

Empowering Data: Persuasion through Presentation

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University of Washington Libraries
EBSS Program, ALA Annual, June 23, 2007



Make Data Meaningful

Select, Summarize, Compare, Analyze, Present

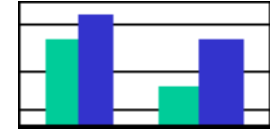
- Select the appropriate method or data sets
- Compile/review results, summarize and analyze
 - Frequencies, means, distribution
 - Apparent themes or patterns
 - Variations and differences
 - Corroboration/validation
- Comparisons add understanding and context
 - Chronological
 - Within and between groups
 - Institutions and norms
 - Internal/external validation

Presenting Data and Results

- Make sure data/results are:
 - Timely
 - Understandable
 - Usable
- Identify **important** findings/**key** results
 - What's important to know
 - What's actionable
- Present **key/important** results to:
 - Library administration/institutional administration
 - Library staff
 - Other libraries/interested parties/stakeholders



Be Graphic!!!



“Often the most effective way to describe, explore and summarize a set of numbers – even a very large set – is to look at pictures of those numbers.

Furthermore, of all methods for analyzing and communicating statistical information, well designed data graphics are usually the simplest and at the same time the most powerful.”

Edward Tufte

The Visual Display of Quantitative Information

"The Leonardo da Vinci of data." THE NEW YORK TIMES

Traditional Library Core Business Input/Output Performance Measures

- **Physical Collections**

- Print (primarily)
- Microforms
- Other (minor)

In-Library Use

2.12 million in 1995-96

0.49 million in 2005-06

- **Facilities**

- House collections
- Customer service and work space
- Staff work space

Visiting Weekly 1998 2007

Faculty 47% 21%

Grad student 78% 46%

Undergrad 67% 66%

- **Services**

- Reference
- Instruction
- Access

Reference

142,000 in 2002-03

106,000 in 2005-06

Time for a New Business Model?

Not better libraries . . .

Not better customers . . . but

*Demonstrate the Value the Library Provides
the University Community*

“Documenting the libraries contributions to quality teaching, student outcomes, and research productivity will become critical.”

(Yvonna Lincoln 2006)

What We Need to Know to Support Our Communities

- **Who are our customers (and potential customers)?**
- What are their teaching, learning, clinical and research interests? How do they work? What's important for their work?
- What are their library and information needs?
- How do they currently use library/information services?
- How would they prefer to do so?
- How do they differ from each other in library use/needs?
- **How does the library add value to their work?**

UW Biosciences Review Task Force (2005-06)

Reasons for Review

- Better understand how bioscientists work
- Understand significance of bioscience to University
- Implications of significant change in use patterns
- Growing interdisciplinarity in research and teaching
- Viability of Libraries organizational structure/footprint
- Value of research enterprise to the University
- Strengthen library connection to research enterprise
- Demonstrating scope and importance of biosciences to library staff

Potential Data Sources

- **National/International**

- Program rankings
- Research awards
- Scholarly productivity

- **Institutional**

- Student enrollments
- Faculty and researcher population
- Degrees granted
- Research awards by area

- **Library**

- Use and usage patterns
- Information needs
- Value and impact on teaching, learning and research

Biosciences Review Process (2006)

- Define scope
- Identify and mine existing data sources
- Acquire new information (**primarily qualitative**)
 - Environmental scan
 - Interviews (biosciences faculty)
 - Focus groups (biosci faculty & students)
 - Peer library surveys
- Final report and recommendations
- Actions
- Incorporate into Libraries Strategic plan
- Inform 2007 Triennial Survey

