

# How do Engineering Students and Faculty Use Library Resources?

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## Introduction

In 2012, University of Minnesota Libraries staff teamed with the University's Office of Institutional Research (OIR) to show significant positive correlations between library use and student success factors for first year students. The work described here builds on the initial studies by adding usage data on all students and faculty, but narrowing the focus to just students and faculty in the College of Science & Engineering (CSE).

## Research Questions

- ✓ What kind of library use does the Spring 2012 data show for faculty?
- ✓ How does graduate student use compare with undergraduates? With faculty members?
- ✓ Are there differences in how engineering and science undergraduates use library resources when compared to undergraduates in other colleges?
- ✓ Are there discernible differences among departments?
- ✓ Do student success correlations with library use found for the entire cohort of first year students hold for CSE first year students?

## Methodology

During Fall 2011 and Spring 2012 semesters, we collected library transaction data that could be associated with a unique user ID. Access points were grouped into these categories:

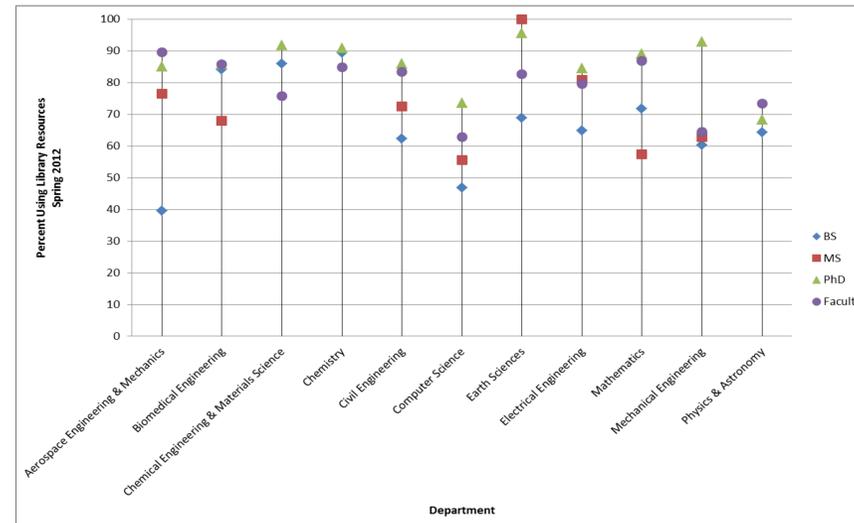
- ✓ Digital
- ✓ Circulation
- ✓ Workstation
- ✓ Instruction
- ✓ Reference

At the conclusion of each semester, an OIR analyst combined the transaction data with demographic characteristics. Although kept at an individual level, IDs were anonymized for privacy.

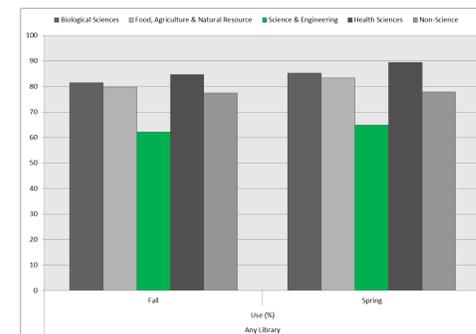
Although we have data on how many times an individual interacted with the library, the analysis focuses on Yes/No indicators for each of the five access points and overall library use.

## Comparisons: All Groups

| Percent making use of the Libraries Spring 2012 |     |
|---|-----|
| Undergrads                                      |     |
| CSE   | 65% |
| All U of M                                      | 77% |
| Grad Students                                   |     |
| CSE   | 78% |
| All U of M                                      | 80% |
| Faculty   |     |
| CSE   | 77% |
| All U of M                                      | 73% |



## Undergraduates



| Undergraduate Use by Access Point |             |         |           |             |             |                 |
|-----------------------------------|-------------|---------|-----------|-------------|-------------|-----------------|
|                                   | Workstation | Digital | Reference | Circulation | Instruction | Any Library Use |
| CSE Undergraduates                | 27%         | 51%     | 2%        | 18%         | 12%         | 65%             |
| All other Undergraduates          | 34%         | 68%     | 4%        | 24%         | 12%         | 79%             |

## Student Success: First Year Undergraduates

| Positive Correlations between Library Use and Success Measures |     |           |              |                      |
|--|-----|-----------|--------------|----------------------|
|  | GPA | Retention | Scholarship* | Academic Engagement* |
| CSE  | Yes | No        | Yes          | No                   |
| All U of M   | Yes | Yes       | Yes          | Yes                  |

\*As measured using students' responses to certain questions on the Student Experience at a Research University (SERU) survey

In the model, **GPA** increased by **.188** while holding other variables constant. The model predicted:

- **.12** increase for each item checked out
- **.01** increase for each e-journal use

Library use was the **only** variable in the model that showed any significant correlation to **Scholarship**.

Controlling for:

- Gender
- Race/ethnicity
- International status
- Pell Grant recipient
- First-gen college student
- Military veteran
- ACT composite scores
- Number of AP credits transferred

Want more? <http://blog.lib.umn.edu/ldss/>

Library Data and Student Success Group Members  
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Office of Institutional Research: David Peterson and Krista Soria

## Conclusions

This study offers library staff the most detailed quantitative view of who is using library resources that has ever been available. And yet it is only one part of a larger story. For each quantitative measure, we can only make guesses about behavior. These theories are based on our knowledge of our subject areas and of the people working in each discipline, the results of surveys of students and faculty, and formal and informal discussions with the users themselves.

We will be sharing these results with the CSE Dean's Office and the Directors of Graduate and Undergraduate Studies in the CSE departments.

Particular areas of interest include:

- Use of different types of resources compared to other colleges
- Variations in use among departments, and between different demographic groups
- Areas where great differences may indicate need for more instruction on resources, such as the large difference in library use between Aerospace Engineering undergraduates and graduate students
- First-year student correlations of GPA and Scholarship to library use

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