OCLC
Research

Reordering Ranganathan:
Impacts of the changing research and learning environments on library services
#rrreport

Lynn Silipigni Connaway, Ph.D.

Senior Research Scientist
OCLC Research
Chair of Excellence
Departmento de Biblioteconomía y Documentación
Universidad Carlos III de Madrid
connawal@oclc.org
@LynnConnaway

Titia van der Werf

Senior Program Officer
OCLC Research
vanderwt@oclc.org

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Image: https://www.flickr.com/photos/24354425@N03/14337938973/

Explore:
Explore trends
Conduct research, build studies and execute programs, explore new technologies

Share:
Large-scale, high performance services, allow members to share data, work and resources

Magnify:
Program leadership and services.
Advocacy, community building
Amplify library resources in a digital world.

Strategic Directions:
Intelligent workflows→Connected to a global data network→Powered by library cooperation.

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Images: https://www.flickr.com/photos/oclcpar/14415067756/

OCLC has three roles:
1. To act as a community resource for shared research and development (R&D)
2. To enhance OCLC's engagement with members and to mobilize the community around shared concerns through Research Library Partnership.
3. To provide advanced development, technical support and custom analysis to other OCLC divisions

Moved from an era of content scarcity to one of incredible abundance and diversity

(Connaway and Faniel 2014, 4)

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Image:
http://static.itpro.co.uk/sites/itpro/files/styles/gallery_wide/public/images/dir_228/it_photo_114382.jpg?it ok=in3ueR-U

- A reordering of the laws will help Librarians keep topmost in mind the way digital & Web revolutions have transformed the balance in relationships with the academic community, resources and services (Connaway and Faniel 2014, 5).
- Applying laws to current environment show starkly the difference between the time of Dewey and Ranganathan & the information environment today (Connaway and Faniel 2014, 4).
- Books used to be guarded by librarians using local methods for storing/retrieving materials (Dempsey 2012).
- Content has increased→ librarians now facilitate content for individuals to discover, access and share (Dempsey 2012).
- Librarians must move beyond their doors in order to bring world's content back to community & make the content created in the academic community available to the world (Connaway and Faniel 2014, 4).
- Increasing move to expand the places in which librarianship occurs & the tools librarians use to help those they serve achieve their goals (Connaway and Faniel 2014, 5).

"We have moved from an era of content scarcity to one of incredible abundance and diversity, which is being contributed to by a multitude of channels and contributors. These differences are at the center of what has changed the interpretations of the five laws" (Connaway and Faniel 2014, 4).

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

Dempsey, Lorcan. 2012. *Thirteen ways of looking at libraries, discovery, and the catalog: Scale, workflow, attention.* EDUCAUSE Review Online (December 10, 2012), http://www.educause.edu/ero/article/thirteen-ways-looking-libraries-discovery-and-catalog-scale-workflow-attention.

Our Interpretation and Reordering

Ranganathan's Original Conception	Our Interpretation and Reordering
Save the time of the reader.	Embed library systems and services into users' existing workflows.
Every person his or her book.	Know your community and its needs.
Books are for use.	Develop the physical and technical infrastructure needed to deliver physical and digital materials.
Every book its reader.	Increase the discoverability, access and use of resources within users' existing workflows.
A library is a growing organism.	

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Image: Connaway and Faniel 2014, 105

- Laws of nature have not changed, even though the nature itself has.
  - New media
- "Books" stand-in for any and all media used and circulated in a library
- "Books are for use" is too powerful a statement to warrant much improvement

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

Ranganathan, Shiyali Ramamrita. 1931. *The five laws of library science.* London: Edward Goldston, Ltd.

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Image:
http://3.bp.blogspot.com/9hA5e5m20cc/TsZIjS848I/AAAAAAAAFf0/0_VZwrrY7p0/s1600
/DSC06549%2BB%2526W%2Bcrop%2Bb.jpg

- We want to consider today's information environment, how libraries & Librarians are contributing to it & what can be done to enlarge their footprints (107).
- We greatly esteem Ranganathan's work & laws (108).
- In all probability, others will continue to use his laws in this way for another hundred years & our particular thoughts at this point in time will become helpful (hopefully) footnotes.
- "Because, in the words of the Cheshire Cat, it helps to know "where you want to get to" as you proceed through unfamiliar or changing terrain" (108).
- For us, these laws will continue to serve as a sign post (108).

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http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

Save the Time of the Reader

Embed library systems and services into users' existing workflows

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Image:
http://www.ivillage.ca/sites/default/files/imagecache/node_photo_gallery_single_view/iStock_0000179
98458Small.jpg

- Save time of the reader, previously #4, is now more important (#1) (8, 107)
- Scarcity of time and attention (lack of time not content) (8)
- Multitude of information service providers (8)
- A lens through which we interpret other laws (8)
- Convenience as a primary factor in getting & choosing information (107)
- Librarians need to consider how to save users more time, in more places & in ways that are convenient and familiar to them (105).
- Convenience is a moving target (105).
- Convenience is dependent on the situation individuals find themselves in when they need information & on the context of the specific situation (105).
- No value in saving the time of the reader if the content needed cannot be found & accessed (106).
- One size fits none (106).

Connaway, Lynn Silipigni, Timothy J. Dickey, and Marie L. Radford. 2011. "If it is too inconvenient I'm not going after it:" Convenience as a critical factor in information-seeking behaviors. *Library & Information Science Research* 33, no. 3: 179-90.

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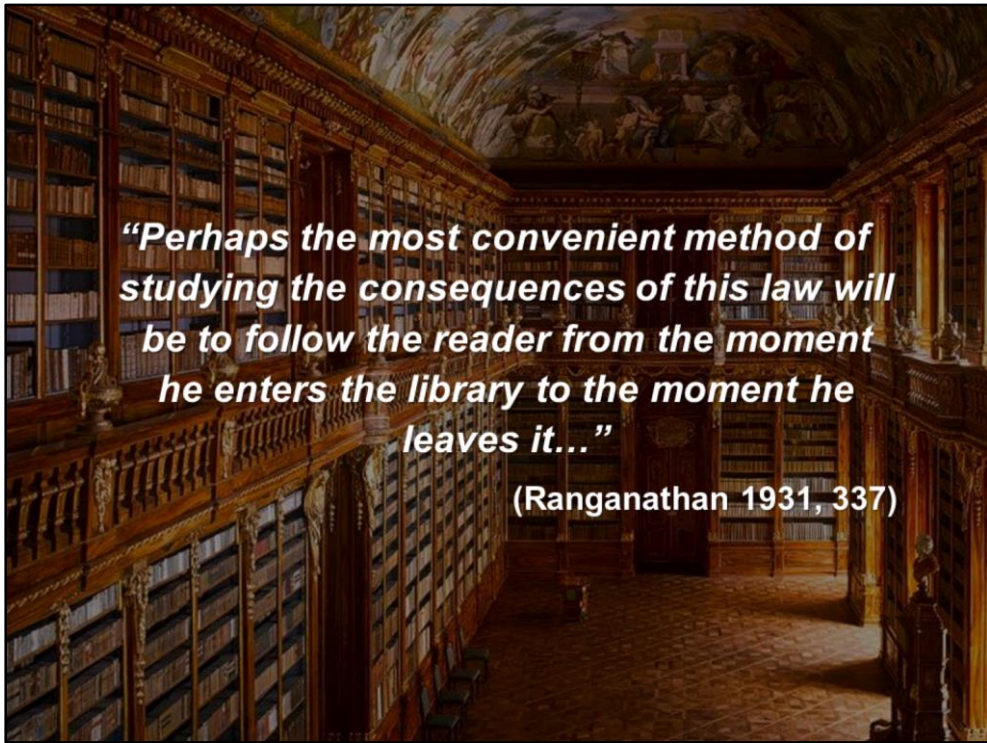
"Perhaps the most convenient method of studying the consequences of this law will be to follow the reader from the moment he enters the library to the moment he leaves it..."