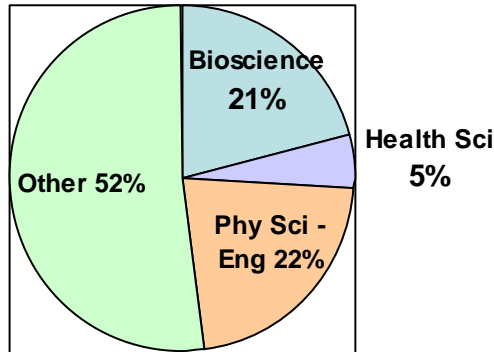
University of Washington Libraries

Assessment Methods Used

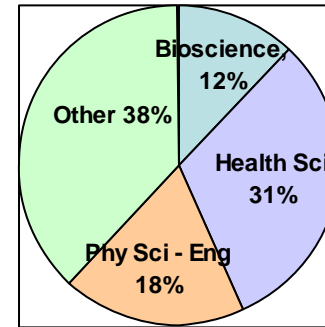
- Large scale user surveys every 3 years (“triennial survey”): 1992, 1995, 1998, 2001, 2004, 2007
 - All faculty
 - Samples of undergraduate and graduate students
 - Research scientists, Health Sciences fellow/residents 2004-
- In-library use surveys every 3 years beginning 1993
- Focus groups/Interviews (annually since 1998)
- Observation (guided and non-obtrusive)
- Usability
- Use statistics/data mining
- Information about assessment program available at:
<http://www.lib.washington.edu/assessment/>

