

Mardigian Library
2017-18 Assessment

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Introduction/Background

As libraries increasingly rely on digital resources, traditional assessment methods such as circulation data, number of titles acquired, etc. became less meaningful. In response, universities and academic libraries are revising assessment criteria and strategies.

In 2015, the Mardigian Library implemented a project to revamp assessment strategies to better determine the impact/relationship we have on student success, retention, and graduation. The project 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, three target areas were identified to review: User Services, Collections, and Instruction and Learning Services. An Assessment Implementation Team was established in March 2016.

Assessment Implementation Team

The Assessment Implementation Team selected seven strategies for pilot testing, focusing on different library services. Based on the results (see [Mardigian Library Assessment Strategies Development 2015-17 Report](#))¹, the team decided whether to continue, revise, or discontinue the pilot strategies for 2016-17.

The 2015-17 report included preliminary test data for 2016-2017. Based on the initial findings, some pilot assessments were discontinued, scripts were created to collect more accurate database usage, and a final re-analysis of the 2016-2017 data was performed by Institutional Research.² (See [Mardigian Library 2016-17 Assessment Final Report](#)). This analysis became the baseline for future comparisons.

Benchmarks for assessment strategies are still under development and will require several cycles of data collection. The library continues to test ongoing assessment strategies and to learn about best practices in use at other university libraries.

¹ http://library.umd.umich.edu/pdf/Assessment_Summary_Report_2015_2017.pdf

² Univ. of Michigan-Dearborn, Institutional Research. (2017). *2016/17 Library Usage Analysis; Project 853*.

This Report

This report includes results from various assessment strategies for the 2017-2018 academic year. The analysis of library usage data was conducted by Institutional Research (IR).^{3 4} Recognizing that library usage is most likely correlational to GPA and retention, we now consider positive relationship between those numbers, rather than having an impact on GPA and retention.

