Do or Do Not… There Is No Try: The Quest for Library Value

#acrlcorrelation

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ACRL '13

Introduction

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THE VALUE OF ACADEMIC LIBRARIES
A Comprehensive Research Review and Report

ACRL Association of College & Research Libraries
A Division of the American Library Association

Prepared by Dr. Megan Oakleaf, Syracuse University
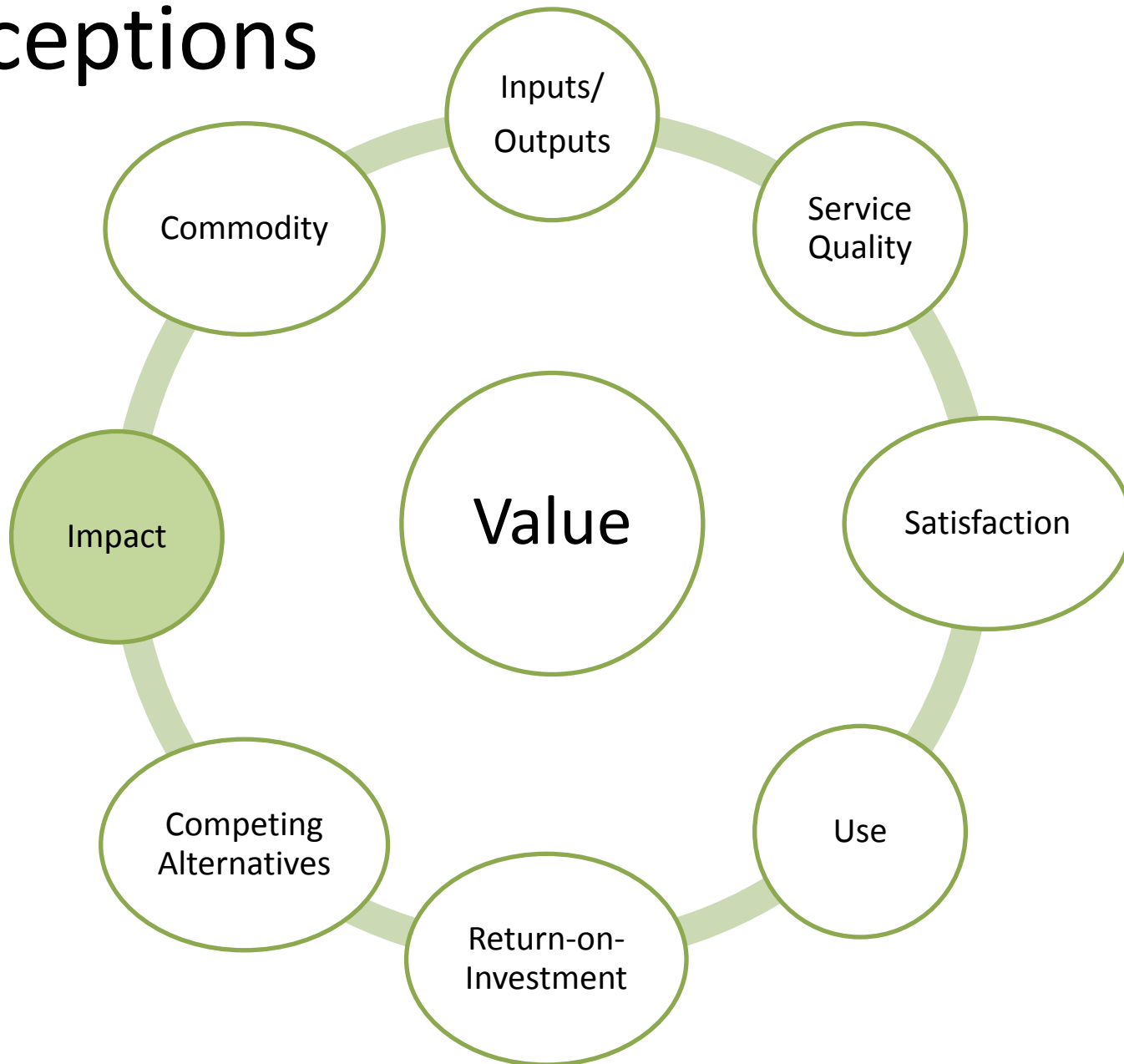for the Association of College and Research Libraries

Context

Few libraries exist in a vacuum, accountable only to themselves. There is always a larger context for assessing library quality, that is, what and how well does the library contribute to achieving the overall goals of the parent constituencies?

(S. Pritchard 1996)

Conceptions

(p 20)

Institutional Impacts

Student

- ☐ Student Recruitment, Enrollment
- ☐ Student Retention, Completion, Graduation
- ☐ Student Career Success
- ☐ Student GPA, Test Achievement
- ☐ Student Learning Outcomes
- ☐ Student Experience, Engagement
- ☐ Student-Faculty Academic Rapport
- ☐ Alumni Lifelong Learning

Faculty

- ☐ Faculty Recruitment, Tenure, Promotion
- ☐ Faculty Teaching
- ☐ Faculty Service
- ☐ Faculty Research Productivity
- ☐ Faculty Grant Seeking
- ☐ Faculty Patents, Technology Transfer
- ☐ Faculty Innovation, Entrepreneurship

Institution

- ☐ Institutional Prestige
- ☐ Institutional Affordability
- ☐ Institutional Efficiencies
- ☐ Institutional Accreditation, Program Review
- ☐ Institutional Brand
- ☐ Institutional Athletics
- ☐ Institutional Development, Funding, Endowments

Community

- ☐ Local, Global Workforce Development
- ☐ Local, Global Economic Growth
- ☐ Local, Global Engagement, Community-Building, Social Inclusion

Report Recommendations

- Determine what libraries enable users to do.