Institutional Data: UW Students, Faculty and Doctorates Awarded by Academic Area

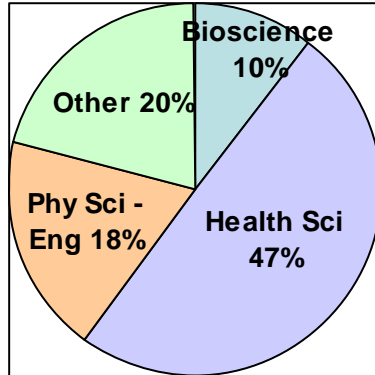
Undergraduate Majors



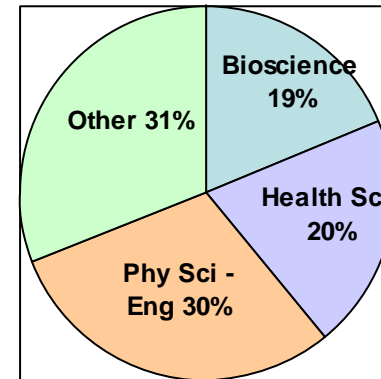
Grad/Professional Students



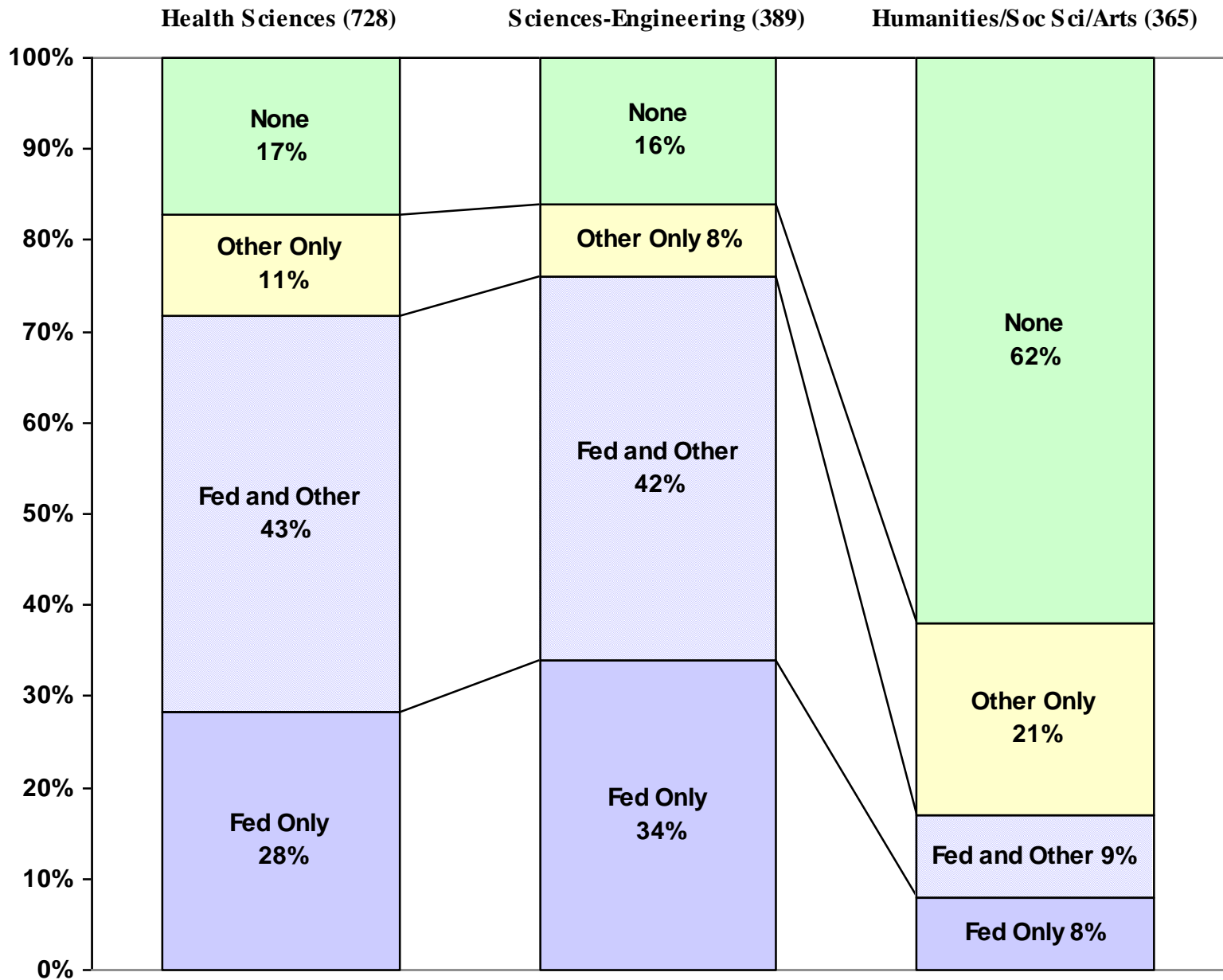
Faculty



Doctorates Awarded



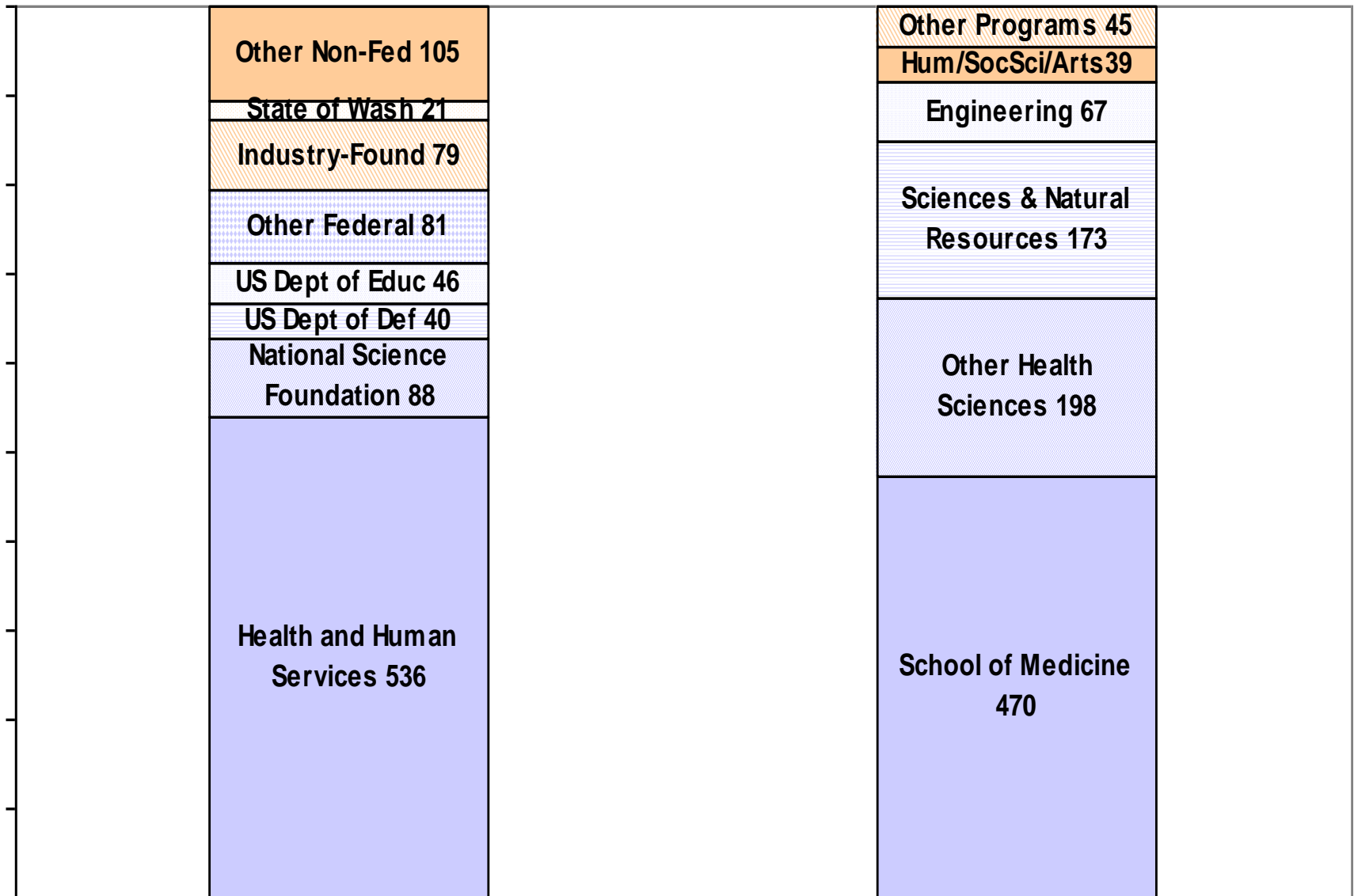
Faculty External Funding by Academic Area (2004 survey)