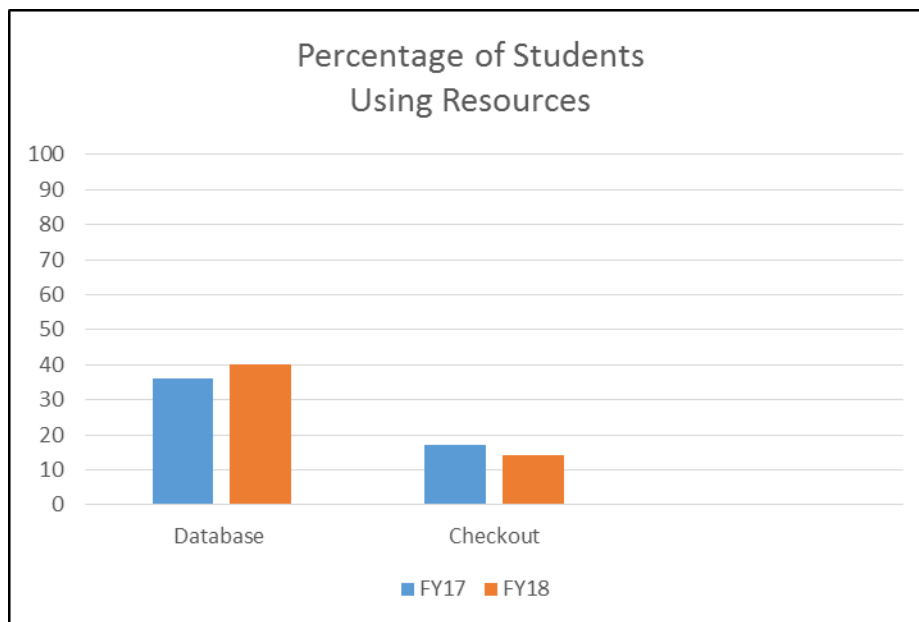
Select Findings

- Electronic Resource Usage:
 - The percentage of students accessing database resources grew from 34% in FY17 to 40% in FY18 (p. 5)
 - CASL students accessed databases the most, followed by CECS, CEHHS, and COB students (p. 5)
 - Among graduate students, CECS students accessed electronic resources the most, followed by CEHHS, CASL, and COB
 - Compared to 2016-2017 data, the ranking was the same for graduate students. Overall, CECS and CEHHS exchanged second and third places, with more CECS students using electronic resources.
- Checkouts:
 - the percentage of students checking out library resources decreased slightly from 15% in FY17 to 14% in FY18 (p. 5)
 - CASL students checked out the most items, followed by CECS, COB, and CEHHS students (p. 8)
 - Among graduate students, CECS students checked out the most items, followed by COB, CEHHS, and CASL students
 - Compared to 2016-2017 data, the top and lowest users were the same for both overall and graduate students, with COB and CEHHS switching second and third places (more COB students checked out items).
- Mean GPA tended to be higher for students who checked out library resources (+0.15) and for students who accessed a library database (+0.29) (p. 11)
 - 2016-2017 data was similar: a higher GPA for students who checked out library resources (+0.08) and higher GPA for students who accessed databases (+0.29)
- Graduation and retention rates are higher for students who checked out library resources (+4.5%) and for students accessing library databases (+3.4%) (p. 13)
 - These numbers are similar to the 2016-2017 report which noted increased graduation/retentions of 3.8% for students checking out resources and +4.9% for students accessing databases.
- Analysis results of STEM vs non-STEM usage was almost identical to the results for library user vs non-library user. This new analysis provided no meaningful data.

³ University of Michigan-Dearborn Institutional Research. (2018). *ML-2017/18 Library Usage Analysis; Project 1075*.

⁴ Univ. of Michigan-Dearborn, Institutional Research. (2019). *ML FY18 Library Usage Supplemental Analysis Project 1288*

Assessment Strategies and Analysis of Data⁵



The percentage of students accessing database resources grew from 34% in FY17 to 40% in FY18, while the percentage of students checking out library resources decreased slightly from 15% in FY17 to 14% in FY18.

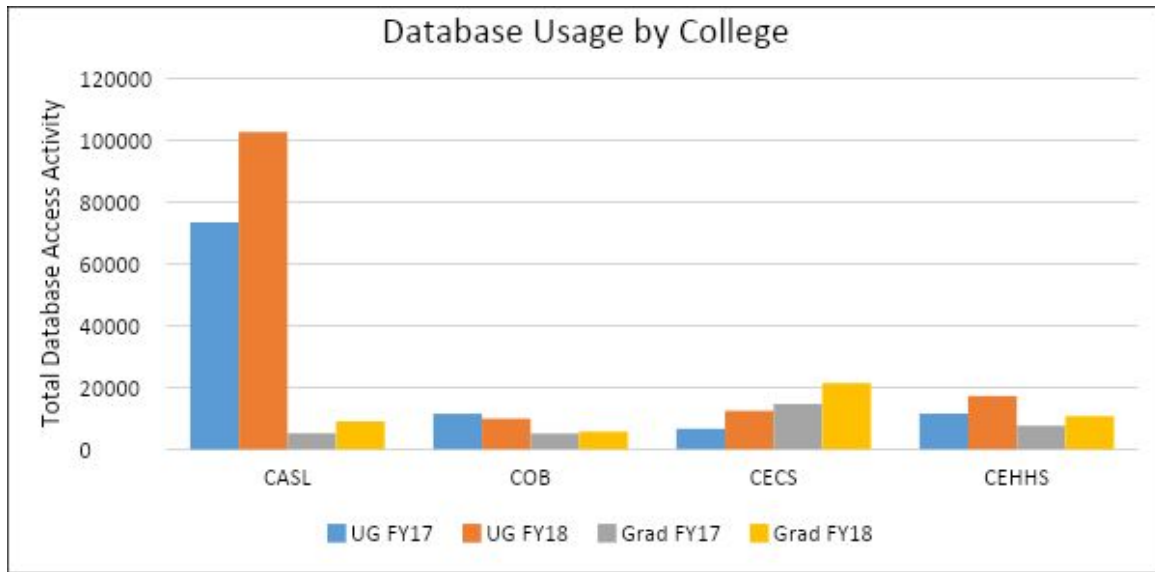
A. Analysis of Database Usage Data:

