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Dashboards, Charts, & Infographics

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Dashboards, Charts & Infographics

Susan Gardner Archambault








Head of Reference & Instruction

LOYOLA MARYMOUNT UNIVERSITY | LOS ANGELES, CA

Why Visualize Data?

- Communicates your message
- Facilitates recognition of patterns and relationships
- Takes advantage of subconscious and innate visual processing capabilities

Pre-Attentive Attributes

Attribute	Visual
Color	
Size	
Shape	
Line Length	
Line Width	
Enclosure	
Orientation	

Part 1

CHARTS

Line Chart

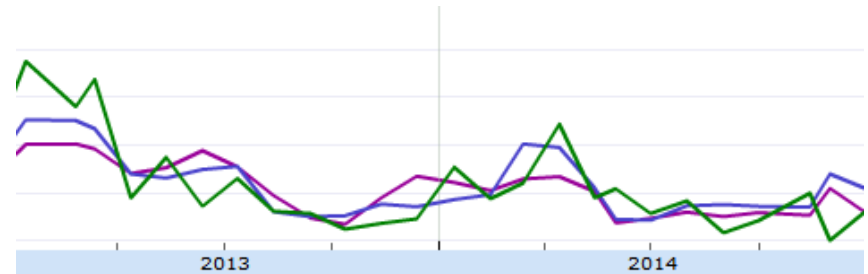
Shows the position of data points relative to each other as they fluctuate over time to reveal the trend, acceleration or deceleration. They do not have to start at “0.”

Tip 1: Use natural increments

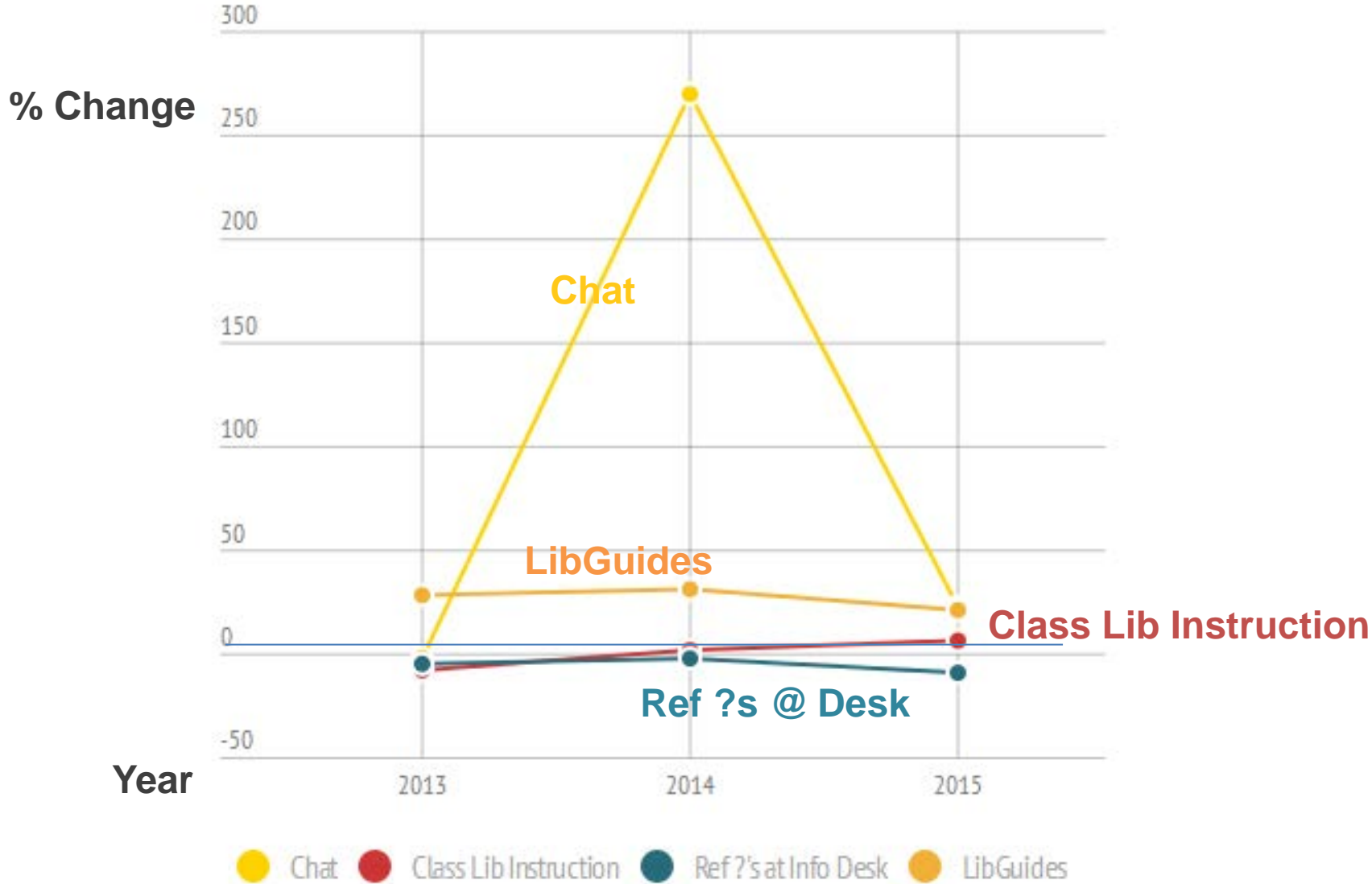
Tip 2: Use four lines or less (easier to read)

Tip 3: Label lines directly next to or on the line itself.