(Ranganathan 1931, 337)

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Image: http://i2.cdn.turner.com/cnn/dam/assets/131126191411-strahov-abbey-library-horizontal-large-gallery.jpg

Ranganathan, Shiyali Ramamrita. 1931. *The five laws of library science*. London: Edward Goldston, Ltd.

Time as Time

- Constraints
- Overwhelmed by information
- No tolerance for delays

OCLC Research

(Connaway and Faniel 2014)

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Image: http://www.heinzmarketing.com/assets/80-20-rule-time-management-stop-wasting-time.jpg

•Today, people are inundated with information that they have to review and evaluate to make choices (Connaway, Dickey, and Radford 2011) (9)
•Librarians adjusting their systems and services for scholars now required to provide better management/accurate metadata (Connaway and Dickey 2010b) (10)
•Operating within time constraints is an issue under these circumstances (Connaway and Dickey 2010b) (10)
•Earthquake engineering researchers delay contributing data to a central repository because uploading and documenting the data were time- and labor-intensive processes (Faniel 2009) (10)
• "Millennials, by their own admission, have no tolerance for delays" (Sweeney 2006, 3) (9)
• They respond quickly to communications from others and expect the same in return (Oblinger and Oblinger 2005), especially from their information sources (Connaway 2008; Connaway and Radford 2007; Connaway and Radford 2011; Connaway, Radford, Dickey, Williams, and Confer 2008; Van Scoyoc and Cason 2006) (9)
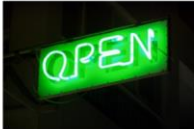
Connaway, Lynn Silipigni. 2008. Make room for the Millennials. *NextSpace* 10: 18-19. http://www.oclc.org/nextspace/010/research.htm.

Connaway, Lynn Silipigni, Timothy J. Dickey, and Marie L. Radford. 2011. "If it is too inconvenient I'm not going after it:" Convenience as a critical factor in information-seeking behaviors. *Library & Information Science Research* 33, no. 3: 179-90. http://www.oclc.org/content/dam/research/publications/library/2011/connaway-lisr.pdf.

Connaway, Lynn Silipigni, and Marie L. Radford. 2007. Service sea change: Clicking with screenagers through virtual reference. *In Sailing into the future: Charting our destiny: Proceedingsof the Thirteenth National Conference of the Association of College and Research Libraries, March 29-April 1, 2007, Baltimore, Maryland*, edited by Hugh A. Thompson. Chicago: Association of College and Research Libraries. http://www.oclc.org/research/publications/archive/2007/connaway-acrl.pdf.

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Image:
http://4.bp.blogspot.com/_BH2kjgaUbHU/TLNV0dB4ZnI/AAAAAAAAAEk/Udp5b2eIIPI/s1600/Convenience-store-neon-open-sign.jpg

•People frustrated with libraries, avoid in-person visits because of limited hours, long travel distances, time needed (Connaway 2013b; Connaway, Lanclos, and Hood 2013b; Connaway, Lanclos et al. 2013; Pullinger 1999) (11-12)
•Search engines are preferred: faster, more convenient—easier to use, cost-effective and reliable (i.e., always available) (De Rosa 2005) (12)

Convenience: (1) fitness or suitability for performing an action or fulfilling a requirement; and (2) something (as an appliance, device, service) conducive to comfort or ease .(Merriam-Webster.com)

Connaway, Lynn Silipigni. 2013b. Why the internet is more attractive than the library. *The Serials Librarian* 64, no. 1-4: 41-56.

Connaway, Lynn Silipigni, Donna Lanclos, and Erin M. Hood. 2013b. "I find Google a lot easier than going to the library website." Imagine ways to innovate and inspire students to use the academic library. *Proceedings of the Association of College & Research Libraries (ACRL) 2013 conference, April 10-13, 2013, Indianapolis, IN.* Chicago: Association of College & Research Libraries. http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/2013/papers/Connaway_Google.pdf.

Connaway, Lynn Silipigni, Donna Lanclos, David White, Alison Le Cornu, and Erin M. Hood. 2013. User-centered decision making: A new model for developing academic library services and systems. *IFLA Journal* 39, no. 1: 30-36.

Merriam-Webster.com. Convenience. Accessed December 12, http://www.merriam-webster.com/dictionary/convenience.

De Rosa, Cathy, Joanne Cantrell, Diane Cellentani, Janet Hawk, Lillie Jenkins, and Alane Wilson. 2005. *Perceptions of libraries and information resources: A report to the OCLC Membership.* Dublin, OH: OCLC Online Computer Library Center.

Pullinger, David. 1999. Academics and the new information environment: The impact of local factors on use of electronic journals. *Journal of Information Science* 25, no. 2: 164-72.

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Time as User Experience

Discovery
- Quick & convenient
- Familiar
- Rated, reviewed, & ranked by relevancy

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(Connaway and Faniel 2014)

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Image: Amazon

• Web searching has driven higher expectations for online library catalogs
• People want to find information quickly and conveniently
• and they expect the interface to be familiar to them (search results rated, reviewed and ranked by relevancy)
(Calhoun et al. 2009; Connaway 2013b; Connaway, Dickey, and Radford 2011; Connaway, Lanclos, and Hood 2013b; Connaway, Lanclos et al. 2013; Connaway and Radford 2011; Connaway, White et al. 2013; Dempsey 2012) (13)

Calhoun, Karen, Joanne Cantrell, Peggy Gallagher, and Janet Hawk. 2009. *Online catalogs: What users and librarians want: An OCLC report.* Dublin, OH: OCLC.
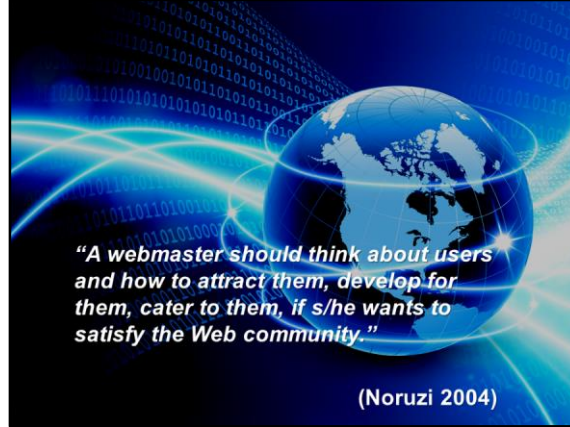
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http://www.oclc.org/content/dam/research/publications/library/2011/connaway-lisr.pdf.