“CASL students (33% of students) accounted for a large relative percentage of database access activity (59% of database access activity). CEHHS also had a relatively high database access activity (15% of database activity) given its relative size (9% of students). Conversely, CECS students (37% of students) accounted for 18% of database access activity. COB had relatively low database access activity similar to CECS. Another way of looking at these trends by unit is in terms of mean database access activity. CASL and CEHHS students overall (mean = 15), and, in particular, graduate students (mean = 31 and 18, respectively), tended to have greater database access activity while COB and CECS students tended to have lesser database access activity overall (mean = 4). These results are similar to those for AY 16-17 (IA Project 853).”⁶

Database Usage by College: CASL is the largest user of electronic resources, followed by CECS, CEHHS, and COB. Among graduate students, CECS is the largest user of electronic resources, followed by CEHHS, CASL, and COB.

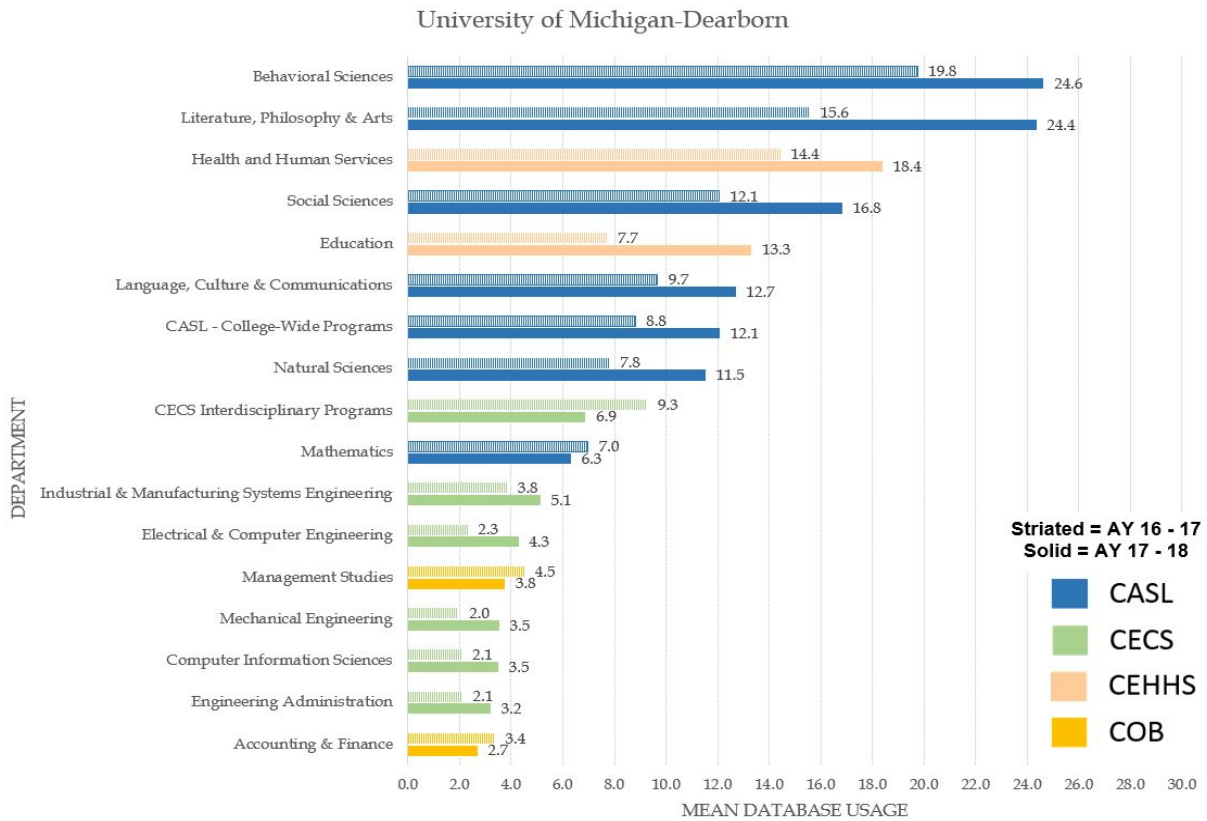
⁵ No data sets returned from Institutional Research include unique identifiers, such as the UMID, so specific individuals cannot be identified and privacy is maintained. IR works with the team to pull student data, remove unique identifiers, and compare/analyze results.