Tip 4: Use bright or dark colors to emphasize the important line



LMU Reference Services % Change



Bar Chart

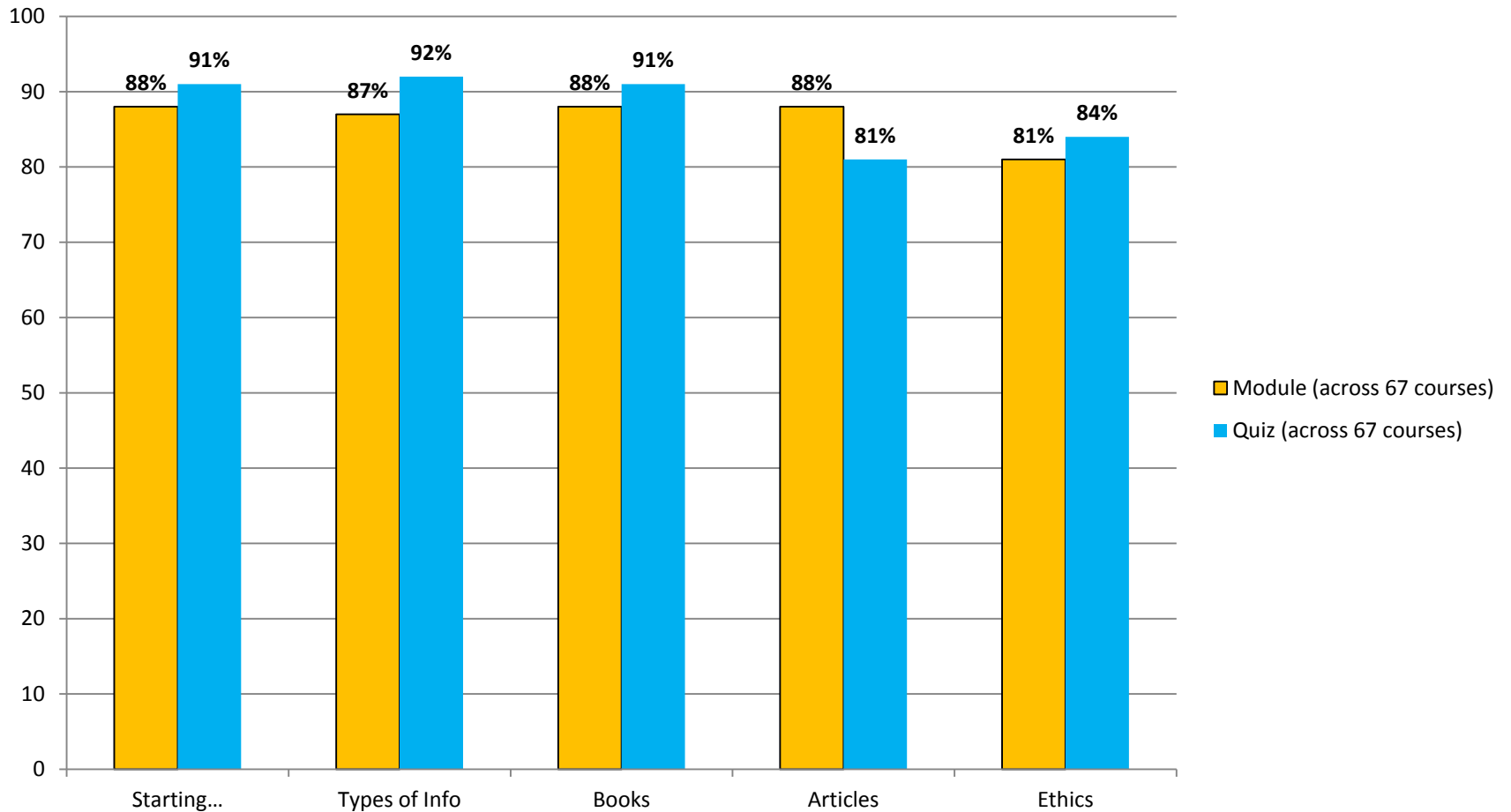
The numerical values of variables are represented by the height or length of lines or rectangles of equal width to compare numerical data by size or importance. Used to illustrate ranking, part to whole (percentages), deviation or distribution between categories. Needs to start at “0” on the y axis so data doesn’t get distorted.

- Tip 1:** Use different colors to represent different categories
- Tip 2:** Shade bars from lightest to darkest for easy comparison
- Tip 3:** Sort the data so it is not plotted in a random order



