Mardigian Library
Assessment Strategies Development
2015-17 Report

Contents

Introduction

As libraries increasingly rely on digital resources, traditional assessment methods such as circulation data, number of titles acquired, etc. have become less meaningful. In response, universities and academic libraries have begun to review and revise assessment criteria and strategies.

In 2015, the Mardigian Library's Leadership Advisory Council (LAC) began discussing how to revamp assessment strategies to better determine the impact we have on student success, retention, and graduation. The project to redefine the assessments has several goals:

- Support and align assessment efforts with the campus-wide initiative to review learning outcomes and the best ways to assess student success
- Evaluate how well our services support student success criteria across the undergraduate and graduate curriculum, and the mission of both the library and university
- Identify assessment strategies that are meaningful and relatable in addition to being measurable
- Create assessment strategies that are sustainable and manageable so data can be compared over time to see trends
- Make informed decisions about how we help our students and use our resources wisely
- Make assessment efforts and results available (transparent) to our users

In September 2015, LAC identified three target areas to review: User Services, Collections, and Instruction and Learning Services. A team was established for each target area; all library staff members participated on one of the three teams.

- Teams reviewed literature for trends in academic library assessment.
- Each team completed a template assessment plan for their area, considering mission, goals, possible areas to assess, etc. All plans were shared at the Full Staff Meeting in January 2016.
- Team leaders compiled and reviewed proposed assessment strategies. Strategies were revised based on feedback from Institutional Research (IR) and Enrollment Management and Student Life (EMSL).
- Each team evaluated and prioritized strategies, selecting two or three to pilot test.
- An Assessment Implementation Team was established in March 2016.

Assessment Implementation Team

The Assessment Implementation Team spent time learning more about assessment through:
- Meetings with campus experts (Institutional Research, the Campus Assessment Coordinator, and the Managing Director of the Hub for Teaching and Learning Resources)
- Attending assessment webinars
- Attending sessions about the campus implementation of EAB's Student Success Collaborative software product. All meetings and webinars yielded new understanding and excellent advice about using student data, techniques for conducting assessments, and campus assessment initiatives. Assessment strategies were refined as a result

All implementation team members completed online training according to Institutional Review Board (IRB) requirements. An IRB application was approved by Ann Arbor; our research was designated as exempt from further IRB review.

Seven strategies, focusing on different library services, were selected for pilot testing. The purpose of these pilots was to test methodologies and perform preliminary data analysis. It is expected that most strategies will be revised based on preliminary results and some strategies will not be pursued.

Benchmarks for assessment strategies are still under development and may take more than one cycle of data collection. The library is still in the early stages of testing strategies, and is continuing to learn about best practices in use at other university libraries.

Assessment Strategies[1]

A. Question: Does use of physical library materials have a positive impact on GPA?
   a. **Process**: Retrieve annual checkout statistics for students and send to IR for comparison to GPA by college and major.
   b. **Issues**: The integrated library system (ILS) tracks a patron's total lifetime checkout, we do not have checkout statistics for each semester or for each year.
   c. **Solutions**:
      i. For the pilot test, a student's lifetime checkout number was divided by the number of months he/she had been in the system, and then multiplied by 12 to determine an average annual checkout number.
      ii. Scripts were created and implemented in September 2016 to track checkout activity and total it by month. For 2016-17, we will have accurate data to send to IR for analysis.

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[1] No data sets returned from Institutional Research (IR) will include unique identifiers, such as the UMID, so specific individuals cannot be identified and privacy is maintained. IR works with the team to pull student data, remove unique identifiers, and compare/analyze results.