Institutional Data FY 2005 External Funding By Source and UW Faculty Area

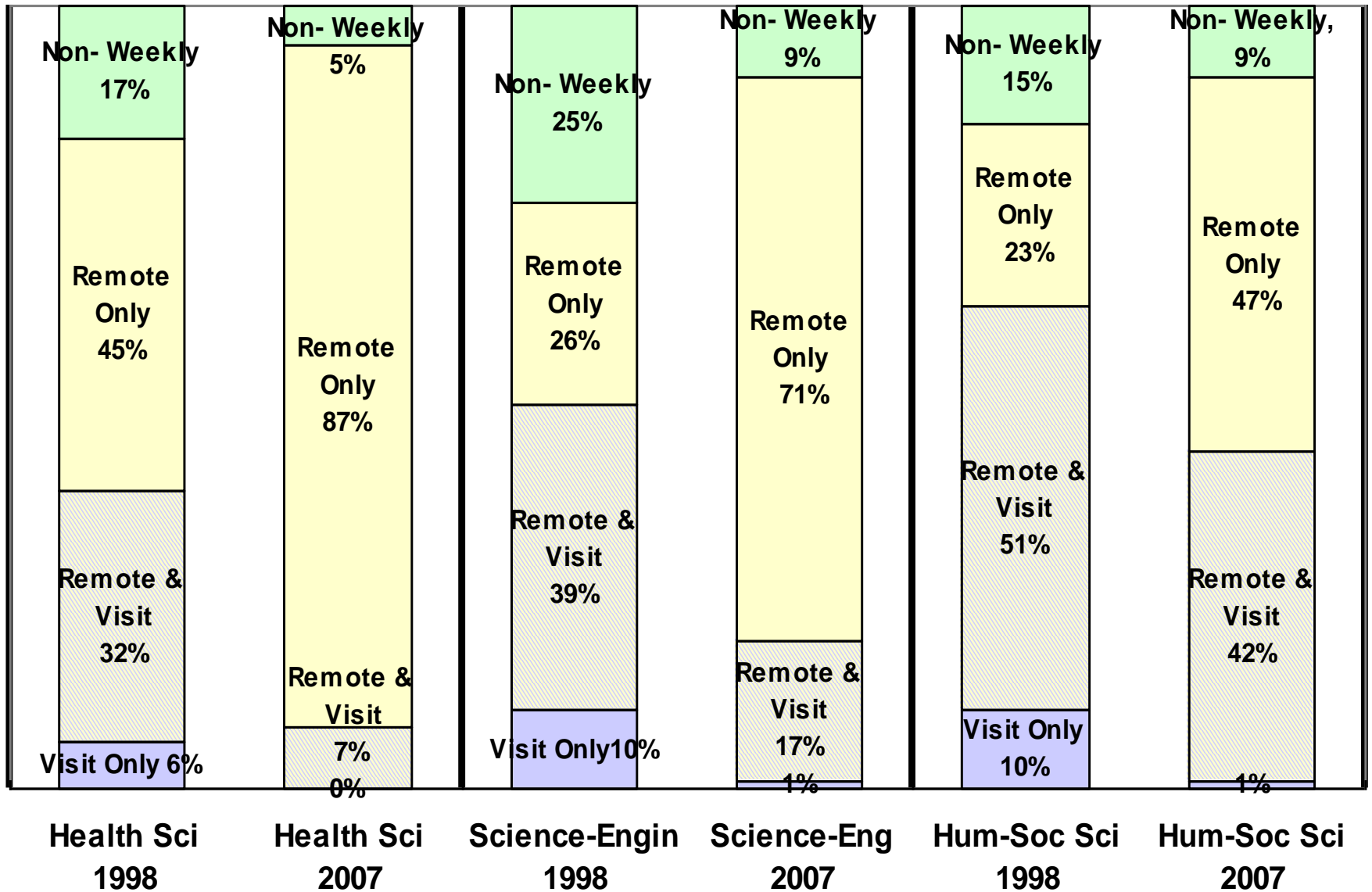
Awards by Source (in millions)