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http://www.oclc.org/reports/synchronicity/full.pdf.

13

"A webmaster should think about users and how to attract them, develop for them, cater to them, if s/he wants to satisfy the Web community."

(Noruzi 2004)

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Image: http://asisnj.com/wp-content/uploads/2012/08/HiRes.jpg

Inform users: Specifically, we recommend that librarians reexamine their systems and services in the context of how they do the following:
• Market and promote library services;
• Provide a broad range of tools;
• Remove the barriers between discovering and accessing information (16-17)

Be seamless: Consider walking through the library's workflow from the perspective of a user trying to accomplish a particular task. How often do you leave one interface and go to another? Every time that happens, individuals have to reevaluate their surroundings, which often equates to a direct loss of time or, at least, a poorly perceived experience. Seamlessness is not just about doing something efficiently (17)

Be proactive: Librarians must sense and respond to challenges across user communities (18)
Be bold, be inventive and take risks (18)

Look upstream: Looking upstream is about more than proactively considering user communities' current needs. It's seeing those needs in a much larger context and thinking broadly within the information profession and other professions related to it (18)
If users are early adopters of a service, librarians should think about how to meet them there with library resources sooner rather than later (18)
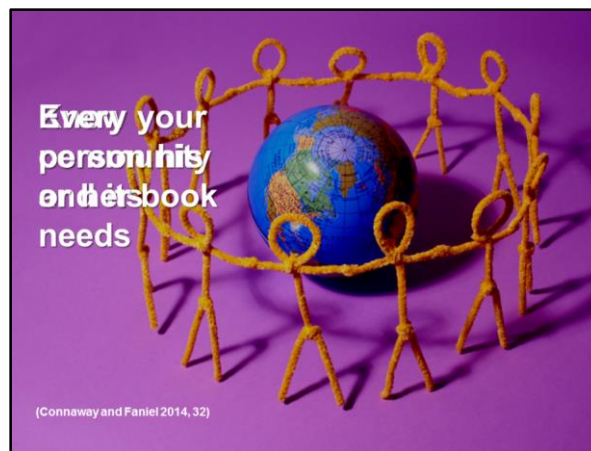
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http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

Noruzi, Alireza. 2004. Application of Ranganathan's Laws to the web. *Webology* 1, no. 2, http://www.webology.org/2004/v1n2/a8.html.

TITIA WILL DISCUSS OCLC RESEARCH PROJECTS

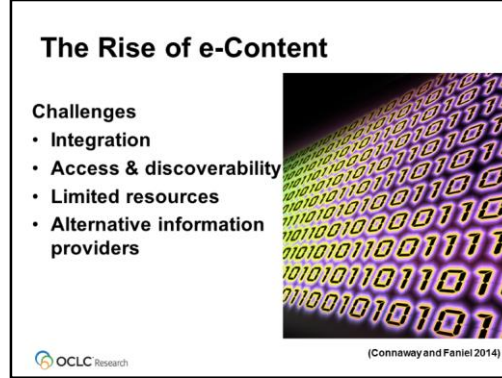**DISCUSSION FOLLOWS**

(Connaway and Faniel 2014, 32)

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Image: http://www.loxahatcheegroves.org/images/image/world-connect-people-community-international.jpg

•#2 Know your community and its needs, previously #2 Every person his or her book (86)
•Connecting every user with the precise content they need is of paramount importance in distinguishing libraries from other information service providers in the digital environment (86)
•There is no value in saving the time of the reader if we cannot pinpoint the information they need & information cannot be found or accessed (86)
•World has been transformed by Web → necessary for librarians to change the way materials and programs are developed and delivered (107)
•Librarians are redefining the communities they serve around e-content and a wide range of needs and demographics (107)
•Difficult balance between personalized and generalized service, which is why it is imperative to constantly collect, analyze and discuss data to help librarians know their communities and their needs (108)

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The Rise of e-Content

Challenges
- Integration
- Access & discoverability
- Limited resources
- Alternative information providers

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(Connaway and Faniel 2014)

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Image: Ilco

The Rise of e-Content
•Second law demands librarians "eliminate obstacles that prevent users from making effective use of electronic resources" (Cloonan and Dove 2005, 59).
•User information behaviors & habits are putting more importance on e-content, e-books, and socially-created content than on print resources (28).
•Licensed e-content now is the largest collection expenditure for most academic libraries (27).
•Locally produced e-content is getting more attention and resources as print collections are moving into a shared environment for management & preservation (27).
•Special collections & research data given increased priority & demand increased resourcing (27).
•Limited resources & alternative information providers becoming seemingly faster & more effective (27).
•Universities not first or second choice among academic communities & fell behind open access materials (Beetham, McGill, and Littlejohn 2009; Centre for Information Behaviour and the Evaluation of the Research 2008; Connaway and Dickey 2010; Warwick et al. 2008).
    •90% of respondents described search engine as "perfect" or "good" fit for their lifestyle (DeRosa et al. 2005, 3-27-28).
    •49% did so for library and fewer still for online library (DeRosa et al. 2005, 3-27-28).

Beetham, Helen, Lou McGill, and Allison Littlejohn. 2009. Thriving in the 21st century: Learning Literacies for the Digital Age (LLiDA Project). Glasgow: The Caledonian Academy, Glasgow Caledonian University. http://www.academy.gcal.ac.uk/llida/LLiDAReportJune2009.pdf.

Cloonan, Michele V., and John G. Dove. 2005. Ranganathan online: Do digital libraries violate the Third law? *Library Journal* 130, no. 6:58-60.

Connaway, Lynn Silipigni, and Timothy J. Dickey. 2010. *The digital information seeker: Report of findings from selected OCLC, RIN, and JISC user behavior projects.* n.p.: Higher Education Funding Council for England (HEFCE).

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Warwick, Claire, Isabel Galina, Melissa Terras, Paul Huntington, and Nikoleta Pappa. 2008. The Master Builders: LAIRAH research on good practice in the construction of digital humanities projects. Literacy and Linguistic Computing 23, no. 3: 383-96. http://discovery.ucl.ac.uk/13810/.