d. **Progress**:
  i. IR compared the checkout activity data and found no statistical impact on GPA in their initial assessment. Breakdown by college and major was very interesting because the rankings were not what we expected; IR suggested they further analyze the data.
  ii. IR provided preliminary results of their second analysis; IR staff met with the team in April 2017 to discuss results. This second analysis did show some correlation to GPA for CASL students, as shown in the graph below.
e. **Findings to Date[2]**:
  i. <u>GPA</u>: "**Students who checked out one or more books and students who accessed electronic resources one or more times were students who tended to have slightly elevated GPAs (approximately +0.10) at their particular student level.** However, there were no striking differences between CASL students who tended to have higher library usage levels (3.09 GPA) and COB students who tended to have lower library usage levels (3.04 GPA)."[3]
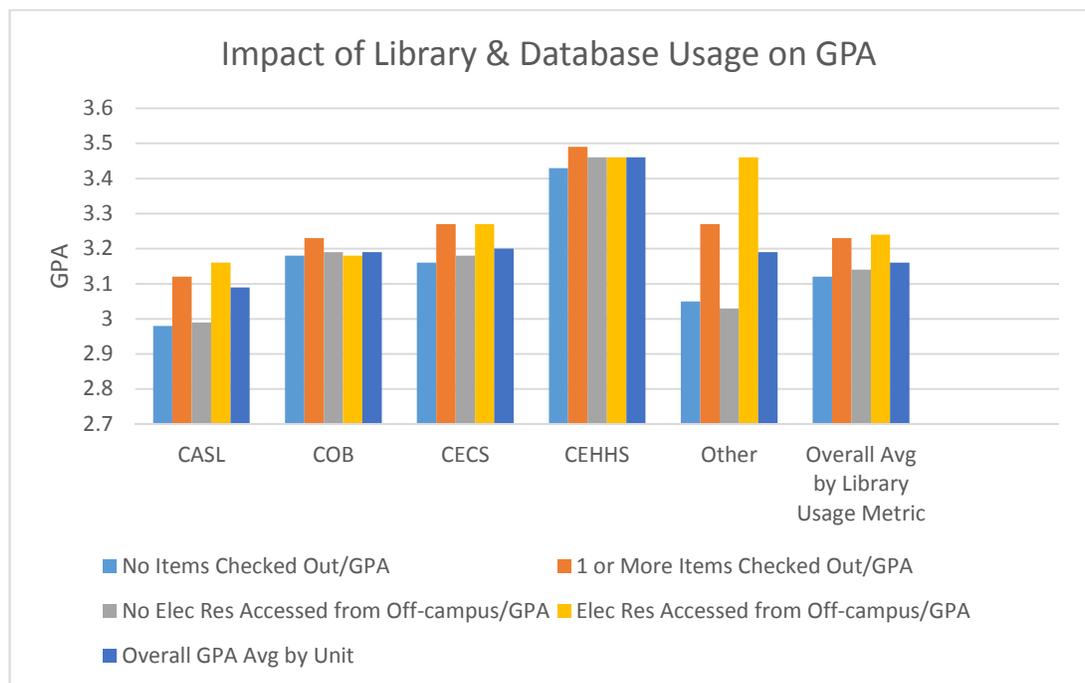

  ii. <u>Further IR analysis of checkout data</u>: "The relative distribution of books checked out by unit as compared to the relative distribution of students assessed by unit reveals that **CASL students (37.1% of students) accounted for a greater percentage of library usage (50.8% of books checked out) than expected.** Conversely, **COB students (19.0% of students) accounted for a smaller percentage of library usage**

[2] Univ. of Michigan-Dearborn, Institutional Research. (2017). *Library Usage Assessment Report.*
[3] CASL (College of Arts, Sciences, and Letters), COB (College of Business), CECS (College of Engineering and Computer Science), CEHHS (College of Education, Health, and Human Services)
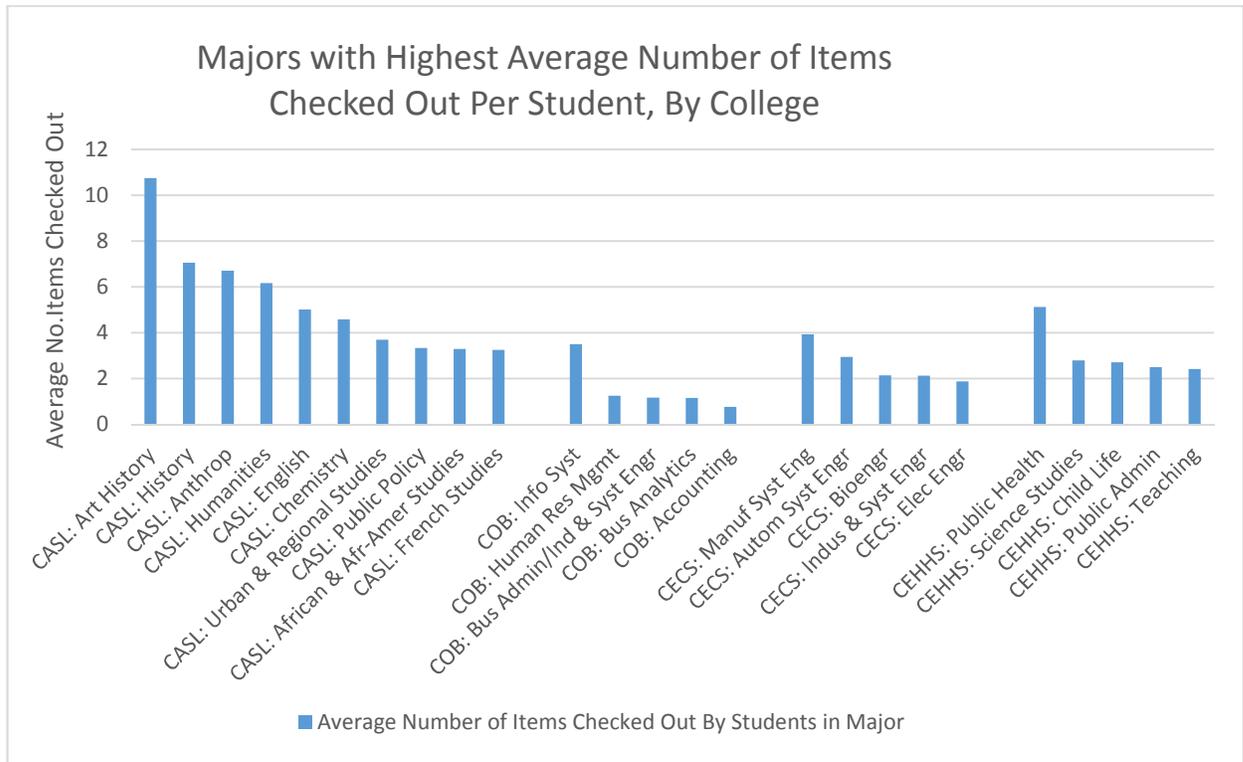
(7.7% of books checked out) than expected. The remaining units had library usage levels that were expected given how many students were in each unit. Furthermore, CASL students, in particular undergraduates, tended to check out more books per student (2.22) and COB students tended to check out fewer books per student (0.66) than the remaining units."[4]