- Develop systems to collect data on individual library user behavior, while maintaining privacy.

- Record and increase library impact on student enrollment, retention, graduation rates, grade and test achievement, learning outcomes, "student experience", job success, etc.

Data, Evidence, & Proof

"Not only do stakeholders count on higher education institutions to achieve their institutional goals, they also require them to *demonstrate evidence* that they have achieved them.

The same is true for academic libraries; they too must provide evidence of their value."

(VAL Report, p 26)

LIBRARY IMPACT MAP	Reference Service	Instructional Services	Circulation	Reserves	ILL	Acquisitions	Collections	Special Collections & Archives	Physical Space	Other:
Student Enrollment										
Student Retention										
Student Graduation Rates										
Student Success										
Student Achievement										
Student Learning										
Student Experience										
Faculty Teaching										

Workbook Activity # 26
Which of these library services/resources impact which campus needs/goals/outcomes?

Academic Library Value: The Impact Starter Kit

Megan Oakleaf

IMPACT

Correlations

Writing "Value of Academic Library" Research Questions

Library Service, Expertise, or Resource	Relationship Verb (Impact, Contribute to, Affect, Influence, Relate to, Cause, Determine, Help)	Institutionally Desirable Outcome
Does [library service, expertise, or resource]	Relationship Verb	Outcome aligned with institutional needs, strategic priorities, goals, outcomes, or mission
In what ways does [library service, expertise, or resource]	Relationship Verb	Outcome aligned with institutional needs, strategic priorities, goals, outcomes, or mission
To what extent does [library service, expertise, or resource]	Relationship Verb	Outcome aligned with institutional needs, strategic priorities, goals, outcomes, or mission
How does [library service, expertise, or resource]	Relationship Verb	Outcome aligned with institutional needs, strategic priorities, goals, outcomes, or mission

http://meganoakleaf.info/valresearchquestions.pdf

The Question of Causation

- Umm…you can't actually demonstrate causation, only infer it.
- Do we have the capability to isolate all variables?
- Do we have the need to say we are the only ones contributing to outcomes?
- Is it enough to describe the profile of successful students and seek to increase students that emulate those attributes?
- What is our goal?
  - If it's to "prove," then we may "need" causal data.
  - If it's to improve, we don't.
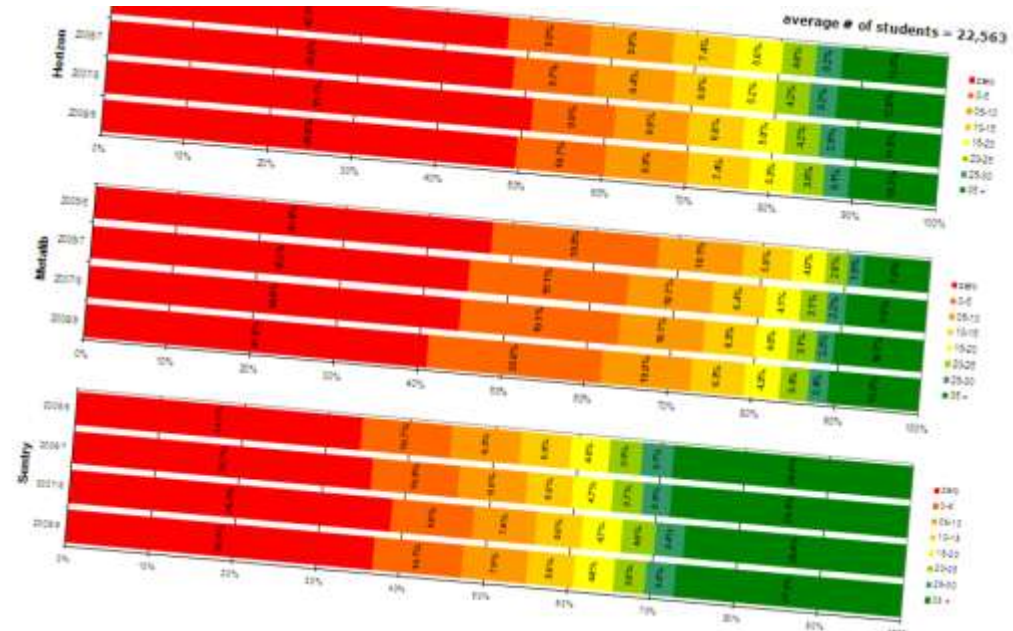
University of Huddersfield

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Using Usage Data since 2005…