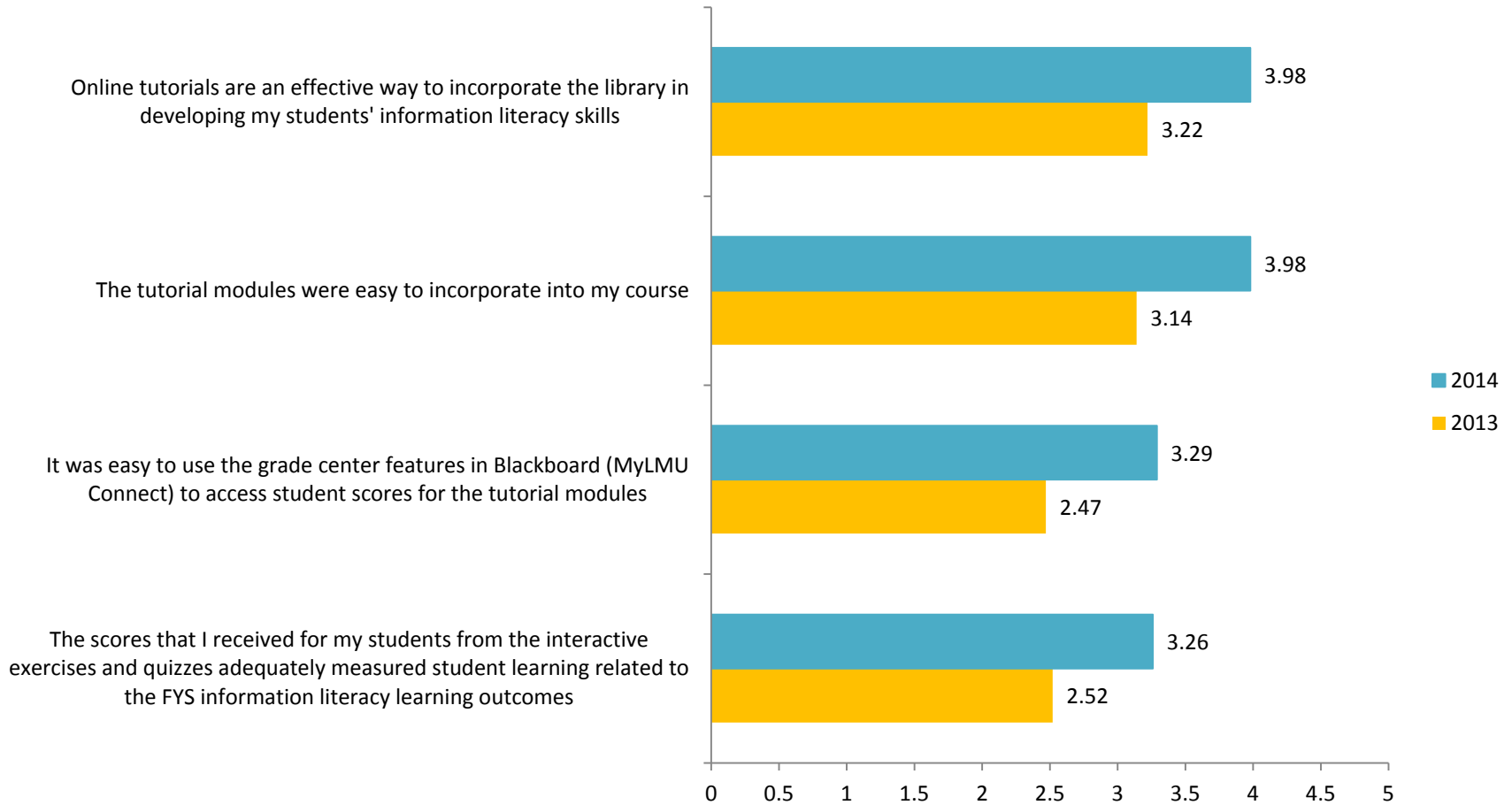
Vertical Bar Chart

Average Scores: First Year Seminar Information Literacy Tutorials in 2104



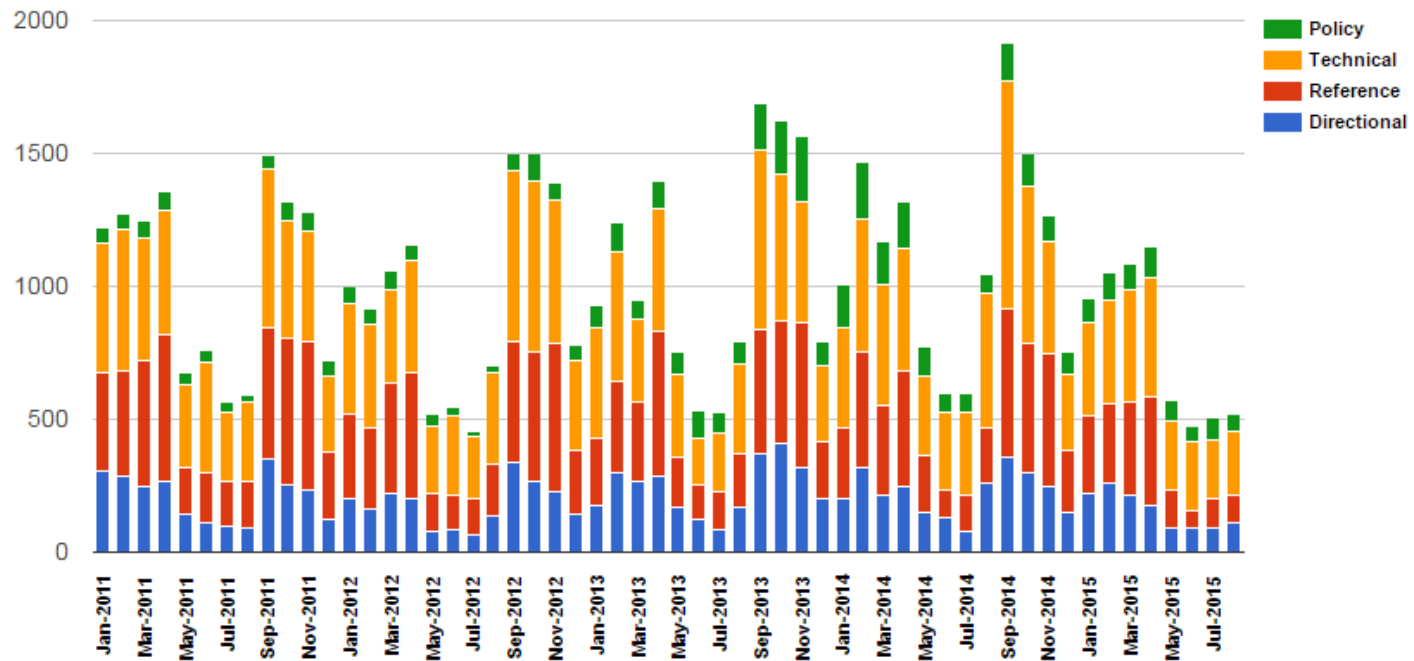
Horizontal Bar Chart

Faculty Survey: Level of Agreement with Statements About the Tutorial



Stacked Bar Chart

Total Number of Questions by Type and Month



Pie Chart

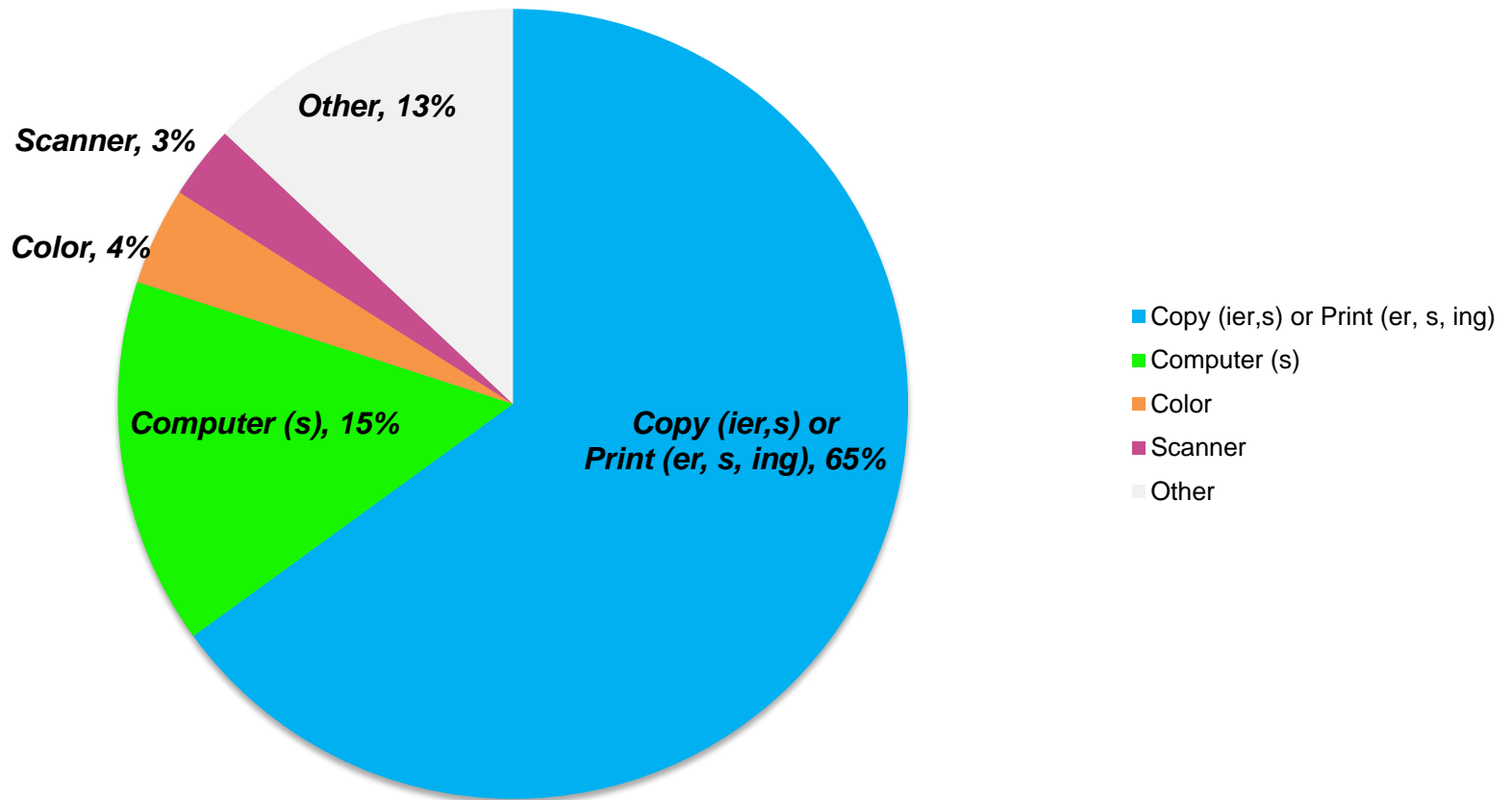
Divided into sectors totalling 100% to illustrate the relationship of parts to a whole. Should be used sparingly due to difficulty in distinguishing small differences in areas that are similar in size but not next to each other. Also takes up lots of space.