iii. <u>Items checked out by college</u>: **CASL students checked out the most items, followed by CECS, CEHHS, and COB.**
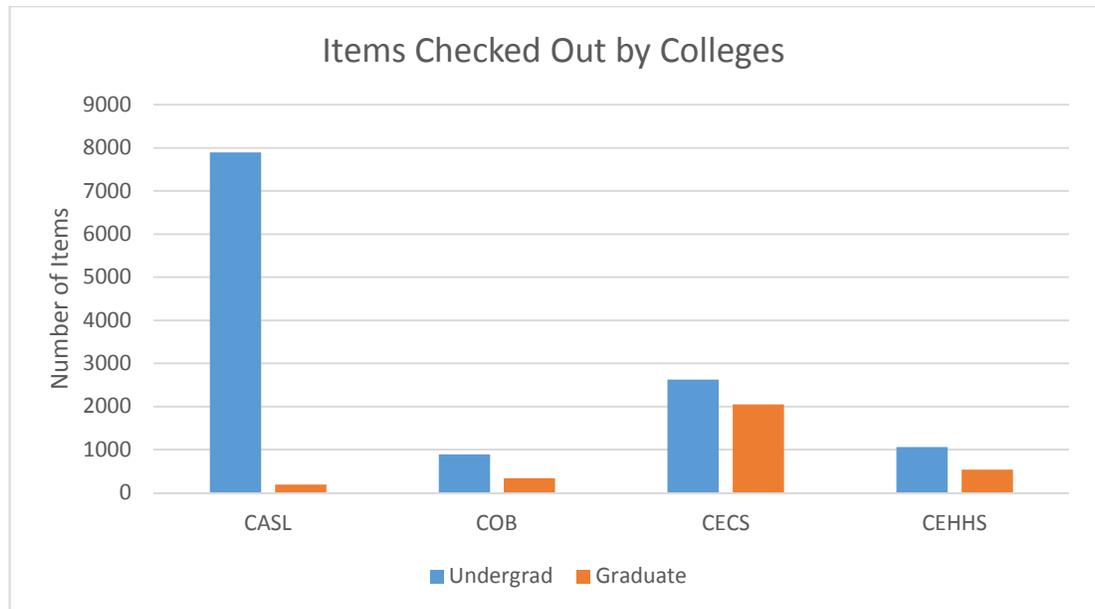
iv. <u>Top Users</u>: The **majors with the highest average number of items checked out per student** (excluding subjects with only a single student) are:
1. CASL: Art History, History, Anthropology, Humanities, English, Chemistry, Urban & Regional Studies, Public Policy, African & African-American Studies, and French Studies.
2. COB: Information Systems, Human Resource Management, Business Admin/Ind & Sys Engineering, Business Analytics, Accounting
3. CECS: Manufacturing Systems Engineering, Automotive Systems Engineering, Bioengineering, Industrial & Systems Engineering, Electrical Engineering
4. CEHHS: Public Health, Science Studies, Child Life, Public Administration, Teaching

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[4] Univ. of Michigan-Dearborn, Institutional Research. (2017). *Library Usage Assessment Report.*

Majors with Highest Average Number of Items Checked Out Per Student, By College

Chart: Average No. Items Checked Out (y-axis, 0 to 12) by Major. Legend: ■ Average Number of Items Checked Out By Students in Major