…to improve existing services

…to gain insights into us behaviour

…to measure the impact of the library
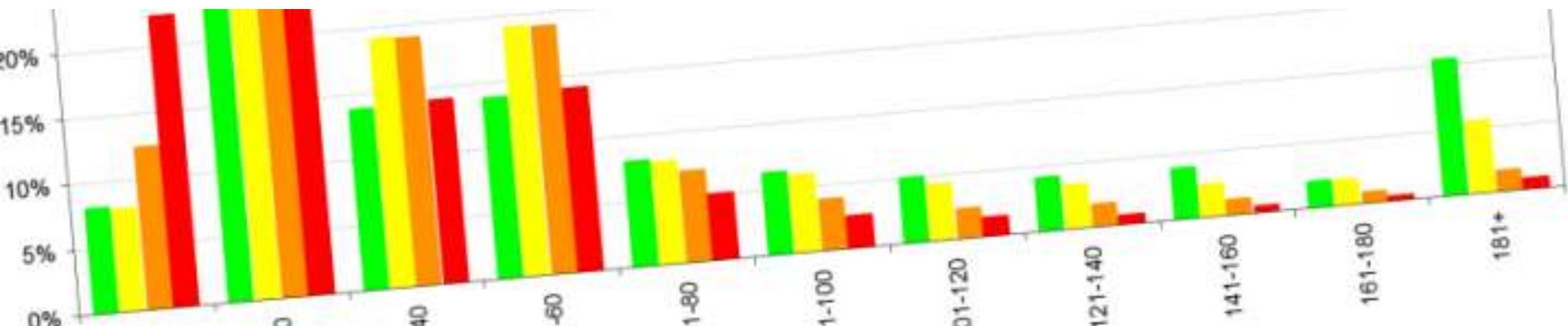
Library Impact Data Project
Phase I (Feb-Jul 2011)

To support the hypothesis that…

"There is a statistically significant correlation across a number of universities between library activity data and student attainment"

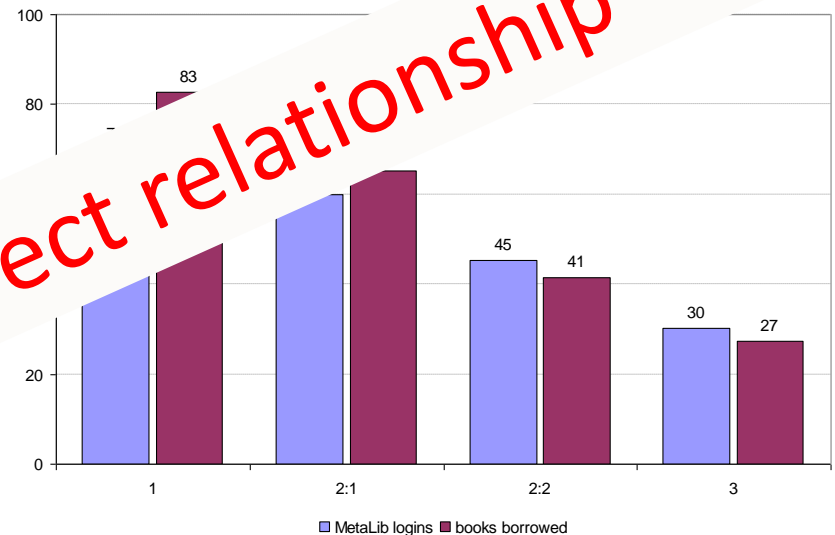# Library Impact Data Project 1

Original data requirements

- For each student who graduated in a given year, the following data was required:
  - Final grade achieved
  - Number of books borrowed
  - Number of times e-resources were accessed
  - Number of times each student entered the library, e.g. via a turnstile system that requires identity card access
  - School/Faculty

Did we prove the hypothesis?

- The relationship and variance means that you can believe what you see

- And you can believe it across a range of data
  - Subjects
  - Partners

- So library usa~~ge~~ impac~~t~~

Not a cause and effect relationship

Library Impact Data Project

Phase II (Jan-Oct 2012)
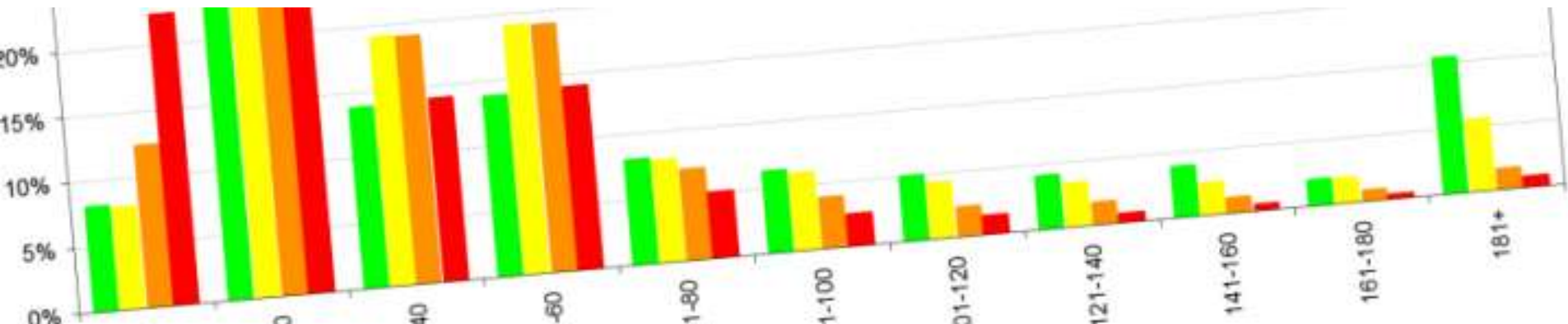
Library Impact Data Project
Phase II (Jan-Oct 2012)

- Phase I looked at over 33,000 students across 8 universities

- Phase II looks at around 2,000 FT undergraduate students at Huddersfield

Library Impact Data Project 2
Additional data

- We had some new library usage metrics which weren't available during Phase I
  - Demographics
  - Overnight usage
  - Off campus usage
  - The number of e-resources accessed
    - as distinct from the hours spent logged into e-resources
    - the number of e-resources accessed 5 or more times
    - the number of e-resources accessed 25 or more times.