- Tip 1:** Use high contrast colors to help differentiate between segments
- Tip 2:** Use a darker shade or different color to highlight an important segment
- Tip 3:** Put % in labels on or near the chart
- Tip 4:** Put largest slice in 12 o'clock position, and then order by size



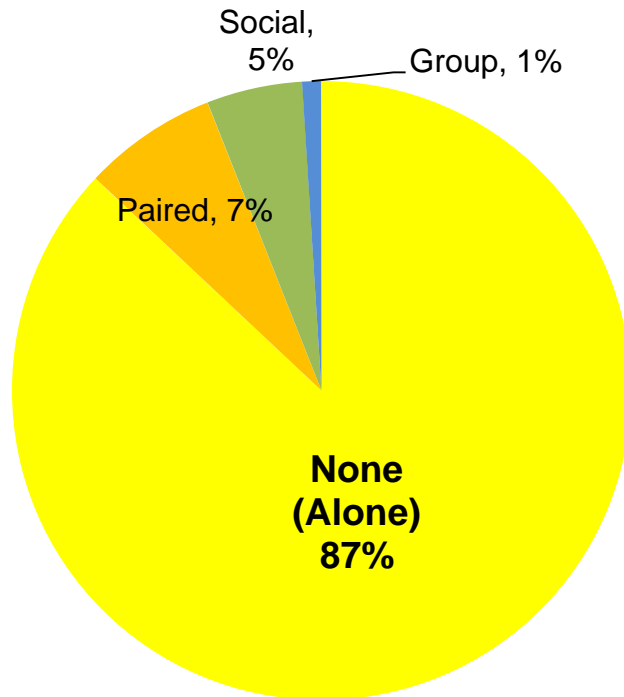
Directional Technology Questions

(Word Count)

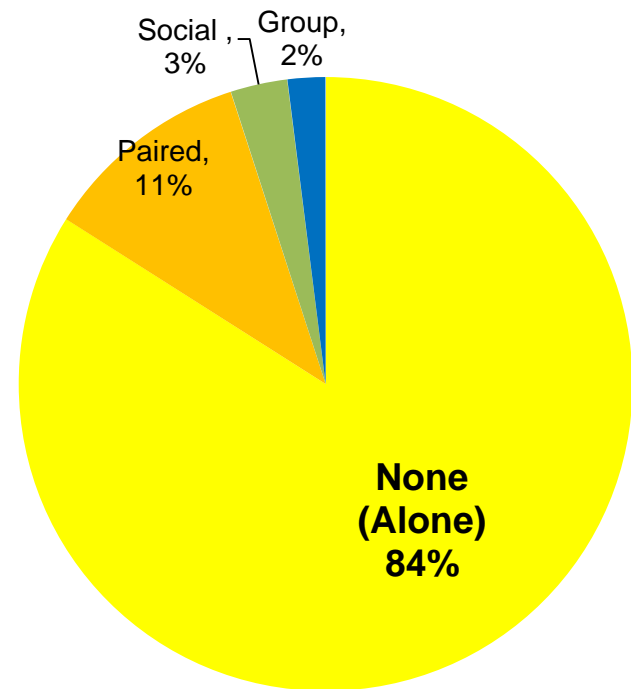


Info Commons Collaboration Level

Observed Collaboration



Self Reported Collaboration

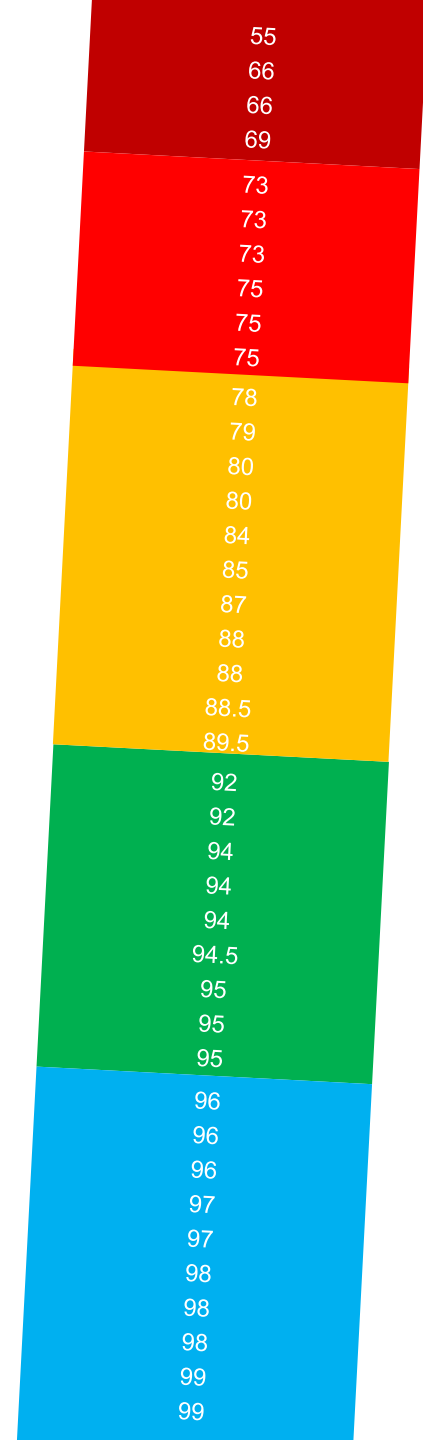


Heat Map: Busy Shifts

Fall 2009 Semester: Time of Day/Day of Week

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
12am-1am	12	2	10	21	3	1	2
1am-2am	21	1	8	3	1	0	1
2am-3am	9	5	7	8	6	0	4
3am-4am	2	5	1	5	2	2	1
4am-5am	5	3	2	5	1	0	2
5am-6am	4	3	3	1	0	0	1
6am-7am	3	0	1	2	2	0	0
7am-8am	8	11	6	7	1	0	0
8am-9am	6	10	9	8	3	4	0
9am-10am	67	84	68	63	37	11	5
10am-11am	86	97	104	65	72	25	37
11am-12pm	108	83	104	62	102	1	1
12pm-1pm	65	147	139	92	110	47	41
1pm-2pm	73	115	107	84	71	121	37
2pm-3pm	115	119	102	59	72	61	46
3pm-4pm	144	142	96	75	77	64	98
4pm-5pm	169	140	94	120	88	91	84
5pm-6pm	84	107	81	83	37	28	67
6pm-7pm	77	119	55	66	9	4	61
7pm-8pm	95	87	97	57	13	19	45
8pm-9pm	78	67	91	46	15	15	59
9pm-10pm	30	36	18	25	11	14	38
10pm-11pm	21	23	17	10	8	9	30
11pm-12am	10	27	3	12	4	8	22