Majors (x-axis): CASL: Art History, CASL: History, CASL: Anthrop, CASL: Humanities, CASL: English, CASL: Chemistry, CASL: Urban & Regional Studies, CASL: Public Policy, CASL: African & Afr-Amer Studies, CASL: French Studies, COB: Info Syst, COB: Human Res Mgmt, COB: Bus Admin/Ind & Syst Engr, COB: Bus Analytics, COB: Accounting, CECS: Manuf Syst Eng, CECS: Autom Syst Engr, CECS: Bioengr, CECS: Indus & Syst Engr, CECS: Elec Engr, CEHHS: Public Health, CEHHS: Science Studies, CEHHS: Child Life, CEHHS: Public Admin, CEHHS: Teaching

   f. **Next Steps**:
- i. Based on a presentation from a Grand Valley State University (GVSU) librarian about assessment, IR will be asked to analyze data as it pertains to retention. GVSU was able to show a significant positive impact on retention when they analyzed checkout data rather than analyzing impact on GPA. (July 2017)
- ii. Checkout and database usage statistics from 2016-17 fall and winter semesters was sent to IR in July 2017 for analysis. These statistics will be more accurate because of data collection changes made in September 2016. (Sept. 2017)

B. Question: Does use of library electronic resources have a positive impact on GPA?
- a. **Process**: Retrieve data about who is accessing electronic resources and send to IR. Compare usage of electronic resources to GPA by college and major.
- b. **Issues**:
  - i. Users were required to log in to electronic resources only when they were off campus. No statistics were available for on-campus usage, resulting in a significant amount of data being lost.
  - ii. The ILS only tracked whether or not a student accessed resources from off campus (i.e. yes or no). The system does not track how many times a student accessed resources from off campus.
  - iii. When fall 2016 semester data was analyzed, it was discovered that some manually created patron records lacked university ID numbers. This issue resulted in certain data elements to be missing from the statistics, such as college and major.

c. **Solutions**:
   i. The decision was made to require all users to authenticate when accessing electronic resources. This was implemented in September 2016.
   ii. Scripts were written to collect data every time a user authenticated. This was also implemented in September 2016.[5]
   iii. Patron records lacking ID number were updated. Changes were made to how patron data is collected in the library automation system to ensure more accurate data. Circulation procedures were changed to ensure entry of ID information when manually creating a patron record.
d. **Progress**:
   i. Analyzing data with Excel was insufficient; data was moved to an Access file for better sorting and analysis.
   ii. Data for fall 2016 and winter 2017 semesters was retrieved and sent to IR for analysis.
e. **Findings to Date**: CASL is the largest user of electronic resources, followed by CECS, CEHHS, and COB.[6]

Did Students Access Electronic Resources from Off Campus?
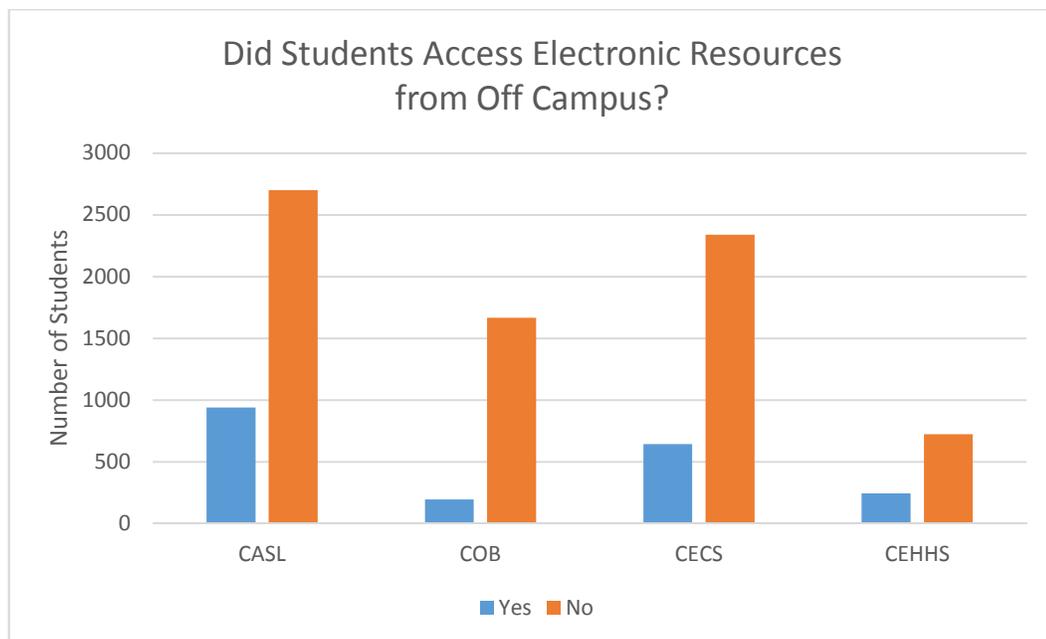
f. **Next Steps**:
   i. Checkout and database usage statistics from 2016-17 fall and winter semesters was sent to IR in July for analysis. These statistics will be more accurate because of data collection changes made in September 2016. (Sept. 2017)

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[5] Statistics are not kept regarding which resources are accessed or searches conducted.

