DATA VISUALIZATIONS

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Term Define: Data visualizations (Data Viz), Information Graphics or Infographics

“[c]ommunicating effectively in our era of information overload means moving beyond static words and numbers. Images and graphics carry meaning in a way that cuts through verbal clutter” J. Caplan (as cited in Hill & Grinnel, 2014, para. 20).

What makes data visualizations important?
• Takes numbers/information and creates new data
• Make a decision from visual information
• Bring complex data – make it easy to understand.

Learn about data visualization tools
Incorporate visuals into your projects (Embed, Create Static, Create Dynamic/Interactive, Create Other types)
Share how others are using data visualizations
Remove the mystery of data visualizations
Sharpen your visual language skills
Leave presentation with ideas for your library
Art / creation of symbols to communicate / tell a story

Process Big data – make sense of the world
Libraries Collaborate to Create History

Local histories are easily explored at most libraries. Government documents and records, newspaper photos and clippings, film and video footage, and assorted ephemera nested in stacks and special collections can create vivid snapshots of a community’s past. But even the most thorough collection may not be complete. Complementary and supplemental materials are often held at different locations, forcing patrons and researchers to trek across city and state, use interlibrary loan, or browse multiple websites to complete a historical picture. Libraries are combining forces to eliminate that extra effort, though.

Explore Chicago Collections is a consortium of 21 institutions located throughout the Chicago area.
nineteenth /Dr. John Snow/ London cholera outbreak
dot map
plotted each residential household affected by the disease.
Visualizing information: Not air-borne, to see that water sources contaminated with sewage, was the cause of the spread.
This could not have been done with a spreadsheet containing a list of addresses.
Important: helped with decision-making – created new information
1850’s
nursing pioneer Florence Nightingale
journaled the causes of death of Crimean War soldiers under medical care
the majority of deaths were due to unsanitary conditions.
visualizing the data on a coxcomb diagram, to receive funding to improve sanitation conditions in care units or hospitals.
Important: brought awareness and funding to a cause. (Advocacy)
Visual Learners: 01/08/2013 - Why Infographics Rule, Forbes Magazine ...according to Social Science Research Network “65% are visual learners”

Brain Activity = Amygdala

Inclusive: shareholders (Example: Public library or Academic Library)

Read: 20%-30% Slower
16% of people read text on a page in the order in which it appeared. 84% jump around, picking out individual words and process them out of sequence

Share: social media, print,
David McCandless – London-based “data journalist”/“information designer”
Author of several books “Information is Beautiful”
DATA VISUALIZATIONS AREAS

- Advocacy/Marketing
- Teaching/Learning
- Entertainment
- Inform/Journalism
- Decision-Making/Dashboards
- Space (web/physical)
Build a story with numbers/graphics
American Library 2012 Public Library Funding & Technology Access Study (visual report 8 pgs. / study)
Infographics / Video
Florida Library Association (FLA) Annual Conference marketing sub-committee
Library Day at the Legislature on January 28, 2015
Mission: “delivering the message of the significance, value, usefulness and impact libraries have in the State of Florida.”
Karen Kaufman, Research & Instruction Faculty Librarian at Seminole State College of Florida,
Blake Robinson, Florida Collection and Outreach Librarian for the State Library of Florida Division of Library and Information Services
Amanda Liss, Public Librarian at Prince William County Public Library System in Virginia
Myself
Three areas: Entrepreneurship, Education, and Employment
Legislators = “the E’s of Libraries®—education, employment, entrepreneurship, empowerment, and engagement,” American Library Association (ALA)
Resources Used
Digital image= social media and 11x17 PDF (print)
200 5x7
Lessons Learned: Inclusive of other types of libraries.
Kathy Lussier, Assistant Director of Community Relations and Marketing
Jacksonville Public Library
Elevator pitch to local legislators
“We serve a very diverse customer base. We have young and old. We have various levels of literacy. English is not always their first-language. There is so much information out there and an image can often cut through that clutter and communicate faster and more specifically than words.”
2015
Hillsborough Public Library System (HCPLC)
mission statement
twitter hashtag
The hive makerspace
Featured product = overdrive (use)
Survey results – user satisfaction forms
Tom Newman, Library Specialist, Connecticut State Library / Consortium: (Tableau Public)
Standard 1: The visually literate student determines the nature and extent of the visual materials needed.
Standard 2: The visually literate student finds and accesses needed images and visual media effectively and efficiently.
Standard 3: The visually literate student interprets and analyzes the meanings of images and visual media.
Standard 4: The visually literate student evaluates images and their sources.
Standard 5: The visually literate student uses images and visual media effectively.
Standard 6: The visually literate student designs and creates meaningful images and visual media.
Standard 7: The visually literate student understands many of the ethical, legal, social, and economic issues surrounding the creation and use of images and visual media, and accesses and uses visual materials ethically.
Tree maps
Scatterplot
Bar
Chloropleth
End Product
Web Business Card / Nameplate Sites
• Revu (Free, Pull information from LinkedIn)
• About.Me
• Flavors.me
• Zerply
• Google Profile
• Life Hacker