COLOR LEGEND for Quiz Scores



FYS Tutorial: Finding & Evaluating Information (module 3)

Outcome 5: Evaluate Sources

Rank the relevance of an item to a given information need using the RADAR (Relevance, Authority, Date, Accuracy, & Rationale) framework (85%)

Categorize a list of sources by the degree that they represent the following elements of the RADAR framework: authority, date/currency, relevancy, and rationale/bias. (73%)

Identify the four characteristics describing the scope and functionality of library research databases from a list of characteristics describing either databases or the library catalog (73%)

Select the appropriate tool (library catalog) for finding a book (98%)

Demonstrate knowledge of the Library of Congress call number system by locating the correct call number ranges for a list of call numbers (92%)

Choose the appropriate search strategy of "OR" to broaden a search from a list of five possible search strategies (69%)

Use the library catalog to search by title and find the call number of a book (97%)

Identify these search protocols appropriate to the structure of a library catalog: items may be grouped together by subject in order to facilitate browsing; and both keyword searching and controlled vocabulary are search language that could enhance information retrieval (55%)

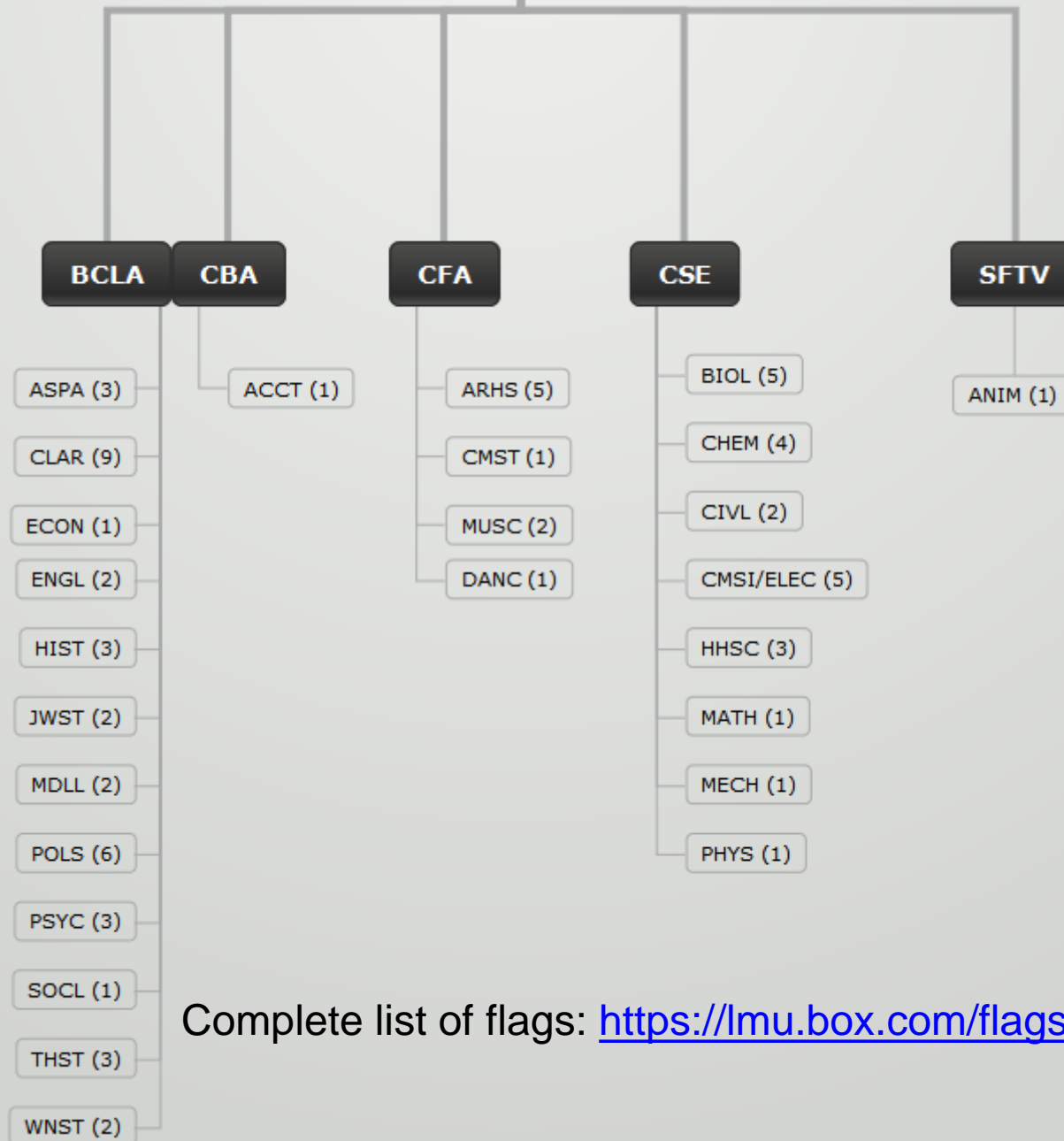
Use the journal list to select the database link that will lead to the full text of a given journal (94%)

Retrieve a book record by author name using the library catalog (94%)

Understand the Library of Congress classification scheme enough to infer what letter a book's call number starts with when given a list of sample book titles and the first letter of their call numbers (95%)