[6] Data is extremely unreliable since we only have off-campus statistics. Data is not available regarding the number of times resources were accessed, which resources were accessed, number of titles, etc. This pilot test was useful mostly for the purpose of defining issues and solutions.

  ii. Data will be included in the analysis comparing use of physical resources with student success measures (GPA, retention, etc.). (Sept. 2017)

C. Question: Does in-class librarian-led instruction have a positive impact on GPA?

  a. **Process**: A list of COMP 106 sections that received in-class librarian instruction during fall 2011[7] was sent to IR for comparison with COMP 106 sections that did not have instruction.

  b. **Issues**: A third category was identified: sections that received library instruction from the instructor.

  c. **Solutions**: A list of COMP 106 sections that had instructor-led library instruction was sent to IR for comparison with sections that had librarian-led instruction.

  d. **Progress**: IR completed both sets of comparisons.

  e. **Findings to Date**: IR found no statistical difference in students' GPAs.

  f. **Next Steps**: At a recent webinar, Grand Valley State University (GVSU) presented data from four recent years of their library assessment. A key finding was that for each of the four years analyzed, students who had received library instruction had a 4% or greater rate of enrolling for the following academic year, which they defined as a significant correlation between library instruction and retention. IR will be asked to compare/analyze the retention rate of the fall 2011 COMP 106 students for the three groups: librarian-led, faculty-led, no library instruction. (July 2017)

D. Question: Does in-class librarian-led instruction have a positive impact on graduation rates?

  a. **Process**: A list of COMP 106 sections that received in-class librarian instruction during fall 2011 was sent to IR for comparison with COMP 106 sections that did not have instruction.

  b. **Issues**: A third category was identified: sections that received library instruction from the instructor.

  c. **Solutions**: A list of COMP 106 sections that had instructor-led library instruction was sent to IR for comparison with sections that had librarian-led instruction.

  d. **Progress**: When meeting with IR staff, we discussed performing this type of analysis. IR felt that this analysis would not yield valid results due to the many factors influencing graduation rates. The decision was made to not conduct this assessment strategy.

  e. **Findings to Date**: None.

  f. **Next Steps**: This strategy will not be pursued.

E. Question: Does the library's collection meet the research needs of students and faculty?

  a. **Process**: Analyze bibliographies from a selection of student theses, capstone projects, and faculty publications (articles) to determine percentage of resources that could have been obtained through the library.

  b. **Issues**: The university does not have an easily accessible list of faculty publications. Items analyzed in the first pilot test were selected from student dissertations.

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[7] The fall 2011 sections were selected for analysis so that long-term impact could potentially be analyzed.

c. **Solutions**:
   i. For a second round of analysis, a selection of faculty publications were selected by searching Google Scholar.
   ii. Colleges were contacted to determine if annual lists of faculty publications could be made available. Two of the four colleges responded that they would share lists compiled for the 2016-17 academic year.
d. **Progress**: Staff members compared bibliographies of 14 students' dissertations to determine if the resources cited are offered by the library.
e. **Findings to Date**:
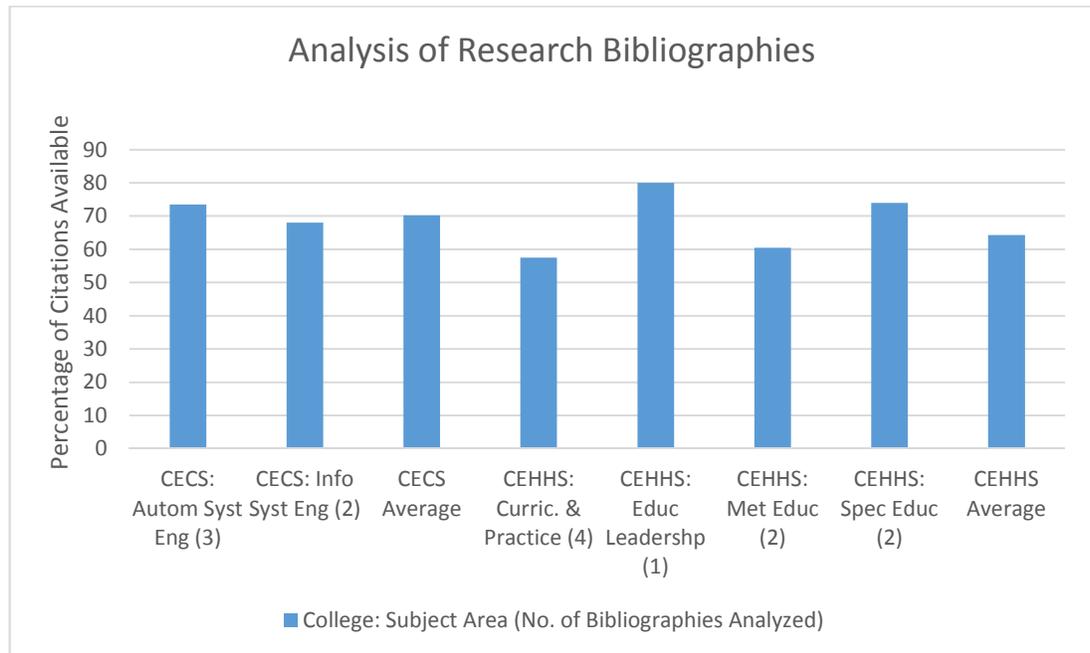
f. **Next Steps**: Dissertations and theses from other areas need to be analyzed, as well as some faculty publications and students' capstone projects. (Aug. 2017)