Research Data as an Example of e-Content (Connaway and Faniel 2014)

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Image: http://www.greenbookblog.org/wp-content/uploads/2013/08/Martin-Dec-2010.jpg

Research Data Services
• Librarians have been championing the effort, more than other units on campus (Faniel, Connaway, and Parson 2014) (29)
• Librarian-led efforts may be partly attributed to the benefits librarians anticipate gaining for themselves as well as the library (Faniel, Connaway, and Parson 2014) (29)
• Big opportunities:
  • developing more personal relationships with the researchers
  • learning more about current research in their subject areas
  • providing research data services to faculty & students will help improve service in other aspects of their jobs (instruction & collection development)
  • Fun, interesting & rewarding
  • Increase revenue (Connaway and Faniel 2014) (29)

Faniel, Ixchel, Lynn Silipigni Connaway, and Kendra Parson. 2014. 20th Annual Reference Research Forum. Presented at ALA Annual Conference & Exhibition, June 26-July 1, in Las Vegas, NV.

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

The Changing Landscape of Information-Seeking

(Connaway and Faniel 2014)

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Image:http://www.actionforageing.com/wp-content/uploads/2011/11/Family-multi-gen-ethnic.jpg

•Research indicates that people are more familiar with search engines than with libraries (Connaway Lanclos, and Hood 2013a, 2013b; De Rosa et al. 2005) (30)
  •36% of the survey respondents reported being "extremely familiar" with search engines
  •26% reported being "very familiar" with libraries
  •20% percent reported they "have never heard of" online libraries (De Rosa et al. 2005, 1-8) (30)
•Search engines (Google, Bing and Yahoo) are major discovery tools for all online audiences (Jisc quickguide 2014) (30-31)
•Google as the main starting point for a wide range of users (Jisc quickguide 2014) (30-31)

• Research indicates generational differences with VRS (Connaway et al. 2008) (31)
  • Baby Boomers tend to have technical problems with VRS
  • Millennials need more reassurance and want instant answers
  • Boomers are more forgiving than Millennials when more effort is needed to get information
  • When asked both why haven't tried VRS, unfamiliarity tops the list (Did not know it existed)
  • Screenagers have different communication and information behaviors in the chat reference.
  • Screenagers apprehensive about who they are corresponding with (Connaway et al. 2008) (31)
•Graduate students willing to wait for good content, but not necessarily willing to spend the time learning to fish for themselves (Calhoun et al. 2009; Connaway and Radford 2011; Connaway and Wakeling 2012) (32)

"There are many different groups in the research community...not all disciplines share the same language, concept, or ideals."

(Connaway and Dickey 2010, 4)

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Image: http://blog.whiterockmedia.com/Portals/229323/images/different-approaches-to-media-resized-600.jpg

"There are many different groups in the research community and each has different cultures, approaches, and methods...Not all disciplines share the same language, concepts or ideals. The culture of the disciplines dictates how and what information is shared, stored, reported, etc." (Connaway and Dickey 2010, 4).

Getting to know the community

• Perform traditional outreach
• Traditional outreach allows librarians to keep pulse on what's happening monthly (or each semester) through workshop instruction, consultation and reference
activities.
• By gathering data about a community through the questions people ask or advice they seek, librarians develop knowledge.
• Knowledge can be used to inform instruction & collection activities and to spot possible trends (34).

Conduct User Studies

• A means to take a systematic approach to getting answers to a particular question or problem.
• How is a service being used at a library? Etc.
• In taking a systematic approach to getting answers to a question, librarians' decisions about whether to launch, redesign or stop offering a particular service are better informed & generalizable to the campus community (34).

Develop Collaborative Work Relationships with Users

• Referred to as embedded librarianship.
• By developing a deep, shared understanding of user needs, librarians can offer customized contributions.
• Having offices within the academic departments & being active members of research & teaching teams.
• Even though the librarian's contributions may be highly sought & valued by the collaborator, the contributions may not be readily generalizable to everyone on campus (34).

Run Analytics

• Analytics is an application of Big Data.
• Library service offerings & delivery increasingly will be informed by analytics.
• Librarians increasingly will need to partner with institutional staff and external organizations to excel at this activity (34).

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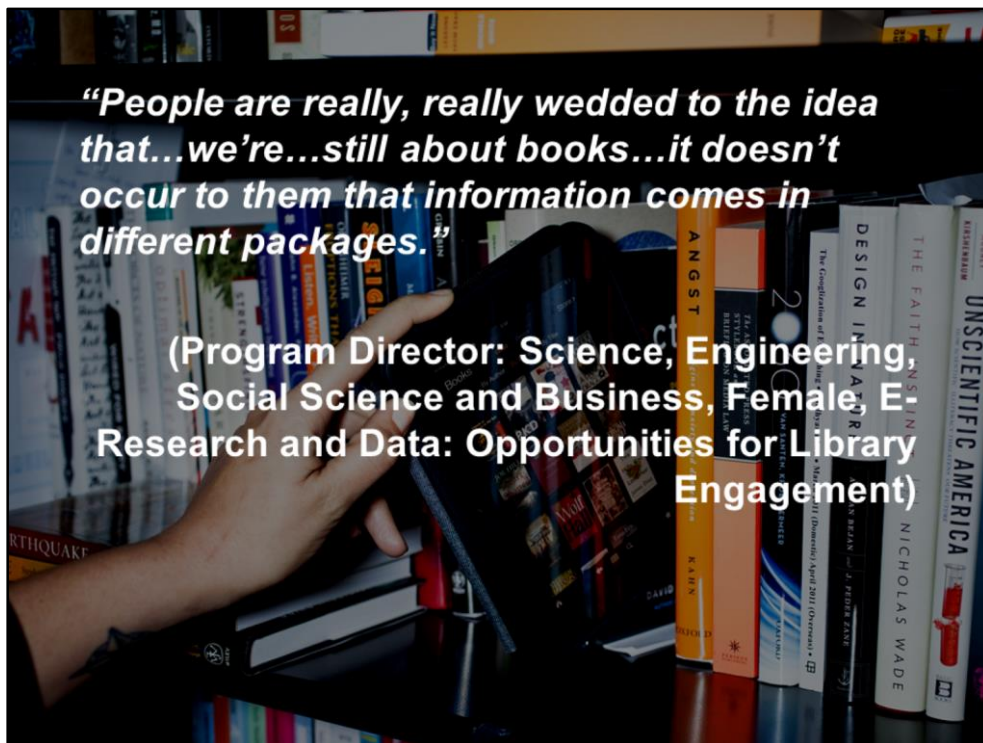**TITIA WILL DISCUSS OCLC RESEARCH PROJECTS**
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Image: https://flic.kr/p/k976Ka
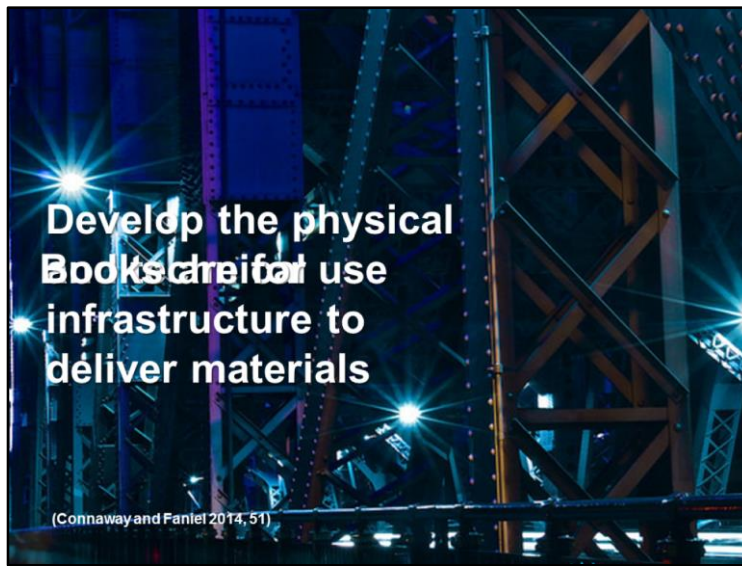
• #3 Develop the physical and technical infrastructure needed to deliver physical and digital materials, Previously #1 Books are for use
• Libraries are customer focused (44)
• Offer a wider range of content, systems and services (44)
• Ranganathan's day = books & book lending (44)
• "Books are for use" & "every book its reader" are interconnected & build on each other (108)
• "Books are for use" pertains to ongoing evaluation & assessment of library's physical and technical infrastructure in relation to users behaviors & needs (108)
• Looking beyond content to infrastructure (access point to content) (108)
• Providing content people want depends upon the reliability and integrity of the library's systems that make it discoverable and accessible (Connaway and Faniel 2014, 108)