Outcome 4: Locate & Access Information

Info Lit Flagged Courses



Complete list of flags: <https://lmu.box.com/flags>

READ Scale Definitions and Examples

Level 1 (Easy)	Level 2 (Basic)	Level 3 (Intermediate)	Level 4 (Advanced)	Level 5 (Very Advanced)
<p><i>Definition</i></p> <ul style="list-style-type: none"> Requires the least amount of knowledge No specialized knowledge or expertise No consultation of resources Less than 5 min. <p>(directions, hours, toner/paper changes)</p>	<p><i>Definition</i></p> <ul style="list-style-type: none"> Requires more effort Minimal specific knowledge and skills Nominal resource consultation <p>(known title searches, policy information, basic & routine technical assistance)</p>	<p><i>Definition</i></p> <ul style="list-style-type: none"> Requires more time and effort Consultation of ready reference resources or tools Minimal instruction to user Basic reference knowledge and skills <p>(specific reference resources, more complex technical problems, basic instruction on catalogs or databases)</p>	<p><i>Definition</i></p> <ul style="list-style-type: none"> Requires the consultation of multiple resources Subject specialists may need to be consulted More thorough instruction/assistance Reference skills needed Typically lasts 30+ min. <p>(complex search techniques, cross-referencing resources, re-defining/clarifying topics)</p>	<p><i>Definition</i></p> <ul style="list-style-type: none"> In-depth research effort Consultation of subject specialists Multiple resources Efforts with patron are cooperative; dialogue is created Research & reference knowledge needed Appointments may need to be scheduled Typically lasts 1+ hour <p>(interdisciplinary, question evolution)</p>
<p><i>Examples:</i></p> <p>Where are the study rooms?</p> <p>What time do you close?</p> <p>The printer needs paper.</p> <p>Where can I check out headphones?</p> <p>Where is the bathroom?</p> <p>Referrals where no effort was used to troubleshoot or answer question</p>	<p><i>Examples:</i></p> <p>What is the call number for <i>Hamlet</i>?</p> <p>How do I reboot to Windows?</p> <p>As a visitor, can I use the library after 8pm?</p> <p>How do I connect to the wireless? (basic)</p> <p>How do I access databases from off-campus?</p> <p>How do I share my file/use LionShare?</p> <p>How do I access MYLMU/Blackboard?</p> <p>How do I insert a row in Excel?</p> <p>How do I print? (procedures)</p> <p>Referrals after some question answering attempt</p>	<p><i>Examples:</i></p> <p>How do I find books on immunology?</p> <p>I need the full-text of an article.</p> <p>How do I cite a journal article in MLA style?</p> <p>How do I find peer-reviewed articles?</p> <p>How do I apply animation to Powerpoint?</p> <p>What dvds and videos do you have on interpersonal and other kinds of communication?</p> <p>How do I get started on my Psychology research?</p>	<p><i>Examples:</i></p> <p>I need criticisms for both the writing of a play and its production.</p> <p>I'm looking for screenplays of action movies, as well as books on how to write screenplays and interviews with directors.</p> <p>I need two primary and two secondary sources on Cleopatra.</p> <p>Looking for articles/books about the folk song Shenandoah, and for articles on American folk music generally.</p>	<p><i>Examples:</i></p> <p>I'm researching gender roles and college majors in the South. Where do I start? How do I conduct a study?</p> <p>I need help researching Nigerian Igbo communities in the U.S., including issues surrounding their migration and adjustment, population, and settlement patterns.</p> <p>I am researching post war suburban housing development in the LA region.</p> <p>I need to research wills written by Mexican women between 1740-1880.</p>

PART 2

INFOGRAPHICS

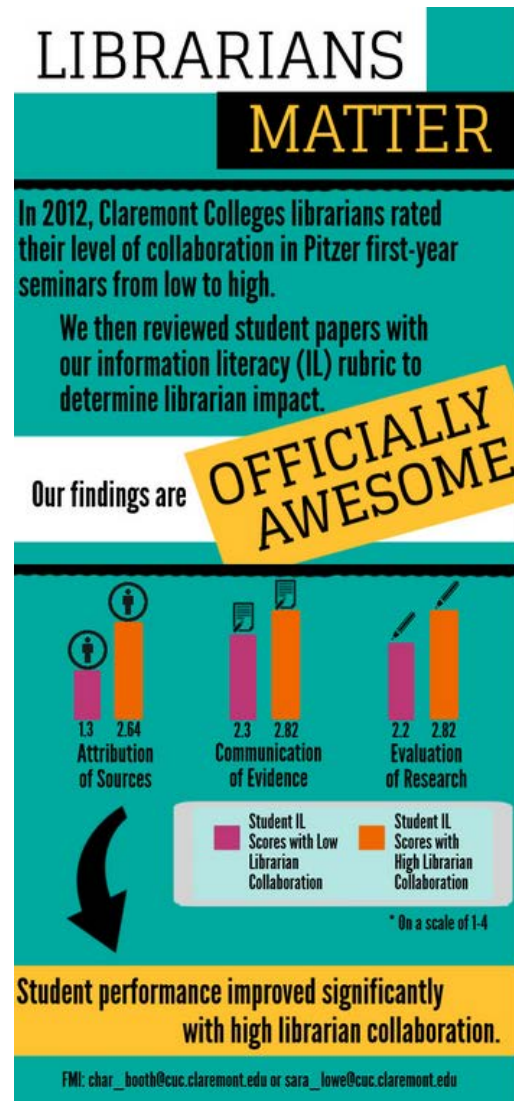
Infographics

A combination of textual and quantitative data used to highlight key images to tell a story or narrative.

They should reveal info that is otherwise lost in a crowd of data, & message should be significant or surprising.

Free Tools:

- Infogr.am
- Easel.ly
- Piktochart
- Venngage



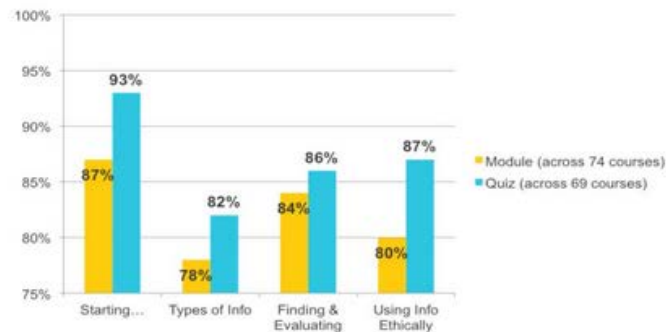
First Year Seminar Infographic

INFORMATION LITERACY IN THE FYS (2013)

THE LIBRARY INFO LIT TUTORIALS WERE A SUCCESS!

Overall Average Scores:

FYS Info Literacy



84%

**OF FIRST YEARS COMPLETED ALL
4 MODULES &
QUIZZES!**



**STUDENTS DID THE BEST
ON MODULE 1
AND STRUGGLED IN MODULES 2,3 AND 4**

LET'S TALK ABOUT THE "PROBLEM" AREAS

RHETORICAL ARTS

INFORMATION LITERACY

SPRING 2014. RESULTS OF THE FIRST SEMESTER. A COLLABORATION BETWEEN THE INSTRUCTORS, OFFICE OF ASSESSMENT, AND THE LIBRARIANS.

SCAFFOLDING



PRE-SEARCH WORKSHEET:
Topic Exploration



ANNOTATED BIBLIOGRAPHY:
Source Evaluation



RESEARCH PAPER OR SPEECH:
Using Evidence

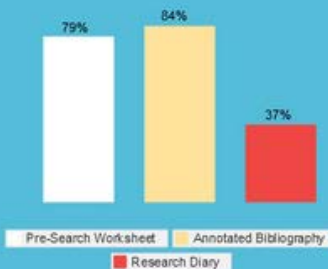
IL LEARNING OUTCOMES:

Conceptualize an effective research strategy and then collect, interpret, evaluate and cite evidence in written and oral communication.

Distinguish between types of information resources and how these resources meet the needs of different levels of scholarship and different academic disciplines.