F. Which library services do faculty use and value the most?
   a. **Process**: Conduct a faculty survey about library services.
   b. **Issues**: It can be difficult to get faculty to participate in surveys due to time constraints and survey fatigue.
   c. **Solutions**: Amazon gift cards were given to random participants; 1 winner per college ($100) and 1 grand prize ($200).
   d. **Progress**: The survey was conducted in February 2017. Ninety faculty participated in the survey, with 62 registering for the drawing.

e.   **Findings to Date (Preliminary)**: Responses from non-open-ended questions.

Question	Top Answers		
Q3: What would help you take full advantage of library's resources?	Library website (55%)	Consultation with a librarian (18%)	Library instruction session (15%)
Q4: How would you prefer to learn about new library resources?	Email (66%)	Library newsletter (15%)	Library website (13%)
Q8: Who or what has most influenced how effectively you've been able to use the library?	Library website (45%)	Librarian (42%)	Library instruction session (15%)
Q9: Which of these ways for learning about the library were most helpful to you?	Library website (73%)	Librarian (63%)	Another faculty member (40%)
Q10: How did you learn basic library information, such as interlibrary loan?	Library website (55%)	Librarian (34%)	Another faculty member (17%)
Q11: How frequently do you use the library resources either on or off campus?	Several times a week (29%)	Once per month (22%)	Every couple of weeks (18%)
Q12: How easy has it been for you to learn to use library resources in the building and online?	Easy (43%)	Somewhat easy (25%)	Very easy (17%)
Q17: Each discipline is assigned a subject specialist librarian. Which of these services have you partnered with a subject specialist librarian?	Request material purchases for library collection (53%)	Refer students for a research consultation with specialist librarian (48%)	Develop specific librarian instruction sessions for your classes (30%)
Q18: Do you use library databases?	Yes (82%)	No (17%)	
Q19: Where do you access them (the databases)?	Both on and off campus (85%)	Off campus (11%)	On campus (4%)

f.   **Next Steps**:
   i.   Analyze the results to identify areas for improvement. (Nov. 2017)
    ii. Identify and begin pilot testing possible improvements and solutions. (Dec. 2017)

G. Question: When is the library being used and which library study environments are students using?
    a. **Process**: Assess building usage by specific areas and tasks being performed. Develop a Qualtrics "walk-around" tablet survey and an Excel file to collect and store data. Count use

of various spaces and furniture options, as well as usage of various technology. Have student assistants conduct the survey on a specific schedule.

b. **Issues**: Concerns about amount of time involved to survey all four floors of the library.

c. **Solutions**: The head of User Services identified several "busy" weeks during each semester and selected 3-4 times during each day that surveys were conducted.

d. **Progress**: A test survey was tested and revised during summer 2016. Surveys were conducted during both fall and winter semesters 2016-17.

e. **Findings to Date**:

  i. Building Usage

    1. Monday, Tuesday, and Wednesday were the busiest week days. Sunday was the busiest weekend day.
    2. At the busiest times recorded, there are almost as many people on the 2nd floor as there are on all 3 of the other floors combined.
    3. When occupied, group study room 2030 averages about 3 people; group study room 2040 averages 3-4 people.
    4. The student assistants conducting the survey indicated that the white noise system on the 2nd floor seems to be doing its job, except at extremely busy times of the day.

  ii. Furniture Usage:

    1. The tables with monitors were the most popular, but the survey needs to be revised to also track whether or not the monitors are actually in use. Casual observation revealed that the tables are in use, but the monitors are not.
    2. Traditional table seating is still in use, but it is frequently the least popular in terms of use. Non-traditional seating includes tables with monitors, power pole tables, and booth seating.
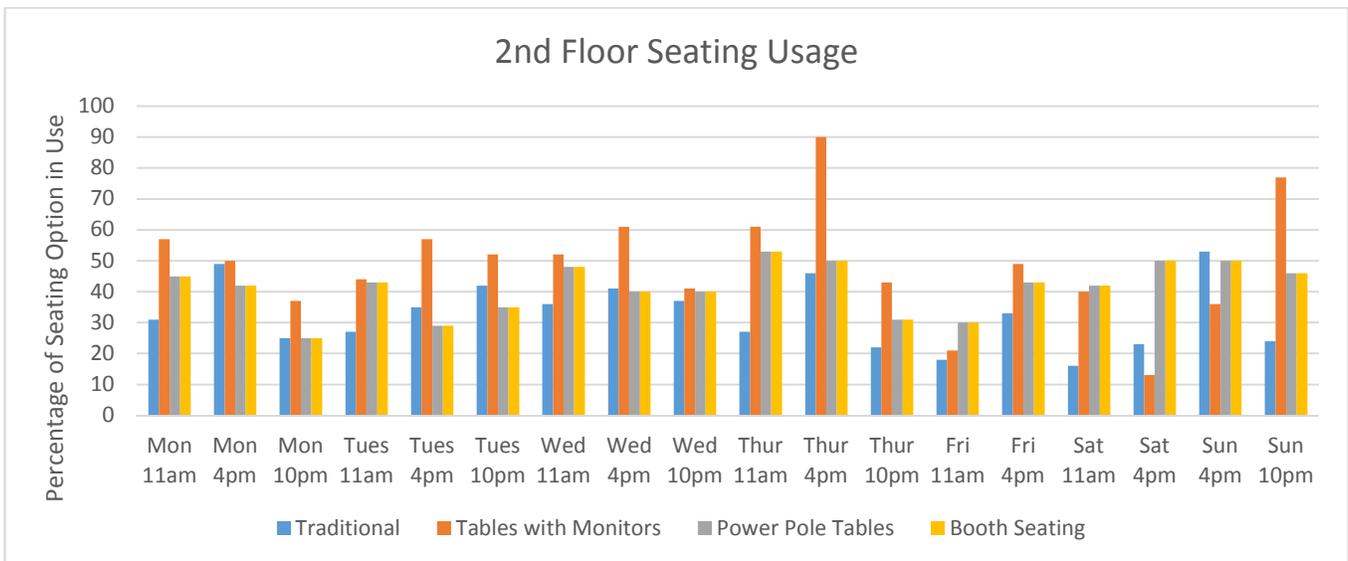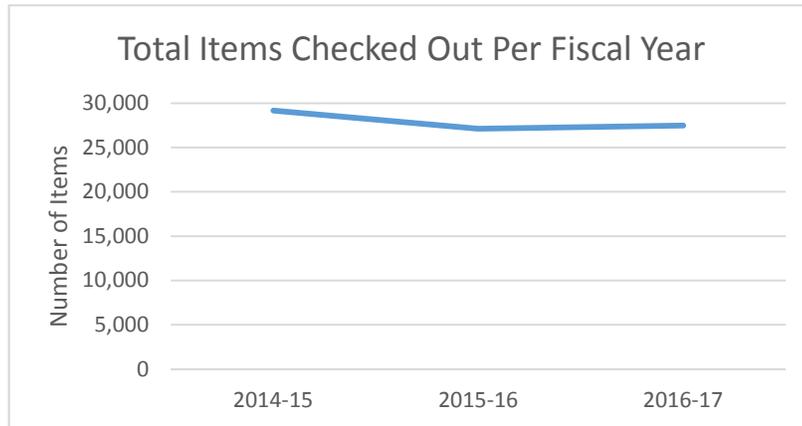

f. **Next Steps**:

  i. Review and revise the survey for the 2017-18 academic year (Aug. 2017)
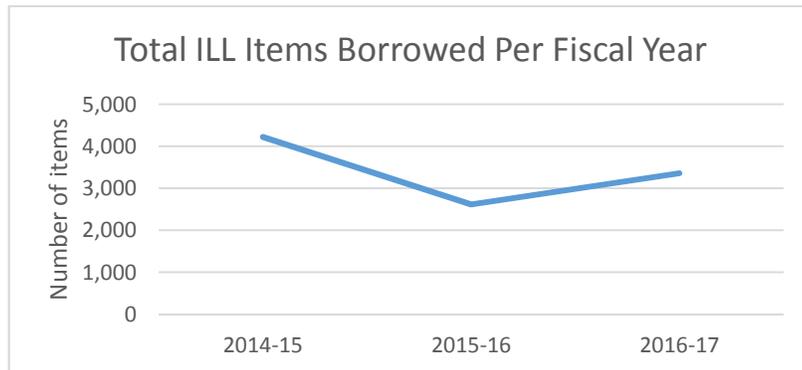 ii. Begin tracking observed activity (Sept. 2017)