Awards by Area (in millions)



UW Faculty Mode of Use by Academic Area 1998/2007

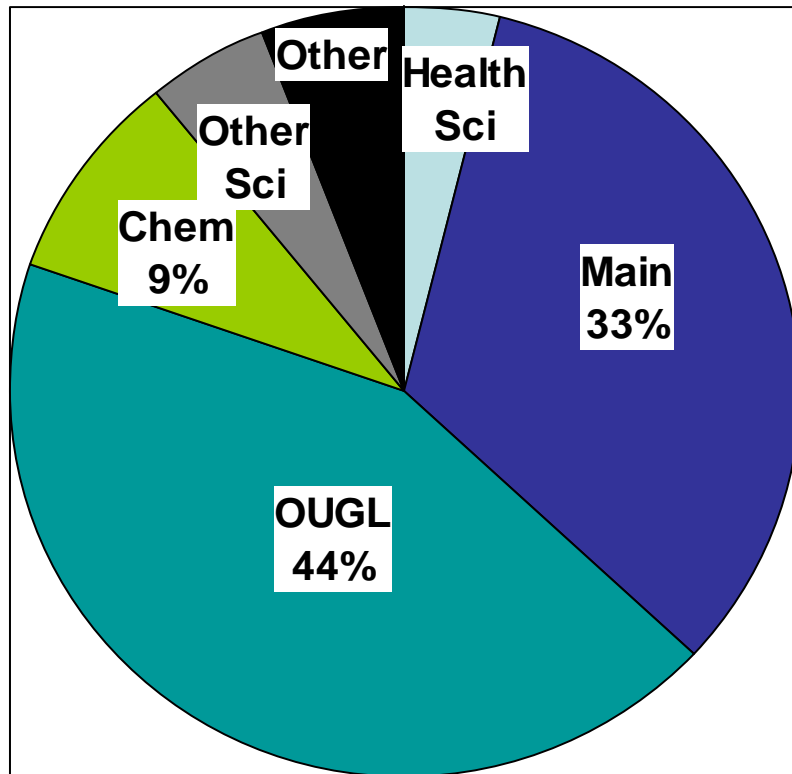
(weekly)