COMMON SYLLABUS

Instructors using common assignments



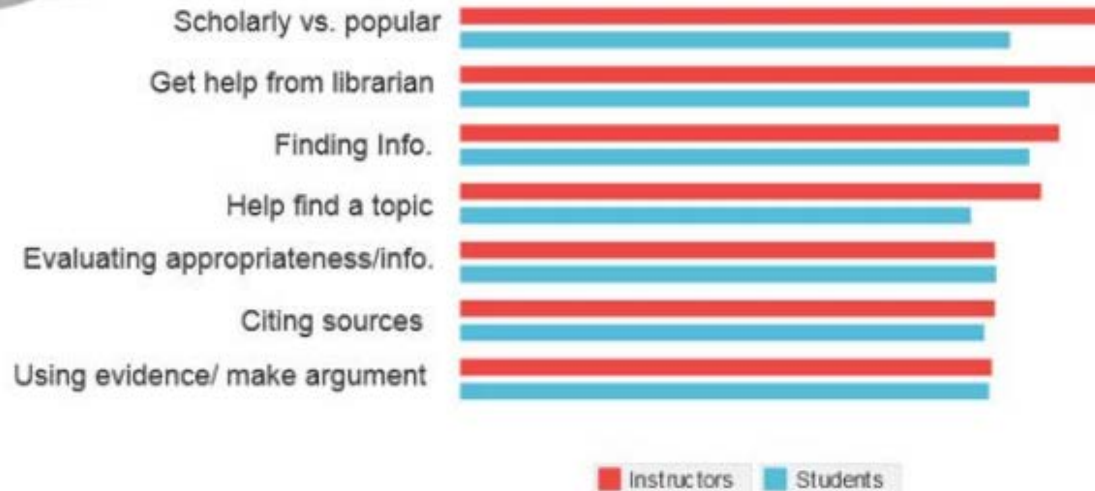
Feedback and Suggested Changes

Revise Pre-search Worksheet to incorporate more reflection and working with sources (combine with elements of research diary)

Adapt simplified Annotated Bibliography rubric from assessment group and make a mandatory assignment

Change Research Diary to a loose set of prompts or eliminate

LIBRARY VISIT HELPED WITH...



Feedback and Suggested Changes

Encourage more integration of library visit and info lit assignments or activities to ongoing research projects

Remind FYS faculty that students get a library visit 2nd semester (cut down on redundancy)

LIBRARY VISIT

All 72 sections of Rhetorical Arts attended a librarian-led workshop. That's 1273 first year students!

100%

ATTENDANCE:



STUDENT FEEDBACK



RESEARCH STRATEGIES tutorial:

Make Research Strategies tutorial a mandatory homework assignment.



Helped me develop better search strategies:

PART 3

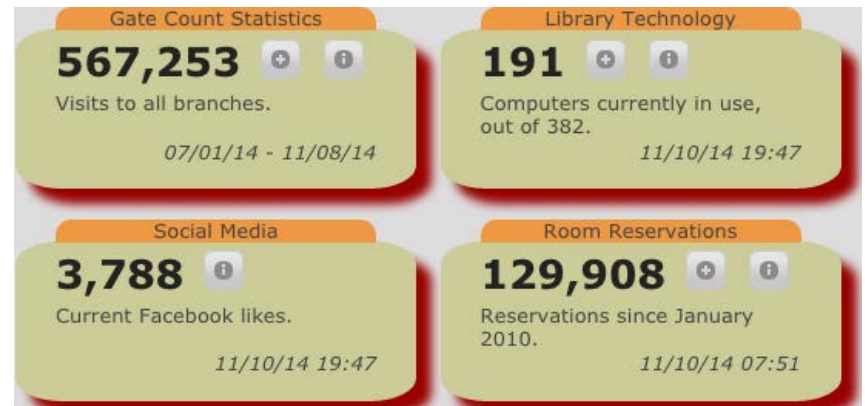
DASHBOARDS

Dashboard

A visual display of the most important information needed to achieve one or more objectives, consolidated and arranged on a single screen so the information can be monitored at a glance

Dashboard Platforms:

- LibPas (Counting Opinions)
- LibAnalytics Insight (Springshare)
- Tableau
- Google Sites
- In-house web development



Info Commons Dashboard

Developed by Burney Wong: <https://lmu.box.com/commons>

LMU | LA

William H. Hannon Library

Tech Trends & Stats

CURRENT REPORT

COMPUTER LAB TRENDS

INFORMATION DESK (GIMLET) TRENDS

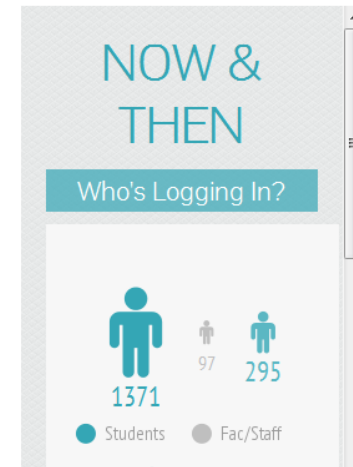
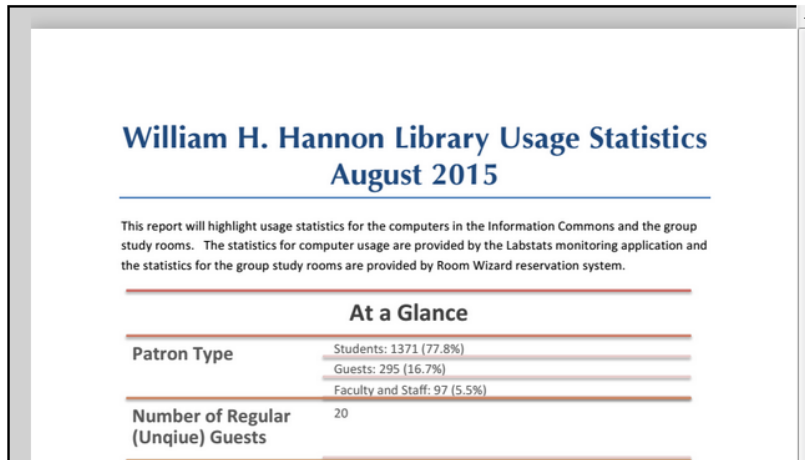
TECH ON 2

SCROLL TO THE BOTTOM FOR A YEAR'S WORTH OF ARCHIVED REPORTS.

WHH_TECH_STATS_MAY2015_FINAL.PDF 1683k - Sep 17, 2015, 4:52 PM by Lmu ITS Labs (V1)

WHH_TECH_STATS_JUNE2015_FINAL.PDF 1604k - Sep 17, 2015, 4:52 PM by Lmu ITS Labs (V1)

Showing 2 files from page CURRENT REPORT.