⁶ Univ. of Michigan-Dearborn, Institutional Research. (2018). *ML 2017/18 Library Usage Analysis; Project 1075*.



Departments with Highest Mean Database Usage Per Student⁷

⁷ Univ. of Michigan-Dearborn, Institutional Research. (2019). *ML FY18 Library Usage Supplemental Analysis Project 1288*

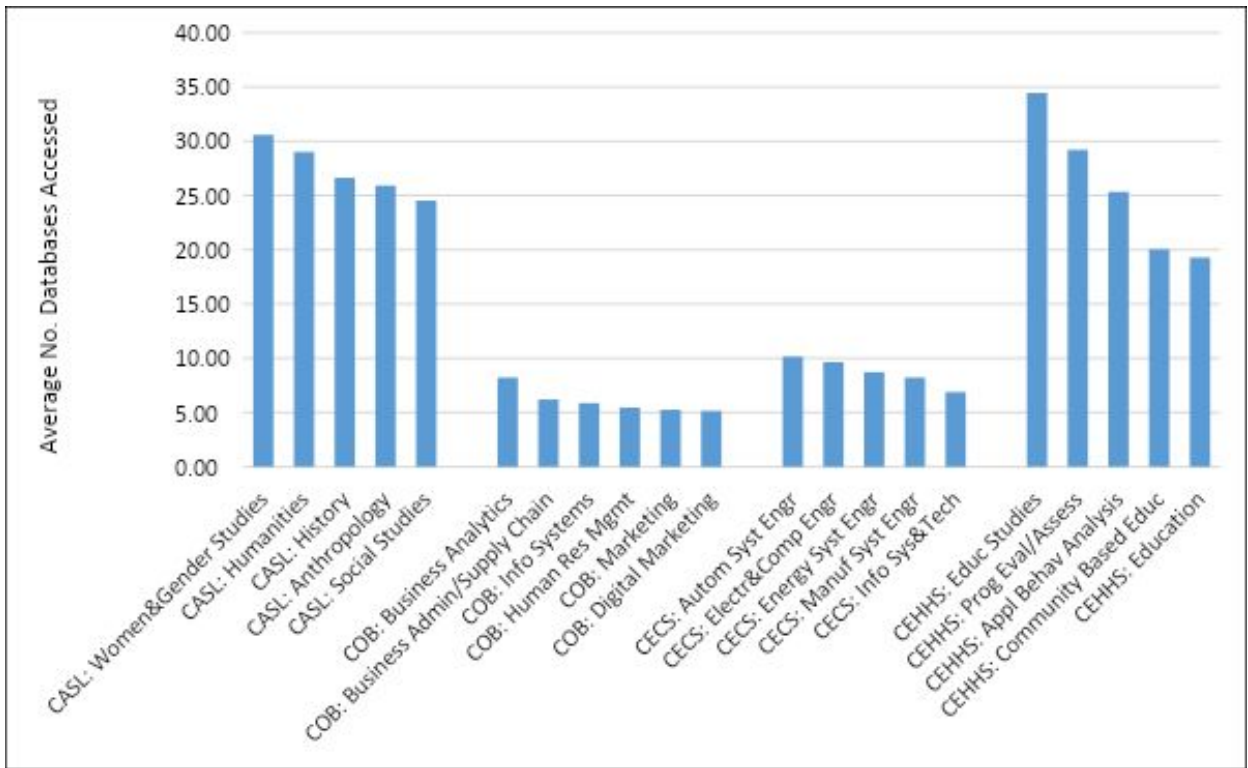


Majors with Highest Mean Database Usage Per Student, By College⁸

Top Users: The **majors with the highest mean database usage per student** (excluding subjects with only 1-5 students or non-candidate for degree students) are:

1. CASL: Women's and Gender Studies, Humanities, History, Anthropology, and Social Studies
2. COB: Business Analytics, Business Admin/Supply Chain, Information Systems, Human Resources Management, Marketing, and Digital Marketing
3. CECS: Automotive Systems, Electrical & Computer, Energy Systems, Manufacturing Systems, and Info Systems & Technology
4. CEHHS: Educational Studies, Program Evaluation/Assessment, Applied Behavior Analysis, Community Based Education, and Education

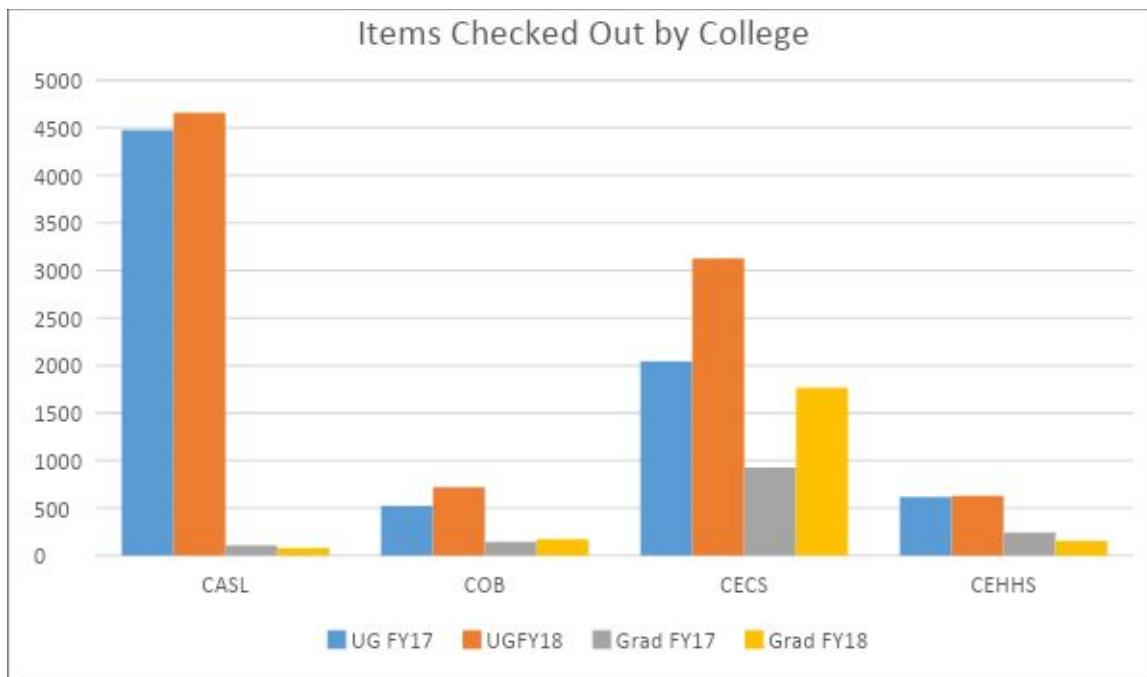
⁸ Univ. of Michigan-Dearborn, Institutional Research. (2019). *ML FY18 Library Usage Supplemental Analysis Project 1288*



