and access
Knowledge for Innovation

- **Co-production**
  - Active participation and leadership in
    - Big and open data
      - Creation, management, use
      - FDLP
    - Scholarly communication
      - Open access and unbundling has many implications on a campus
        - Journal creation, development, management, publishing
  - Learning
    - UMD library space redesign
    - iSchool, Architecture, and Anthropology in consultation with Un. of Rochester libraries (Nancy Fried Foster)
Knowledge for Innovation

- Serving diverse populations
  - Cultural awareness and information
  - Universal usability
  - Inclusive information services

- Getting students involved in research, practice, and scholarship
Conclusions

- Change and uncertainty around us
- Need for flexibility
  - Silos need to break down – and are
    - Whether we want them to or not
- It is how we integrate
  - Knowledge
  - Services
  - Partnerships
  - Space design
  - Technology
- To address our user community’s challenges and needs that will create our future value
- Our library education programs need to reflect this
  - Including accreditation standards
Thank You

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