Electronic Resources Dashboard

Developed by Marie Kennedy and Marisa Ramirez: <https://lmu.box.com/e-dashboard>

ELECTRONIC RESOURCE USAGE STATISTICS

E-JOURNALS

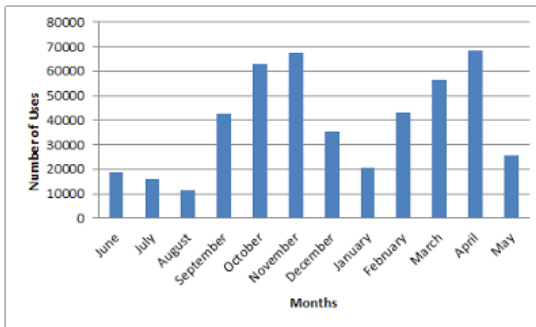
DATABASES

E-BOOKS

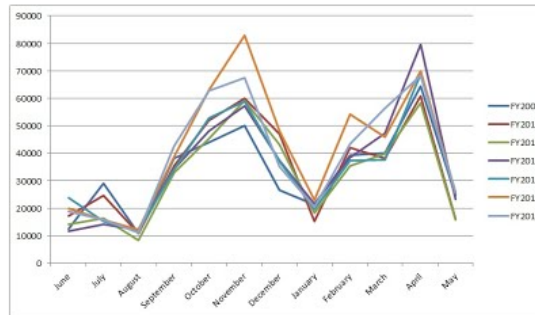
REPORTS

E-Journals

FY2015 Usage



7-Year Trend



Note: FY 2012 March-April normalized

Links

- [Site Glossary](#)
- [FY2015 title-by-title usage statistics](#)
- [FY2014 title-by-title usage statistics](#)
- [FY2013 title-by-title usage statistics](#)
- [FY2012 title-by-title usage statistics](#)
- [FY2011 title-by-title usage statistics](#)
- [FY2010 title-by-title usage statistics](#)
- [FY2009 title-by-title usage statistics](#)

Quick Facts

1. Number of e-journals with active subscriptions in our collection as of (05-01-2014): **59,300**

Top 10 e-Journals

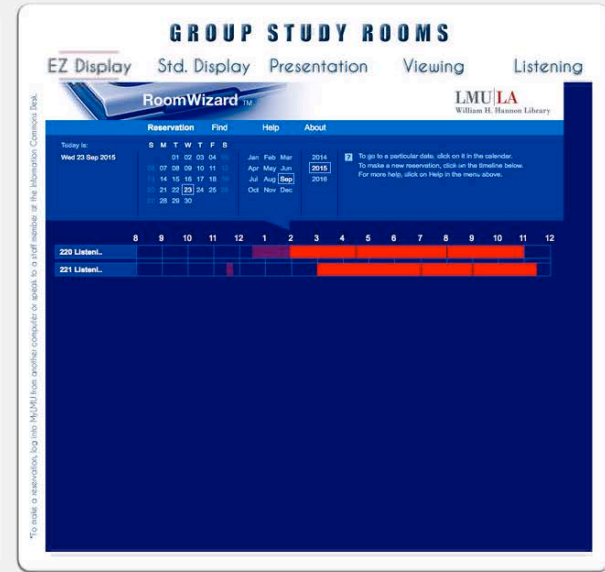
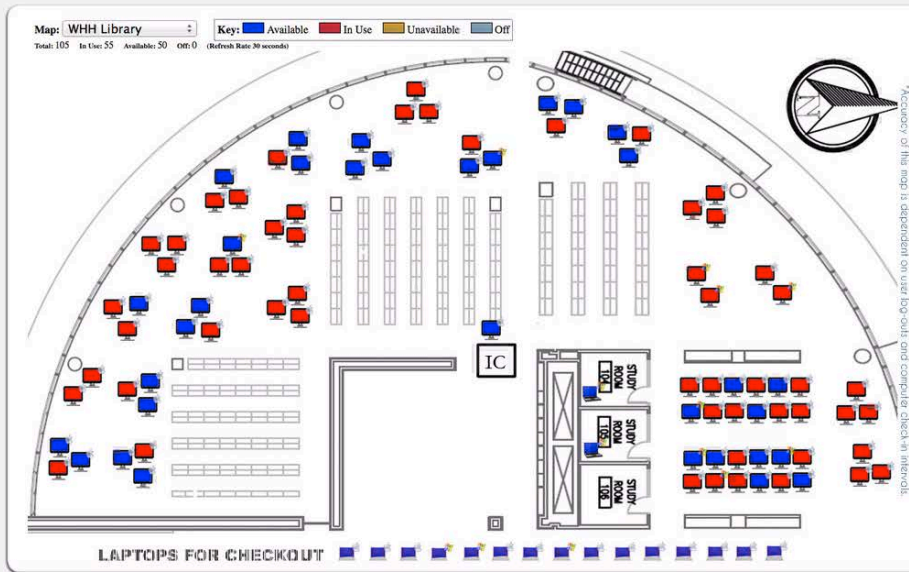
1. New York Times
2. CQ Researcher
3. Los Angeles Times

Top 5 e-Journal Providers

1. JSTOR

Computer & Group Study Room Availability Dashboard

(Developed by Burney Wong)



2015-09-23T00:00:00-07:00
 Seven Days, Seven Pages: a Celebration of the

In celebration of Pope Francis's upcoming visit to the U.S., the Department of Archives & Special Collections at LMU's William H. Hannon Library invites you to view its copy of the Saint John's Bible on display for seven days: Monday, September 21 - Sunday, September 27, 2015. This Department is open to the public and all are welcome. In conjunction with this celebration, seven images from the Saint John's Bible and seven reflective essays will be published on this blog for seven days: Monday, September 21 - Sunday, September 28, 2015. — (Ten Commandments, Thomas Aquinas, Copyright 2002, The Saint...)

<http://lib.lmu.edu/special-collections>

Where can I find a scanner?

- Behind this desk
- In front of the black & white printers
- All of the copiers can scan

More Information

- Archambault, S.G., Helouvry, J., Strohl, B., & Williams, G. “Data Visualization as a Communication Tool,” *Library Hi Tech News* 32, no. 2 (2015).
- Clayton, T. (2014), “Dress your data for success: data visualization strategies for library assessment [ACRL webcast]”, available at: www.ala.org/acrl/datavisualization
- Dando, P. (2014), *Say It With Data: A Concise Guide to Making Your Case and Getting Results*, ALA Editions, Chicago, IL.
- Few, S. (2013). *Information Dashboard Design: Displaying Data for At-A-Glance Monitoring*, 2nd ed., Analytics Press, Burlingame, CA.
- Few, S. (2012), *Show Me the Numbers: Designing Tables and Graphs to Enlighten*, 2nd ed., Analytics Press, Burlingame, CA.
- Lown, C. (2010), “Practical considerations for displaying quantitative data [presentation slides]”, available at: www.slideshare.net/corylown/datavisualization-7522083
- Lown, C. (2012), “Let the data talk”, paper presented at the American Library Association Annual Conference (ALA), Anaheim, CA, 24 June, available at: www.slideshare.net/corylown/let-the-data-talk-ala-2012
- Tufte, E.R. (2001), *The Visual Display of Quantitative Information*, 2nd ed., Graphics Press, Cheshire, CT.
- Wong, D.M. (2010), *The Wall Street Journal Guide to Information Graphics: The Dos and Don'ts of Presenting Data, Facts, and Figures*, 1st ed., W. W. Norton & Co., New York, NY.
- Zoss, A. (2014), “Introduction to data visualization”, available at: <http://guides.library.duke.edu/datavis> (access ed 27 October 2014).

Questions?

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