B. Analysis of Checkout Data:

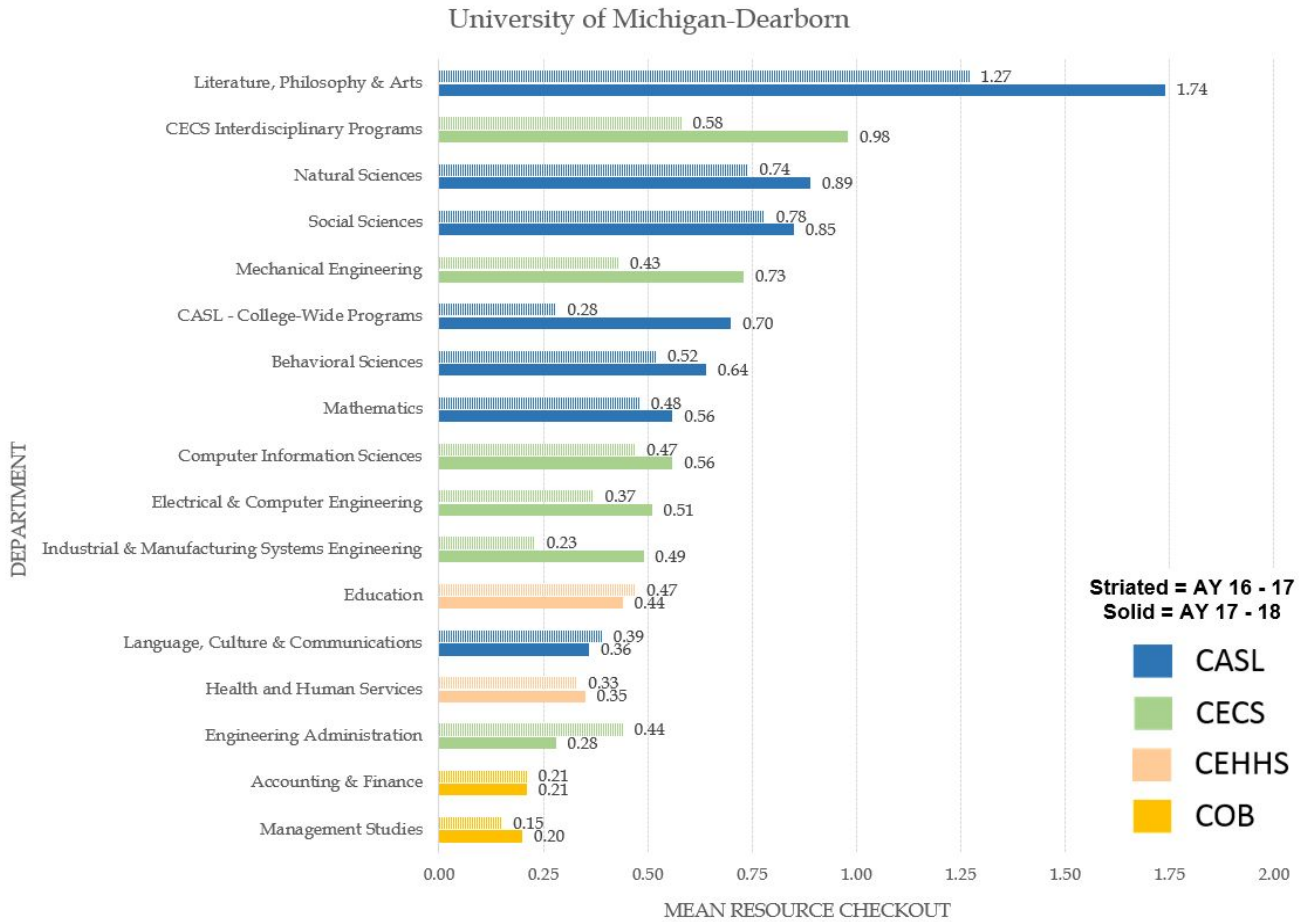
“Again, CASL students (33% of students) accounted for a large relative percentage of resource checkout activity (46% of resource checkout activity). Conversely, COB students (20% of students) accounted for only 7% of resource checkout activity. CECS and CEHHS students had resource checkout activity levels similar to their relative percentage of students. Mean resource checkout activity was well below 1 for each of the units, which is an indication that resource checkout activity is low across units in UM-Dearborn. These results are similar to those for AY 16-17 (see Proj 853).”⁹