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"People are really, really wedded to the idea that…we're…still about books…it doesn't occur to them that information comes in different packages."

(Program Director: Science, Engineering, Social Science and Business, Female, E-Research and Data: Opportunities for Library Engagement)

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Image: http://www.wired.com/images_blogs/business/2013/02/20130207-KINDLE-OLD-BOOKS-031edit.jpg

"People are really, really wedded to the idea that…we're, I mean, still about books. I mean, sure, online journals, but for some reason, it doesn't occur to them that information comes in different packages. It doesn't have to be a book. Hey, we have scrolls too, all different kinds of things. So, now, it's [data in] a spreadsheet or whatever." (Program Director: Science, Engineering, Social Science and Business, Female, E-Research and Data: Opportunities for Library Engagement). (Connaway and Faniel 2014, 46)

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.
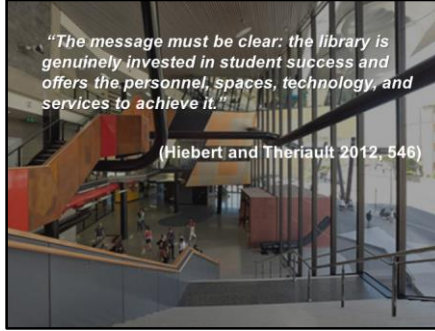
LYNN

Image: Microsoft Clip Art

• Ranganathan stressed improvements such as library location, hours of operation, space, furniture & staff education & training as he believed they would improve access (48)

• Librarians also must actively manage users' social engagement with experts & peers in virtual environments as well as FtF (48)

• Information commons at the University of Southern California & the University of Iowa in the 1990s were early attempts to provide technology-enabled spaces where students could collaborate and seek help from library and computer services staff (Lippincott 2010) (48)

• No one size fits all approach (48)

• Recent reconfigurations of space have emphasized flexibility in the face of changing and, at times, competing user needs (Pierard and Lee 2011; Sadler 2012) (48)

•11-day final exam period at University of North Carolina at Charlotte (Hiebert and Theriault 2012, 540). BLAST:

>Bouncing ball activities, such as ping-pong and indoor sponge basketball;
>Lounging opportunities in comfortable seating and low tables;
>Art activities with coloring books, Play-Doh® and puzzles
>Sleep time, including disposable pillows; and
>Touch with therapy dogs to cuddle and pet (48-49)

• Makerspaces are places where students can access specialist equipment to build, create and craft (49)

• By providing physical space and tools, people can share resources and knowledge while engaging in hands-on experimentation (Fisher 2012) (49)

• Trust plays a role in the extent to which data are shared and resued (Van House 2002; Yakel et al., "Trust in Digital Repositories," 2013; Yoon 2013) (50)

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities.* Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

"The message must be clear: the library is genuinely invested in student success and offers the personnel, spaces, technology, and services to achieve it."

(Hiebert and Theriault 2012, 546)

LYNN

Image:http://static.dezeen.com/uploads/2011/04/dezeen_Central-Institute-of-Technology-by-Lyons-02.jpg

Provide a Warm Transfer

• Working FtF with individuals, library staff can increase trust on a personal level & ensure positive future visits (Connaway and Radford 2011).

• Demonstrate online systems and services during in-person encounters (Connaway and Radford 2011) (51).

Understand and Internalize User's Interests

• Changes to the technical infrastructure should be negotiated on an ongoing basis (Faniel 2009).

• Challenges should be recognized & reconciled during a process that is more inclusive of the users who the changes affect (Faniel 2009).

• Installing pop-up chat services on library websites & in online catalogs when users are idle or their search retrieves no sources (Connaway and Radford 2011) (51).

Demonstrate Library Value

• Video introductions on the library website or YouTube, linked to the library website, which provides faces and names to connect FtF or virtually (Lippincott and Duckett 2013).

• Provide video instruction on how to improve discovery & access through the open Web and how to review search results and determine relevant and authoritative sources (54).

Toot Your Own Horn

• Value librarians create made more visible so that librarians' expertise is identified & internalized (Dempsey 2012).

• As librarians engage with the academic community, they can articulate their expertise & new library services.

• Study of faculty behavior provided a tremendous opportunity for library outreach by meeting people where they work & socializing while delivering & promoting existing library services (Peters and Dryden 2011) (54).

Leverage the Power of Social Influence

• Influence of peers & mentors.

• Students interact with friends, fellow students, lecturers, tutors and library staff, in addition to experts and professionals when seeking information (Connaway, Lanclos, and Hood 2013; Connaway and Radford 2011; Diehm and Lupton 2012).

• Depends on context & needs.

• Offer content, interaction and services in multiple environments and formats.

• Physical, on campus presence & virtual, social media & web presence.

• People who didn't use VRS indicated that they would try it if it were recommended by a trusted librarian, colleague or friend (Connaway and Radford 2011).

• A similar phenomenon is at work for those seeking data to reuse. More experienced social scientists were found to point novices to data repositories and to influence their future data sharing and reuse behavior (Faniel, Kriesberg, and Yakel 2012; Kriesberg et al. 2013) (54).