Library usage
Ethnicity

Factor	Asian	Black	Mixed	Chinese	Other
Number of items borrowed	-.041	-.046		-.108	-.124
Number of library visits	-.251	-.210	-.095		-.076
Hours logged into library PC	-.127	-.094	-.078		
Hours logged into e-resources					
Number of PDF downloads					
Number of e-resources accessed				-.097	
Number of e-resources accessed 5 or more times					
Number of e-resources accessed 25 or more times					
Percentage of usage occurring on-campus	-.172	-.152			

Usage levels Compared to control   ▢ Higher   ▢ Lower   **Control group:** White

Library usage
Country of domicile

Factor	New EU	Old EU	China	Rest of world
Number of items borrowed		-.113	-.144	-.073
Number of library visits		-.066	-.098	-.099
Hours logged into library PC		-.082		-.089
Hours logged into e-resources	-.159		-.075	
Number of PDF downloads	-.175	-.088		
Number of e-resources accessed	-.104		-.119	
Number of e-resources accessed 5 or more times	-.152		-.074	
Number of e-resources accessed 25 or more times	-.207	-.092		
Percentage of usage occurring on-campus			-.073	

Usage levels
Compared to control   Higher   Lower   **Control group:** UK

Library usage
Aggregated subject groups

Factor	Science	Computing and engineering	Arts	Humanities	Health
Number of items borrowed	-.232	-.337	-.193		-.064
Number of library visits		-.214		-.113	-.295
Hours logged into library PC		-.106		-.064	-.147
Hours logged into e-resources			-.435		
Number of PDF downloads		-.283	-.559	-.138	-.057
Number of e-resources accessed		-.281	-.485		-.114
Number of e-resources accessed 5 or more times		-.272	-.432		
Number of e-resources accessed 25 or more times		-.157	-.183	-.087	-.147
Percentage of usage occurring on-campus		-.095			

Usage levels
Compared to control

Higher

Lower

Control group: Social science

Library usage
Retention

- Looking at one year of data for every student
- Using a cumulative measure of usage for the first two terms of the 2010-11 academic year
- Only looking at people who dropped out in term three
- All the students included in this study were at the university in the first two terms, and they have all had exactly the same opportunity to accumulate usage.

Library usage
Retention

Factor	FT, PT, all sites	FT, PT, Huddersfield only	FT, Huddersfield only
Number of items borrowed	-.056	-.052	-.030
Number of library visits	-.032	-.031	
Hours logged into library PC	-.027		
Hours logged into e-resources	-.060	-.060	-.042
Number of PDF downloads	-.051	-.047	-.034

Number of e-resources accessed

Depth and breadth

Factor	First /2.i	First /2.ii	First /Third	2.i /2.ii	2.i /Third	2.ii /Third
Number of e-resources accessed	-.102	-.243	-.350	-.182	-.184	
Number of e-resources accessed 5 or more times	-.115	-.248	-.363	-.165	-.176	
Number of e-resources accessed 25 or more times	-.147	-.273	-.248	-.121		
Percentage of total usage overnight				-.0.07		

Grade First 2.i 2.ii Third

Other factors

Value added

- Rank entry points and final grade as percentage

- Does the difference correlate with measures of usage?

- WARNING! This needs further testing!

- Methods are untried

- Missing data

- Initial results are very encouraging ☺

Going forward
@Huddersfield

- Identifying retention issues and our impact on lowering them as part of a University dashboard
- Look at specific subjects in order to work towards:
  - A best practice toolkit for information skills sessions
  - Further understanding by holding focus groups with target areas
- Create an action plan to engage with academic colleagues
- Showing value for money and the impact of the service on the student experience

Going forward
@a national level

- An analytics service providing libraries with *actionable* data to transform the services and support institutions provide to students and researchers

JiscLAMP

Library Analytics and Metrics Project

- The project will develop a prototype shared library analytics service for UK academic libraries
  - Envisioned as a data dashboard
  - To enable libraries to capitalise on the many types of data they capture in day-to-day activities
  - To support the improvement and development of new services and demonstrate value and impact in new ways across the institution

- A partnership between Jisc, Mimas (University of Manchester) and the University of Huddersfield

References

- Library Impact Data Project blog
  - http://library.hud.ac.uk/blogs/projects/lidp/
- JiscLAMP
  - http://jisclamp.mimas.ac.uk/about-lamp/
- Stone, Graham and Ramsden, Bryony (2013) *Library Impact Data Project: looking for the link between library usage and student attainment.* College and Research Libraries. Available as pre-print
- Stone, Graham and Collins, Ellen (2013) *Library usage and demographic characteristics of undergraduate students in a UK university.* Performance Measurement and Metrics, 14 (1). Available as pre-print

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The Correlation

A statistically significant difference in GPA between graduating seniors who had library instruction in upper-level courses and those who did not.

Melissa Bowles-Terry, "Library Instruction and Academic Success: A Mixed-Methods Assessment of a Library Instruction Program," *Evidence Based Library and Information Practice* 7, 1 (2012): 82-95.