Checkout Activity by College: CASL students checked out the most items, followed by CECS, CEHHS, and COB. Among graduate students, CECS students checked out the most items, followed by CEHHS, COB, and CASL.



⁹ Univ. of Michigan-Dearborn, Institutional Research. (2018). *ML 2017/18 Library Usage Analysis; Project 1075.*

Departments with Highest Mean Number of Items Checked Out Per Student¹⁰

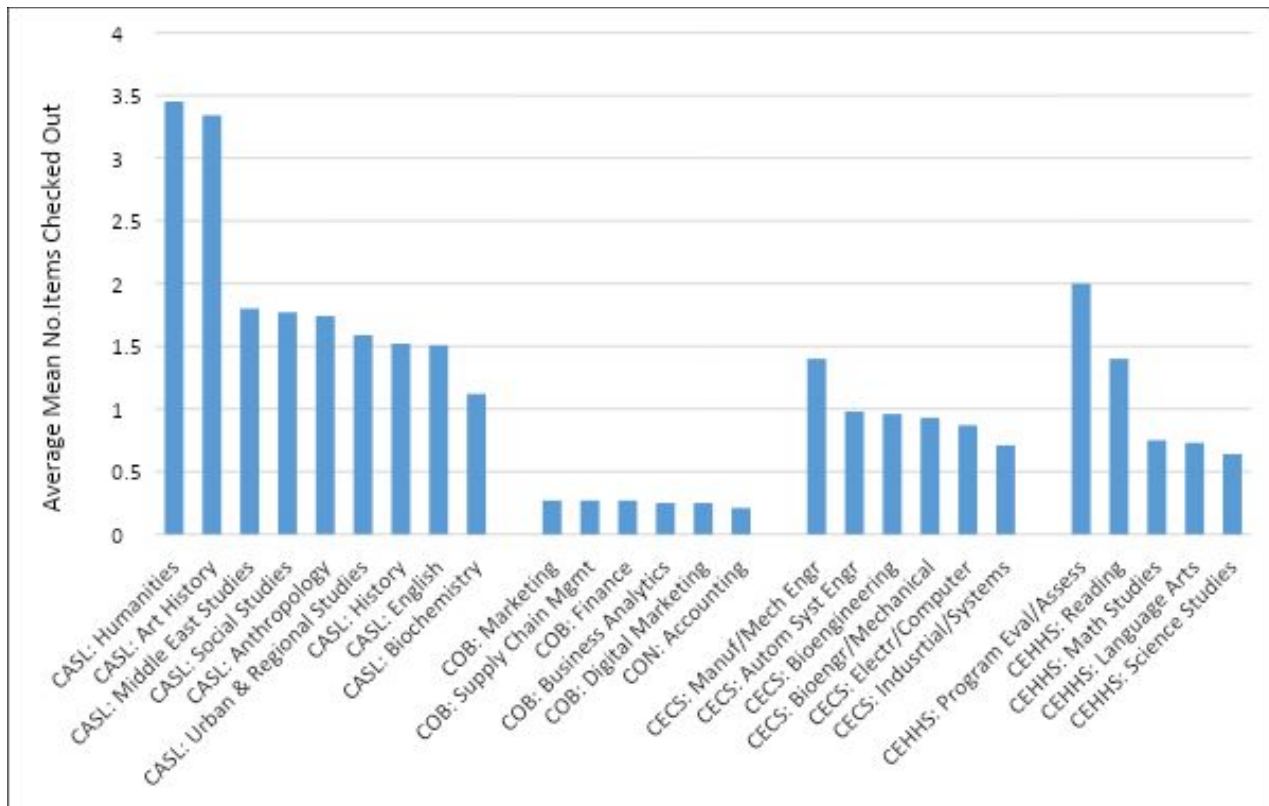


¹⁰ Univ. of Michigan-Dearborn, Institutional Research. (2019). *ML FY18 Library Usage Supplemental Analysis Project 1288*