Purpose
Audience
Research
Objective
Design (Graphs, Graphics, Layout, etc.)
Publishing

Alternative to a research paper assignment
• Interest a student to a topic
• Citation – may deter plagiarism
• Help with computer and visual literacy skills
• Evaluation of sources: Infographics have bias
Visualization and GIS Department – Digital Library Initiatives (DLI), User Experiences, and other librarian types.
Visualization Spaces/Roomba
Events/Workshops: Getting Started with Data Visualization: Tools for Research!, Visualize Your Data with Tableau, Web Mapping with CartDB
Consultants – Help faculty visualize research, publishing and presentations
May 2011, Chancellor Francisco G. Cigarroa, M.D., and UT regents unveiled Framework for Excellence to transform education and healthcare in Texas “The futures of our children and our grandchildren are at stake. How do we make higher education more accessible and affordable to an increasing number of students? How do we produce more doctors, nurses, and health professionals, and improve the quality of healthcare in Texas?”

January 2013 SAS Visual Analytics (VA) mobile-friendly/any device

Gender, race or ethnicity, Student debt, enrollment and degree data, financial aid, course-level data, faculty productivity – including research expenditures and scholarly productivity

SAS Excellence in Education award: “an educational organization using SAS to improve operations, empower leaders, prepare students for today’s workforce, spark innovation, and/or expand educational opportunities”
duPont-Ball Library at Stetson University
Dr. Jason Martin, Head of Public Services Library
hosted an infographic contest

criteria judged: content, accuracy and completeness of information, use of proper citations, clarity and the ability of the infographic to convey a point, creativity and appropriate design
Assisting faculty
Add visualizations in your research, presentations, publications
Visual Catalog
Tableau Public
Data Journalist, visual journalists, computer-assisted reporters
Calida A. Barboza  
Electronic Resources Librarian  
Ithaca College Library  
“From Digits to Diagrams: Using Infographics to Inform Database Retention and Cancellation Decisions,”  

Problem: 2012- 2013 Fiscal Year “...difficult to keep track of how cancelling one database could result in the unintended cancellation of other resources. In response to this problem, an infographic was created to help librarian selectors more quickly see the interconnectedness of the Library’s database subscriptions.

Diagram explanation: Database packages are placed on the left side of the diagram and are separated from fee-based, direct-from-vendor subscriptions. Single and double-headed arrows indicate the relationships of databases and packages to each other. Most databases that are not connected to any others (which tend to be those directly licensed from the vendor) are on the right side of the infographic because canceling them would have the least impact on the cancellation of other databases. Freely available databases are toward the bottom because cutting access to these
resources would not benefit the Library financially.

Future Iterations=Future iterations of the diagram will include number of simultaneous users, total price of the database or package, if the fee paid is a content or access fee, and cost per search.
LIBRARY ANALYTICS TOOLKIT (1:50)
Central Library of Seattle Public Library: Installation: George Legrady, professor of interactive media University of California, Santa Barbara
Art in public places/electronic installation, featuring four types visualizations, which maps the circulation of Central Library, revealing the community's collective reading interests.
six large liquid crystal display screens on the glass wall above the librarians' reference desk in the Charles Simonyi Mixing Chamber
Rock Wall at Hard Rock Cafe in Universal CityWalk in Orlando, Florida

Bottom right: iPearl Immersion Theater – North Carolina State University
IKEA - WAYFINDING
Photography, Drawing,
Qualitative: Memes
Ideas:

• Workshops/makerspaces
• Book displays (online/physical)
• Social Media
• Email
• Newsletters
• Presentations
Excel, Word, Publisher

Show how to create a template in Powerpoint
Design > Slide Size
Arrange Objects
Shapes

Excel Chart (paste in Powerpoint)

Save As jpeg
Ready-made Templates
Embed Video
Icon / Images
Import data from Survey Monkey, Excel (to create charts) or Google Spreadsheet,
Publish: Embed in website, social media, libguide, etc., as an image, PDF (level up),
Piktocard via email
Pricing, Free, Lite/Pro, Non-Profit, Education
Storage
High-Resolution Images
Upload your own data sets

Eurostat
U.S. Census Bureau
World Resources Institute

Chart-types
Choose a filter on left-side
Publish: embed or link
PROCESS

Data → .CSV file
comma separated values
(excel or text file)
RDF
JSON
XML

→ .text
Links Overview – Recommended Books tab
http://libguides.medlib.fiu.edu/dataviz