Process

- 4,489 transcripts of students who entered UW between 2005-2007 and graduated 2006-2011, excluding graduate & professional students
- Dataset from registrar: classes taken, grades, major at entry, major at graduation, GPA at graduation, sex
- Compared transcript data with internal library instruction records and sorted students into groups based on level of library instruction

Comparison groups

MEAN GPA	
Group 1: Upper-level library instruction	3.289
Group 2: Freshman-level library instruction	3.247
Group 3: No library instruction	3.214

Now what?

- Developing a tiered information literacy program

- Argument for not "front-loading" library instruction in freshman year

- Identifying departments that don't currently use library instruction

The bigger picture

Image source:

University of Minnesota

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Correlations for First Year Undergraduates in 2011-12

- Statistically significant positive difference in **GPA** for library users vs. non-library users
- Statistically significant relationship between library use and **retention** to Fall 2012
- Statistically significant relationship between library use and both **Scholarship** and **Academic Engagement**, as measured by the SERU survey

How we found it: Layers of Data

Office of Institutional Research Performance Data
Term and Cum GPA, Retention

Office of Institutional Research Demographics Data
College, Level, Major, Gender, Ethnicity, Age

Libraries Data (13 Access Points)
Circulation, Digital, Instruction, Reference, and Workstation
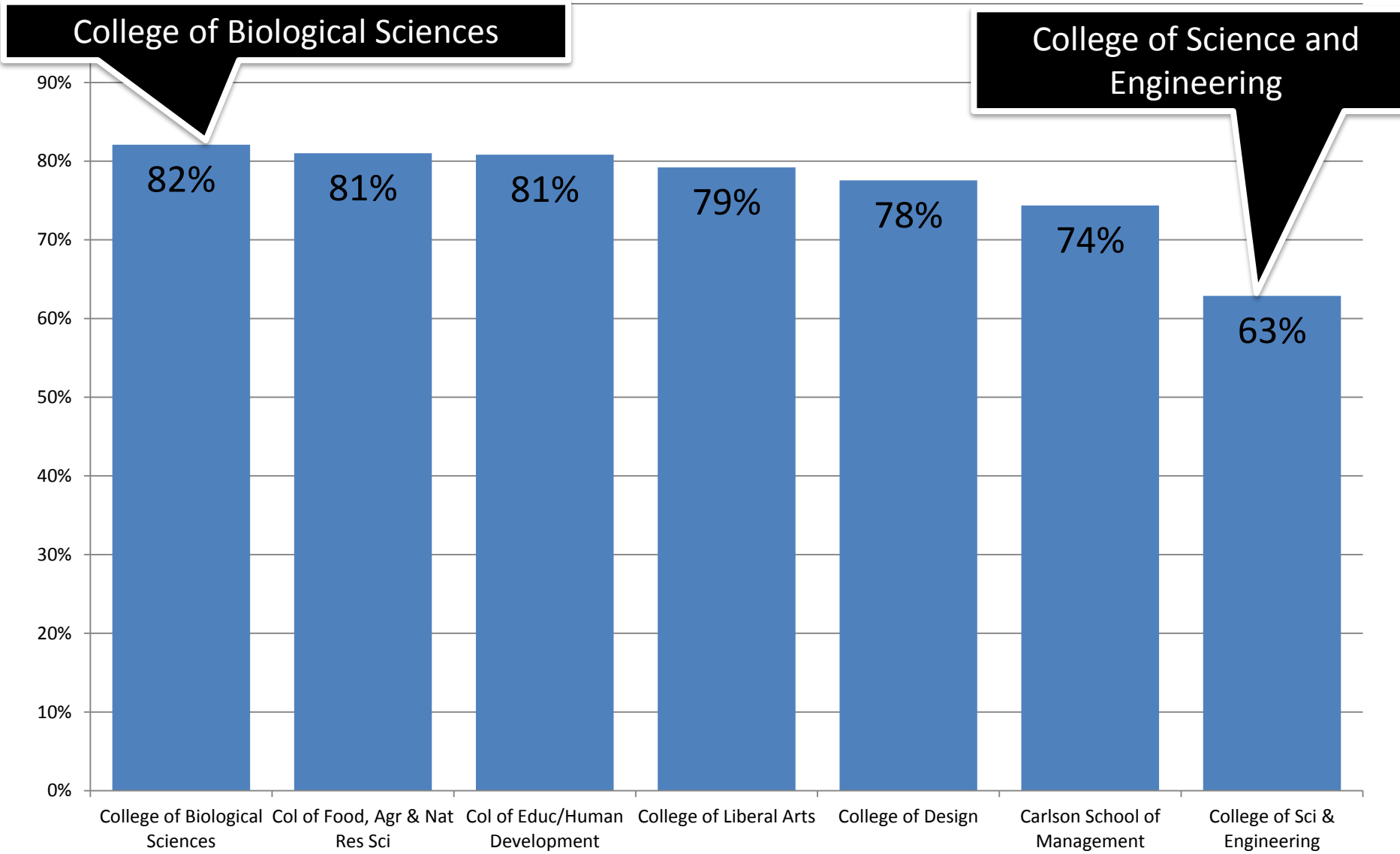
Any (trackable) Library Use

- Circulation (including ILL and renewals)

- Digital (website, e-journal, database, e-book)

- Reference (online and consulting, when an ID was captured)

- Instruction (workshops, course-integrated, Intro to Library Research)