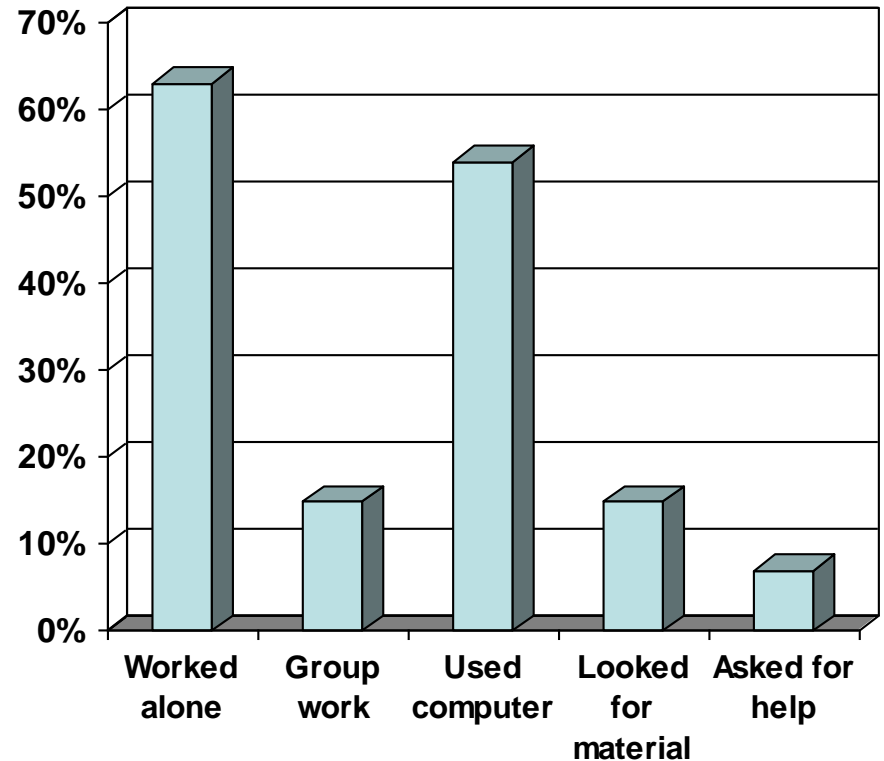
Biology Undergrads Library Use

(2005 In-Library Use Survey)

Libraries Used
Biology Undergrads (n=136)



What They Did



Journal Article Downloads 2005

Packages with more than 100,000 downloads

Highwire	1,320,817	Wiley	143,641
Science Direct	858,865	ACS	134,055
ProQuest	781,042	Science Mag	122,188
Nature	314,079	PsycArticles	116,871
Expanded AI	232,131	Oxford UP	114,476
OVID	203,314	Springer/Kluwer	104,213
Blackwell	167,029		

The Qualitative Provides the Key

- Increasing use of such qualitative methods as, comments interviews, focus groups, usability, observation
- Statistics often can't tell us
 - Who, how, why
 - Value, impact, outcomes
- Qualitative provides information directly from users
 - Their language
 - Their issues
 - Their work
- Qualitative provides understanding

Faculty Interview Themes

- Library seen primarily as E-Journal provider
- Physical library used only for items not available online
- Start information search with Google and PubMed
- Too busy to attend training, instruction, workshops
- Faculty who teach undergrads use libraries differently
- Could not come up with “new library services” unprompted

Focus Group Themes Print Is Dead, Really Dead; Our Virtual Space Not Yours

- Google, PubMed, Web of Science starting points for all
- Faculty identify library with E-journals
- Want more online, including older materials; if not online deliver digitally
- Faculty/many grads go to physical library as last resort
- Too many physical libraries
- Lack understanding of many library services, resources
- Undergrads rarely use print unless assigned by faculty
- Increasing overlap between “bio” research and other science research

BioScience Recommendations

- Consolidate collections and service points
 - Reduce print holdings; focus on online resources
- Reorganize libraries around broad user communities
- Integrate search/discovery tools into users workflow
- Expand/improve information/service delivery options
- Use an integrated approach to collection allocations
- Increase integration of librarians with user workflow
- Lead scholarly communication and e-science work
- Partner with broader science/technology community
- Provide more targeted communication and marketing

Actions

- Appointed Director, Cyberinfrastructure Initiatives and Special Assistant to the Dean of University Libraries for Biosciences and e-Science
- Work underway to standardize interlibrary loan and article delivery regardless of academic program request comes from
- Libraries Strategic Plan priority initiatives for 2007 include:
 - Improve discovery to delivery (WorldCat Local etc.)
 - Reshape our physical facilities as discovery and learning centers for the University community
 - Strengthen existing delivery services, both physical and digital, while developing new, more rapid delivery services
 - Enhance and strengthen the Libraries support for UW's scientific research infrastructure