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities.* Dublin, OH: OCLC Research.
http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

Hiebert, Jean, and Shelly Theriault. 2012. BLASTing the zombies! Creative ideas to fight finals fatique. *College & Research Libraries News* 73, no. 9: 540-69.

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Image: https://flic.kr/p/4xQYjH
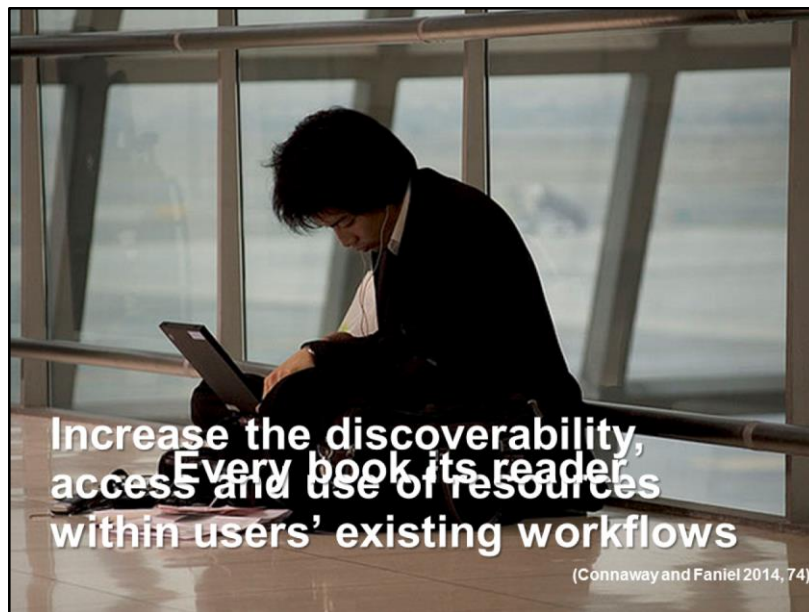
• #4 Increase the discoverability, access and use of resources within users' existing workflows, Previously #3 Every book its reader
• Sometimes "every book" doesn't mean the book itself (80)
• Book can mean pieces and parts of many books, or a blog, comments, videos, presentations and metadata (80)
• The right piece of content is always dependent on context, more so now than ever (new powerful discovery and access tools) (80)
• New reordering of this law is dependent on the provision of resources and systems (108)
• Human sources still play a huge role in users' information activities (108)
• Opportunities to become part of users' social networks & put resources in context of users' information needs (108)

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf

Ranganathan, Shiyali Ramamrita. 1931. *The five laws of library science.* London: Edward Goldston, Ltd.

Connecting "Every Book"

- Understanding the flow & workflow
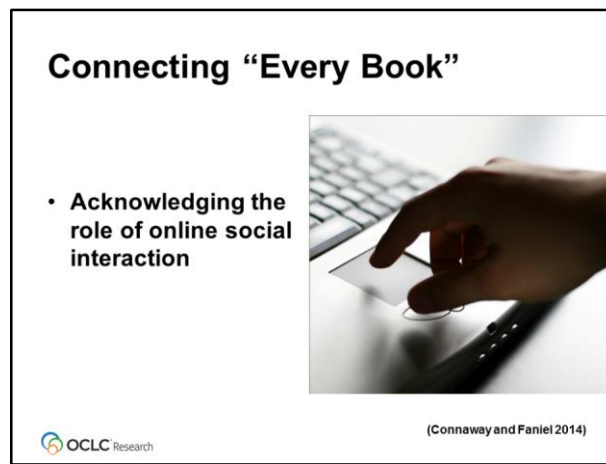
OCLC Research

(Connaway and Faniel 2014)

LYNN
Image: http://ak8.picdn.net/shutterstock/videos/657118/preview/stock-footage-business-people-working-in-a-call-center-against-a-white-background.jpg

User-Workflows
• Tools that communities use to address their own needs have changed in recent decades (69)
• Some tools are more universal—information seekers in general tend to show heavy use of Web information sources, such as Wikipedia and Google (Connaway and Dickey 2010; Connaway, Prabha, and Dickey 2006; Head and Eisenberg 2010; Prabha, Connaway, and Dickey 2006) (69)
• College students rate libraries significantly higher than all respondents in terms of lifestyle fit, for both online and for physical libraries (De Rosa et al. 2006) (69)
• The issue is that the library's Facebook pages, Twitter streams and blog posts are not part of the users' workflow in the same way as Google or Wikipedia (Connaway, Lanclos, and Hood 2013a, 2013b) (71)
• Several academic libraries have increased discovery of their collections by adding links to Wikipedia (Elder, Westrbook, and Reilly 2012; Lally and Dunford 2007; Szajewski 2013) (71)

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

Connecting "Every Book"

- Acknowledging the role of online social interaction

(Connaway and Faniel 2014)

OCLC Research

LYNN
Image: By SGBack

Social Connections
• Learning has always been social (72)
• Dervin, Reinhard, Kerr, Song, and Shen (2006) make the case that both faculty and students tend to turn toward peers in terms of information-seeking behavior (72)
• We have found the same trend in our studies of user behavior: faculty turns to co-workers and colleagues; graduate students turn to peers, instructors, and advisors; undergraduates to their friends and peers (Connaway and Dickey 2010; Connaway, Lanclos, and Hood 2013a, 2013b; Dervin et al. 2006; Faniel, Kriesberg, and Yakel 2012; Kriesberg et al. 2013; Yakel et al., "Trust in Digital Repositories," 2013) (72)
• Seeing as convenience is known as the most significant factor in choosing among information sources, the most natural first step for information seeking is to ask the people with whom you're already in contact (Radford and Connaway 2008) (72)

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.
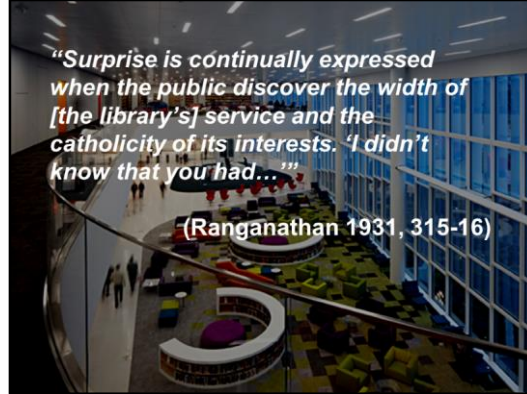
LYNN
Image: Google search "credible sources"

Complex Content
• Important to provide the context in order for users to make decisions given a rich and complicated information environment (73)
• Evidence of this in the academic community in which researchers are increasingly reusing each other's data (Carlson and Anderson 2007; Faniel and Jacobsen 2010; Faniel et al. 2013; Faniel, Kriesberg, and Yakel 2012; Rolland and Lee 2013; Zimmerman 2008) (73)
• Librarians, as info. professionals need to provide services that not only connect more dots but also make access to deeper, more authoritative sources of context available in ways that users can adopt into their workflows (74)
• Users can't discern whether the content that rises to the top of a search engine result is relevant and trustworthy enough to meet the needs of their circumstances (74)
• Their ability to select credible materials and to help discern which content is best given a particular user's needs is missing from the search engine equation (74)