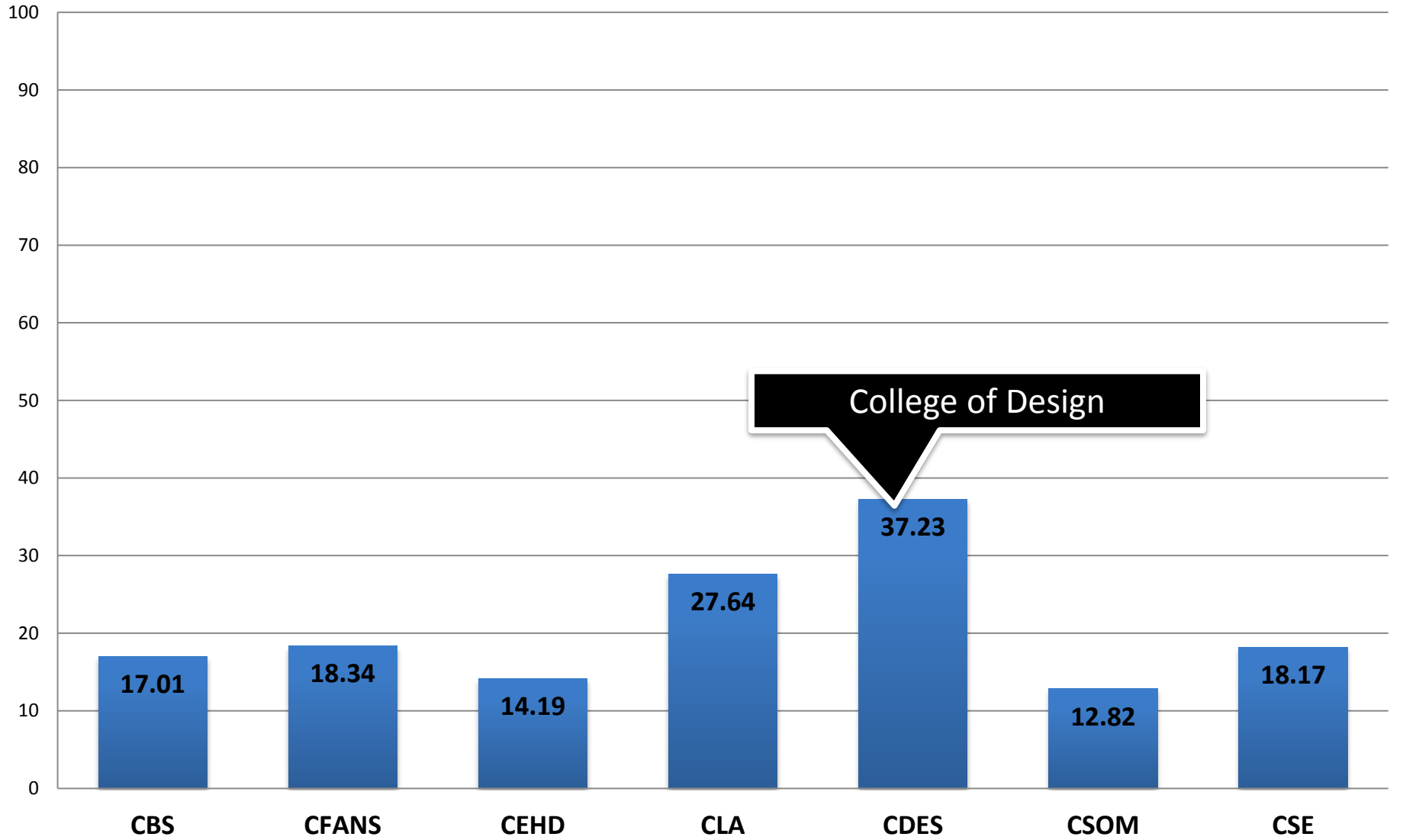- Workstation (our only "library as place" measure)

Demographics by themselves illustrate big and important differences between colleges

Percent of Undergrads Using Library

Bar chart showing the percent of undergrads using the library by college:

- College of Biological Sciences: 82%
- Col of Food, Agr & Nat Res Sci: 81%
- Col of Educ/Human Development: 81%
- College of Liberal Arts: 79%
- College of Design: 78%
- Carlson School of Management: 74%
- College of Sci & Engineering: 63%

Callout: College of Biological Sciences

Callout: College of Science and Engineering

Undergrad Circulation Usage

| College	Value
CBS	17.01
CFANS	18.34
CEHD	14.19
CLA	27.64
CDES	37.23
CSOM	12.82
CSE	18.17