      iii.   Investigate implementing Suma Soft software for better data tracking (Summer 2017)

      iv.   Adjust white noise sound system for maximum effectiveness (Summer 2017)
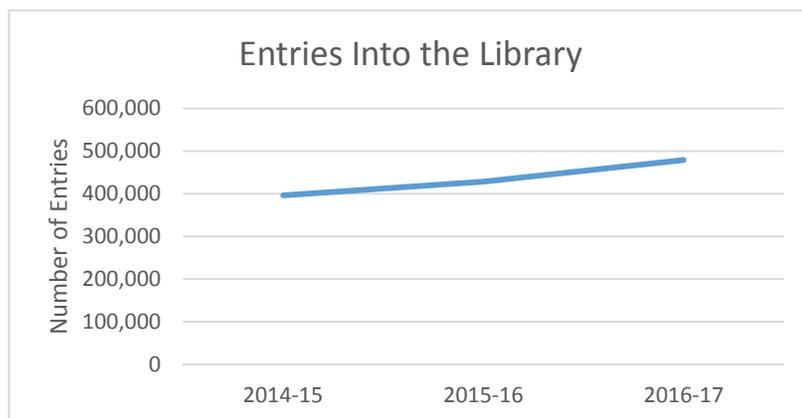
Traditional Assessment Statistics

Checkout statistics

Total Items Checked Out Per Fiscal Year

Y-axis: Number of Items (0 to 30,000)

X-axis: 2014-15, 2015-16, 2016-17

Interlibrary loan statistics

Total ILL Items Borrowed Per Fiscal Year

Y-axis: Number of items (0 to 5,000)

X-axis: 2014-15, 2015-16, 2016-17

Door count statistics

Entries Into the Library

Y-axis: Number of Entries (0 to 600,000)

X-axis: 2014-15, 2015-16, 2016-17

Other Library Assessment Initiatives

A. **Research Education**: The subject specialist librarians are developing and testing a new tool to assess impact and effectiveness of in-class librarian-led research instruction. The research education assessment report is included in the Library Assessment folder in MBox.

B. **Database Usage Costs**: A preliminary cost-per-use report was prepared for electronic database usage. Librarians reviewed the report and will be using the data in 2017-18 to:
- Promote and market underused databases to faculty and students
- Suggest databases for cancellation at time of renewal
- Provide feedback to U-M Ann Arbor about low usage databases for possible renegotiation of terms.

Summary

A considerable amount of progress was made in the last year and a half, with further work to be accomplished. As we learn more about assessment and how academic libraries are changing their strategies, we can build on the work of others and potentially replicate findings. For example, Grand Valley State University is a leader in redesigning assessment strategies, and they are hoping that other institutions will validate their findings.

- Pilot Strategies Results
  - The strategy to analyze the impact of Comp 106 in-class librarian-led instruction on GPA will be revised to analyze the impact on retention.
  - The strategy to analyze the impact of Comp 106 in-class librarian-led instruction on graduation rate will not be pursued.
  - The other pilot strategies (impact of library physical and electronic resources on GPA, the collection meeting research needs, library services used and valued by faculty, building usage) returned valid test results and are sustainable. Based on changes made to collecting data, the next round of assessments will be using accurate data and the findings should be reliable.
  - Each of the surviving strategies has next steps to be followed during the remainder of this fiscal year and the 2017-18 fiscal year.
- Benchmarks
  - Each ongoing strategy will be reviewed to determine a benchmark or target result. It may take several cycles of analysis before benchmarks or targets can be set for some strategies.
- Transparency of the library's Assessment Strategies Project
  - A summary of the library's assessment project and quarterly reports is available through the library's homepage http://library.umd.umich.edu/us/assessment.php.
- Additional Assessment Strategies
  - Additional assessment strategies for the three target areas (User Services, Collections, and Instruction and Learning Services) need to be identified, tested, and put into production. Two additional areas identified to be defined and assessed are:
    - Web services

- Partnerships & Outreach
  - Additional student and faculty surveys should be conducted. Although these types of surveys tend to be more subjective than analytical, valuable feedback can be obtained.

The redesign of the library's assessment strategies is going well. We look forward to reviewing the analysis of data from the 2016-17 academic year, and to adding new assessment strategies.