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

"Surprise is continually expressed when the public discover the width of [the library's] service and the catholicity of its interests. 'I didn't know that you had…'"

(Ranganathan 1931, 315-16)

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Image:http://assets.inhabitat.com/wp-content/blogs.dir/1/files/2013/04/Snohetta-Hunt-Library-Mark-Herboth4.jpg

Increase Discoverability through Partnerships

Becoming discoverable in workflows:

• Working with technology companies to expose library metadata into more & vastly different user workflows (77)

• Teaming with logistics companies to solve issues of shared print collections, such as transportation and delivery of physical materials (77)

• Reaching out through academic communities to the professional organizations and industries that serve and are served by them in order to understand their challenges (77)

• Making library data compatible with other formats, such as linked data (77)

• Offering library resources—whether expertise, bandwidth, physical space or networking opportunities—to business leaders (77)

Increase Access through Redundancy

• Approaching materials or services: "How can this be leveraged such that we can deliver it in multiple ways"? (78)

•Librarians should link to more than pages in the online library catalog when giving reading lists, open source (78)

• Audio access of books, Link to reviews written on Amazon, Facebook pages, Twitter accounts (78)

• Provide physical space in online environments, too (78)

• Online library catalog and website available on multiple platforms and tablet-and mobile-friendly (78)

• Librarians should let users know about alternatives to the library's offerings; such as local book stores, subject-matter experts, listservs, Facebook groups, etc. (78)

Increase Marketing through Social Networking

• When advertising is well done, it works (79)

• Make services as socially shareable as possible (79)

• Libraries must compete with many other sources for attention (80)

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Ranganathan, Shiyali Ramamrita. 1931. *The five laws of library science.* London: Edward Goldston, Ltd.

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A library is a growing organism

(Connaway and Faniel 2014, 92)

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Image: http://img.4plebs.org/boards/tg/image/1376/94/1376945868144.jpg

• #5 A library is a growing organism, Previously # 5 A library is a growing organism (88)
• Three factors Ranganathan considered books, staff, and readers as major parts of library, capable of growth (88)
• Ranganathan: Growth or change in one factor meant growth or change in the others (88)
• Our interpretation of 5th law does not include a rephrasing or reinterpretation, but we propose additional factor for libraries to consider: share of attention (88)
• Evaluate relevance, visibility & unique capabilities (108)
• Essential to growth & change of traditional factors—collection, staff, infrastructure and patron use (108)
• Not only are collections growing in size and type, but library staff is experiencing growth by retooling existing skills, hiring new people with new areas of expertise and changing users' perceptions of librarians' capabilities (108)
• Changing infrastructure & patron use (108)

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

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Traditional Growth Measures
- Collection
- Library staff
- Infrastructure
- Use

(Connaway and Faniel 2014)

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Image: http://ginanapolitan.files.wordpress.com/2012/05/img_1381.jpg

The Collection

• Take the sheer number of books, articles, databases, movies, maps, etc. provided by most libraries today (89)

• But when compared to the Web content that is now easily accessible, we have a situation in which the growth of library materials often looks, if not irrelevant, at least tepid (89)

Library Staff

• The question is whether supply is meeting demand (90)

• In a survey of library directors, 52% reassigned or were planning to reassign staff to support research data services compared to 28% who hired or were planning to hire new staff (Tenopir, Birch, and Allard 2012) (90)

• The latter are likely relying on new library and information science graduates of data curation programs at major universities (Harris-Pierce and Liu 2012; Palmer et al. 2013) and the two year post-doctoral fellowship program being offered by the Council on Library and Information Resources" (CLIR) (Keralis 2012) (90)

Infrastructure

• There also have been new constructions of library buildings (Millar 2013; Sadler 2012) (91)

• The Hunt Library at North Carolina State University, which opened in January 2013, has been referred to as "the library of the future" (Rock 2013) (91)

• The library's design resulted from ongoing discussions with faculty and students. "They [the students and faculty] didn't ask for specific things—but they asked for a building that would keep changing, keep growing, and would give them a chance to change and grow with it, to keep up with technology" (Huler 2014) (91)

• It demonstrates how changes in the information environment have forced librarians to rethink the role of the library and how it can become more about collaborating, learning, teaching, creating, playing, relaxing, studying and researching with the aid of physical space, people, media and technology (91)

Patron Use

• The objective is to apply the knowledge gained about users toward improvements in existing services as well as the creation of new services (91)

• It is imperative to know how people use the collections and infrastructure and where they need assistance and education from the library staff (91)

• Growth within shifting contexts means growing whatever elements of collection, staff, infrastructure and patron use that are currently part of our users' expectations (91)

• Definitions of library services will change. We need to grow the ways users can engage with whatever they value from libraries, whether papyrus rolls, makerspaces or data management instruction (91)
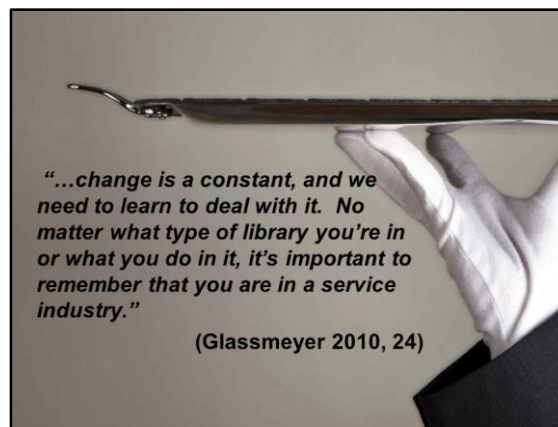
"We propose another major area of a library that is capable of growth: share of attention."