College of Design

Layers of Data

**Office of Institutional Research Performance Data
Term and Cum GPA, Retention**

**Office of Institutional Research Demographics Data
College, Level, Major, Gender, Ethnicity, Age**

**Libraries Data (13 Access Points)
Circulation, Digital, Instruction, Reference, and Workstation**

Undergrad Term GPA - Fall 2011 Term
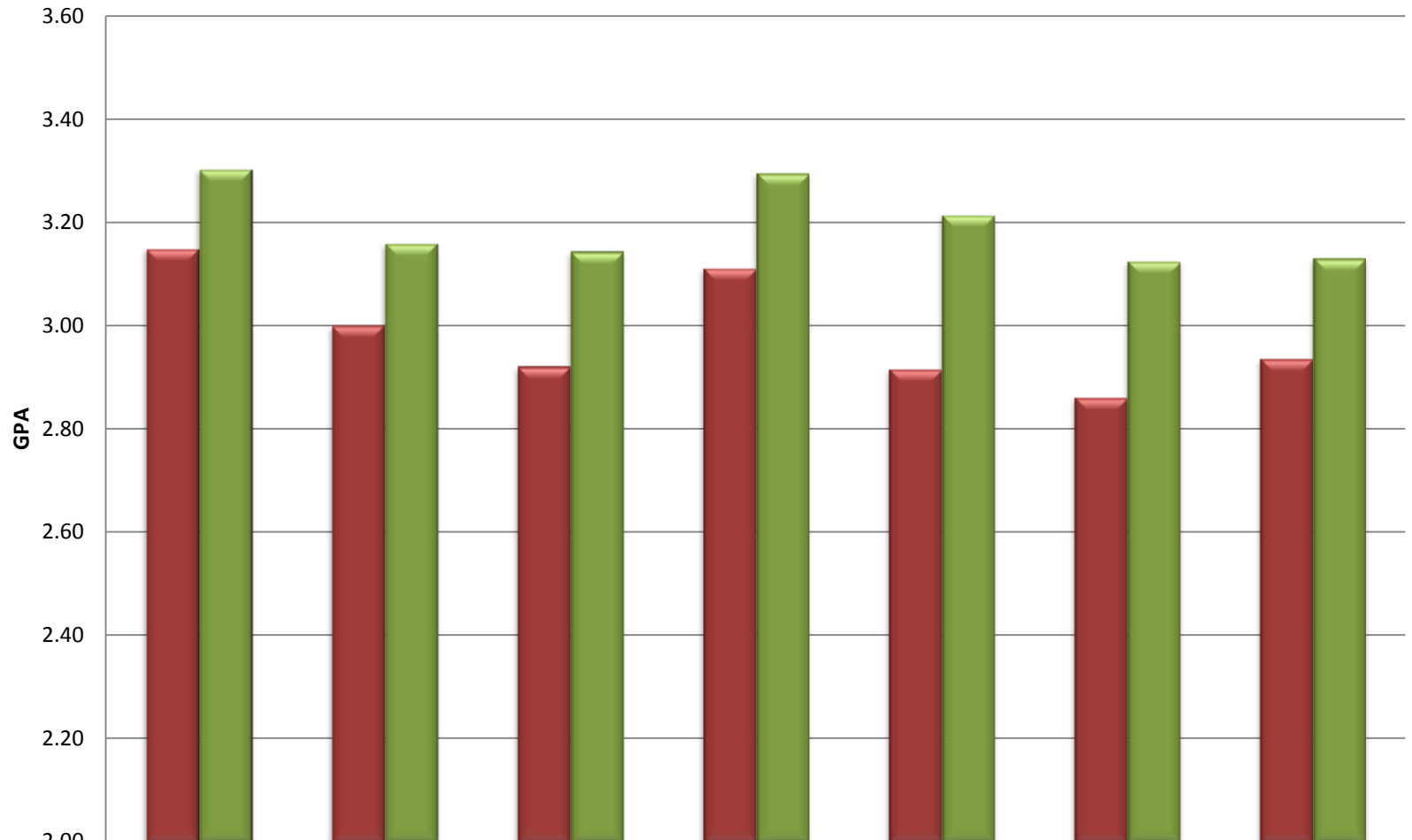
	Carlson School of Management	Col of Educ/Human Development	Col of Food, Agr & Nat Res Sci	College of Biological Sciences	College of Design	College of Liberal Arts	College of Sci & Engineering
No Library Use	3.15	3.00	2.92	3.11	2.92	2.86	2.94
Library Use	3.30	3.16	3.14	3.30	3.22	3.13	3.13

GPA vs. Number of Types of Library Use

GPA
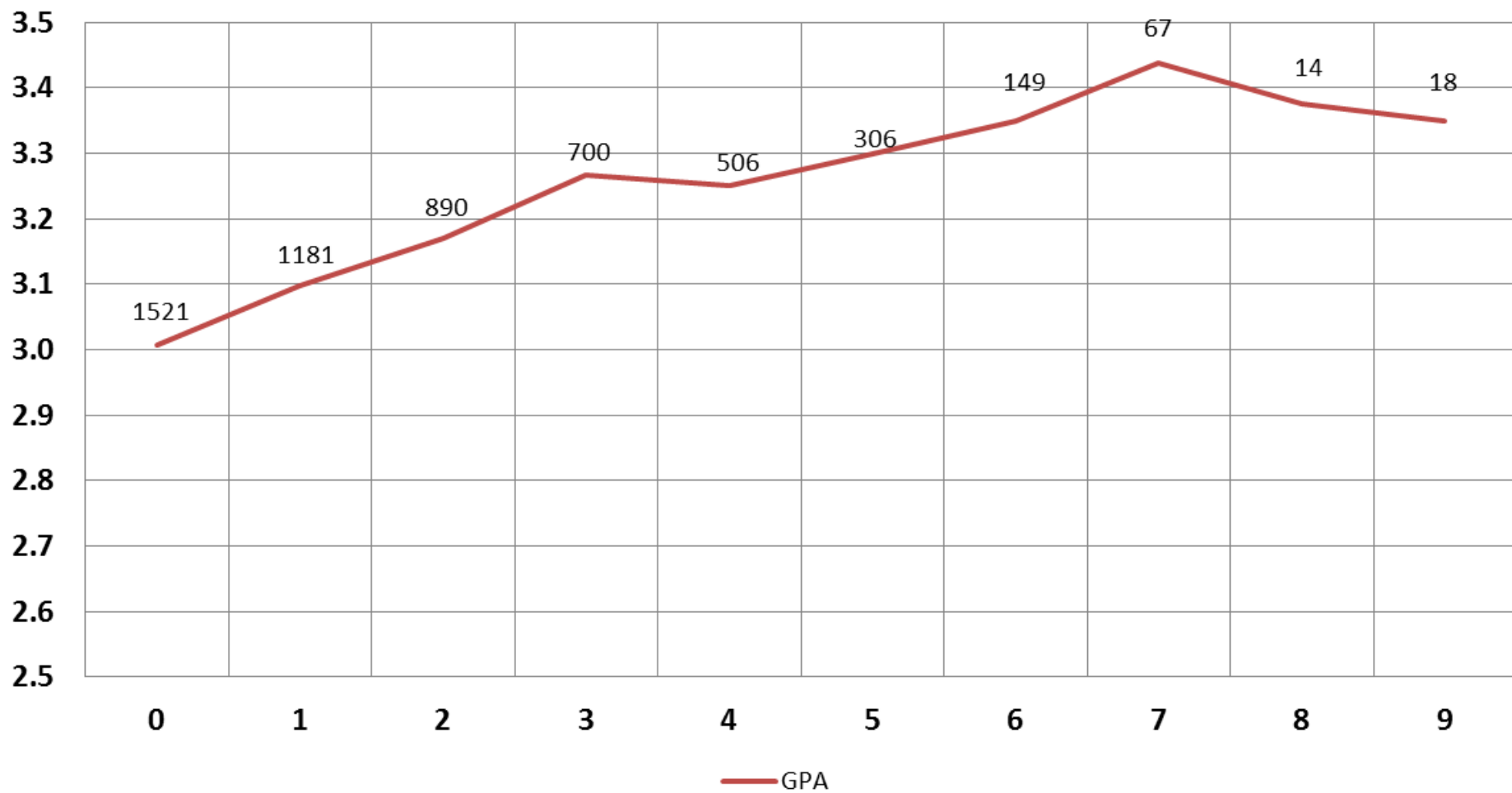
Inferential Analyses

- First-year students (non-transfer, n = 5,368)
- Examined three outcomes:
  - Grade Point Average
  - Retention
  - SERU indicators for Academic Engagement and Scholarship
- Many ways to slice the data:
  - Any use of the library
  - Type of library use
  - Frequency within type of library use

Other Characteristics Considered

- Use of library (71.3%)
- Demographics:
  - Gender (F = 47.8%)
  - Race/ethnicity (SOC= 18.4%)
  - Pell grant (22.3%)
  - Veteran status (.6%)
  - First-generation (25.9%)
- College environment:
  - Freshmen seminar (27.8%)
  - Access to Success program (8.8%)
  - Dorm (85.2%)
- Prior academics
  - ACT/SAT scores (M = 27.49)
  - AP credits (n = 3137, M = 8.73)

GPA Results

Controlling for demographics, college environment, and prior academic variables:

- For Fall 2011, using the library one time was associated with a **.23 increase in students' GPA** holding other factors constant

- For Fall 2011, a one-unit increase in *types of use* was associated with a **.07 increase in GPA**

- Less difference in Spring 2012, but still a significant positive correlation

Retention Results

Controlling for the same variables, we examined retention:

- **Fall 2011:** Students who used the library at least once were **1.54** times more likely to re-enroll for Spring 2012

- **Spring 2012:** Students who used the library during their first year were **2.075** times more likely to re-enroll for Fall 2012

Additional Retention Results

- **Fall 2011:** Students who had "Intro to Library Research II" library instruction were **7.58** times more likely to re-enroll for Spring 2012

- **Spring 2012:** Students enrolled in courses that included library instruction were **1.389** times more likely to re-enroll for Fall 2012

- **Database use** had a significant positive correlation for both semesters

Student Experience in a Research Library (SERU) Survey

- Developed by the Center for Studies in Higher Education and administered to all degree-seeking U of M undergrads

- Combined library data with SERU responses

- FY Students who used the library had higher **academic engagement** and higher **scholarship** indicators on the SERU inventory

SERU: How often have you…

- Scholarship
  - Examined how others gathered and interpreted data and assessed the soundness of their conclusions
  - Reconsidered your own position on a topic after assessing the arguments of others
  - Incorporated ideas or concepts from different courses when completing assignments
  - Used facts and examples to support your viewpoint
- Academic Engagement
  - Asked an insightful question in class
  - Contributed to a class discussion
  - Interacted with faculty during lecture class sessions
  - Brought up ideas or concepts from different courses during class discussions
  - Had a class in which the professor knew or learned your name
  - Talked with the instructor outside of class about issues and concepts derived from a course
  - Found a course so interesting that you did more work than was required

What have we done with these results?

Actions We've Taken

- Used in our campus-wide Orientation messages
- Highlighted in College of Science & Engineering recruiting event
- Referenced in curriculum conversations
- Part of reboot of Intro to Library Research
- Deeper analysis of data for specific colleges
- Exploring evidence of the most effective use of staff time (Library Course Pages, instruction)

Conversations

- Shown and explained our results to stakeholders and potential partners on campus
  - Libraries/University leadership
  - Faculty Senate Library Committee
- Seen as "promising"
- Led more to valuable conversations than to concrete actions

Next Steps

- Working to share with campus

- Longitudinal

- Data collection – Never ending battle
  - *Easier we make it for patrons...harder for us*
    - Authentication system
    - Discovery system coming
    - VPN usage unknown

Questions?

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