(Connaway and Faniel 2014, 92)
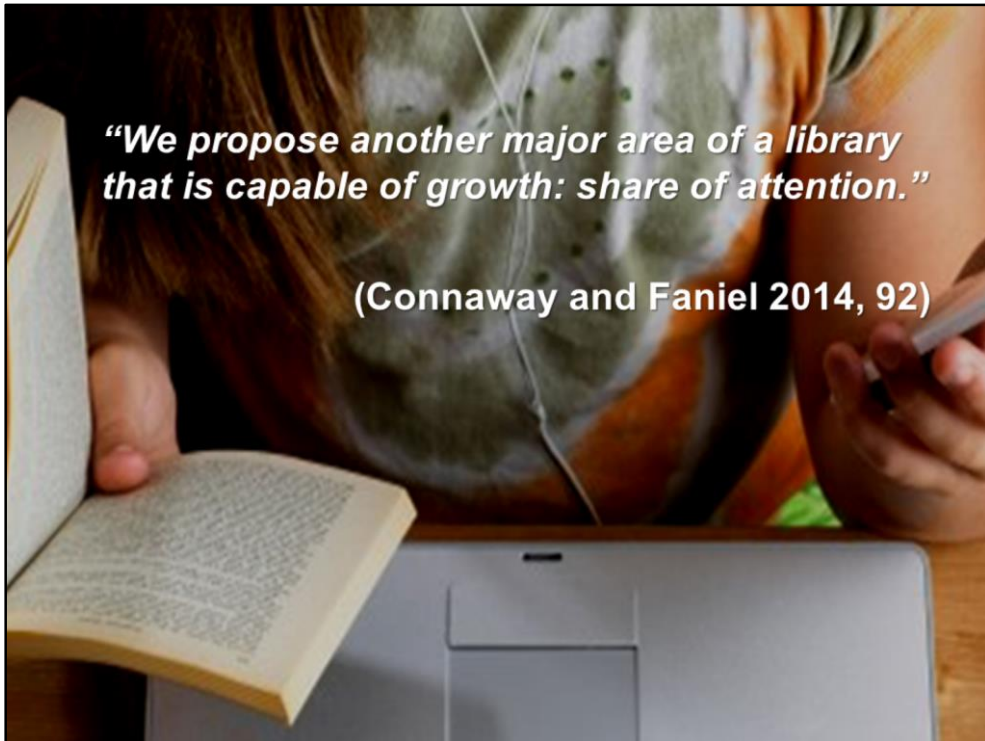
LYNN

Image:
http://31.media.tumblr.com/115230e4c3d9e371c8b7b4f16107e219/tumblr_mhelksZv9W1qaqu9io1_1280.jpg

•Share of attention essential to promoting growth & change across all dimensions—collection, staff, infrastructure, patron use.
•Nurture growth through:
>Relevance
>Visibility
>Unique Capabilities

Ranganathan, Shiyali Ramamrita. 1931. *The five laws of library science.* London: Edward Goldston, Ltd.

"...change is a constant, and we need to learn to deal with it. No matter what type of library you're in or what you do in it, it's important to remember that you are in a service industry."

(Glassmeyer 2010, 24)

LYNN

Image: http://www.ellington-nice.com/wp-content/uploads/2012/03/SERVICE-EXCEPTION-HOTEL-ELLINGTON-NICE-%C2%A9-ThorstenSchmitt.jpg

Relevance
• Current tool use (95)
• Real world use (96)

Visibility
• Connections from their most used services (96)
• Connections to their most used services (96)
• Connections with other librarians (96)

Unique Capabilities
• Cross-selling activities (97)
• Relationships & outcomes (97)
• Physical & virtual space (97)
• Librarian expertise (97)
• Being nice (97)

Connaway, Lynn Silipigni, and Ixchel M. Faniel. 2014. *Reordering Ranganathan: Shifting user behaviors, shifting priorities*. Dublin, OH: OCLC Research. http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

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"A new type of thinking is essential if mankind is to survive and move toward higher levels."

(Einstein 1946)

LYNN

Image: http://calnewport.com/blog/wp-content/uploads/2007/10/einstein.jpg
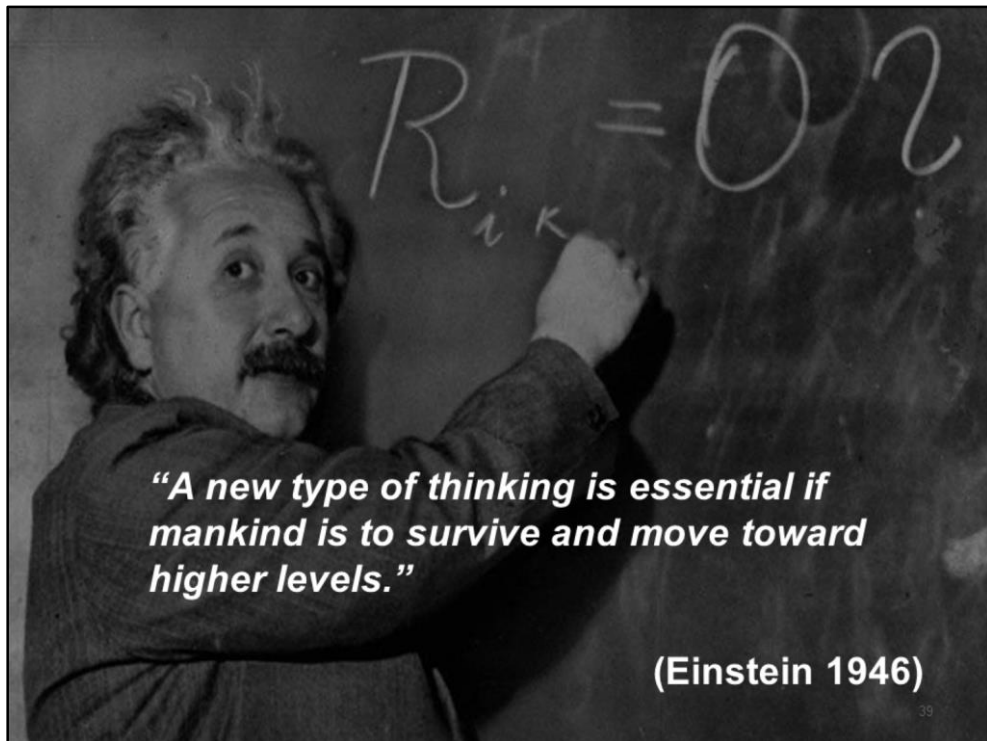
Time is of the essence.

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http://www.oclc.org/content/dam/research/publications/library/2014/oclcresearch-reordering-ranganathan-2014.pdf.

"'…would you tell me, please, which way I ought to walk from here?'

'That depends a good deal on where you want to get to,' said the Cat.

'I don't much care where—' said Alice."

(Carroll [19--?], 66)

LYNN

Image: http://www.valuesbasedleader.com/wp-content/uploads/2013/04/Alice-and-Cheshire-cat.jpg

"Because, in the words of the Cheshire Cat, it helps to know "where you want to get to" as you proceed through unfamiliar or changing terrain. For us, these laws will continue to serve as a sign post" (Connaway and Faniel 2014, 108).

Carroll, Lewis. [19--?]. *Alice's adventures in Wonderland; and, Through the looking-glass and what Alice found there*. Illustrated by John Tenniel. New York: Hurst. http://hdl.handle.net/2027/nc01. ark:/13960/t6446qh74.

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Acknowledgements

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Funding

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Questions?

Lynn Silipigni Connaway, Ph.D.
Senior Research Scientist
connawal@oclc.org
@LynnConnaway

Titia van der Werf
Senior Program Officer
vanderwt@oclc.org