Majors with Highest Mean Number of Items Checked Out Per Student, By College¹¹

Top Users: The **majors with the highest mean number of items checked out per student** (excluding subjects with only 1-5 students or non-candidate for degree students) are:

1. CASL: Humanities, Art History, Middle East Studies, Social Studies, Anthropology, Urban & Regional Studies, History, English, Biochemistry
2. COB: Marketing, Supply Chain Management, Finance, Business Analytics, Digital Marketing, Accounting
3. CECS: Manufacturing/Mechanical, Automotive Systems, Bioengineering, Bioeng/Mechanical, Electrical/Computer, Industrial/Systems
4. CEHHS: Program Evaluation/Assessment, Reading, Mathematics Studies, Language Arts, Science Studies



¹¹ Univ. of Michigan-Dearborn, Institutional Research. (2019). *ML FY18 Library Usage Supplemental Analysis Project 1288*

C. Relationship Between GPA and Use of Physical and Electronic Library Materials

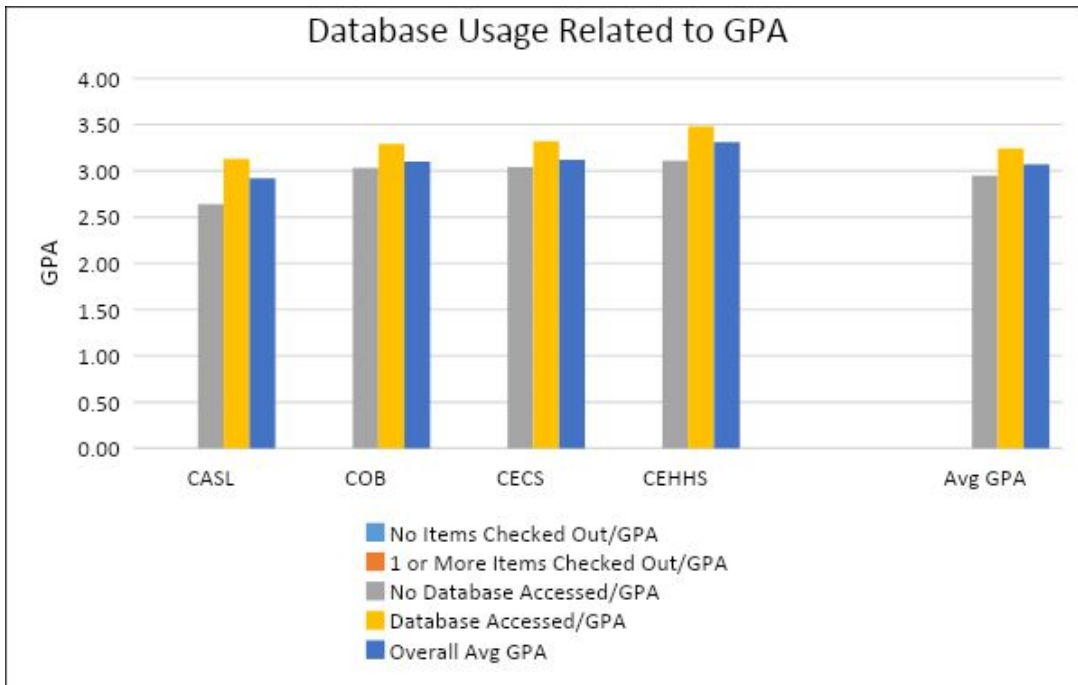
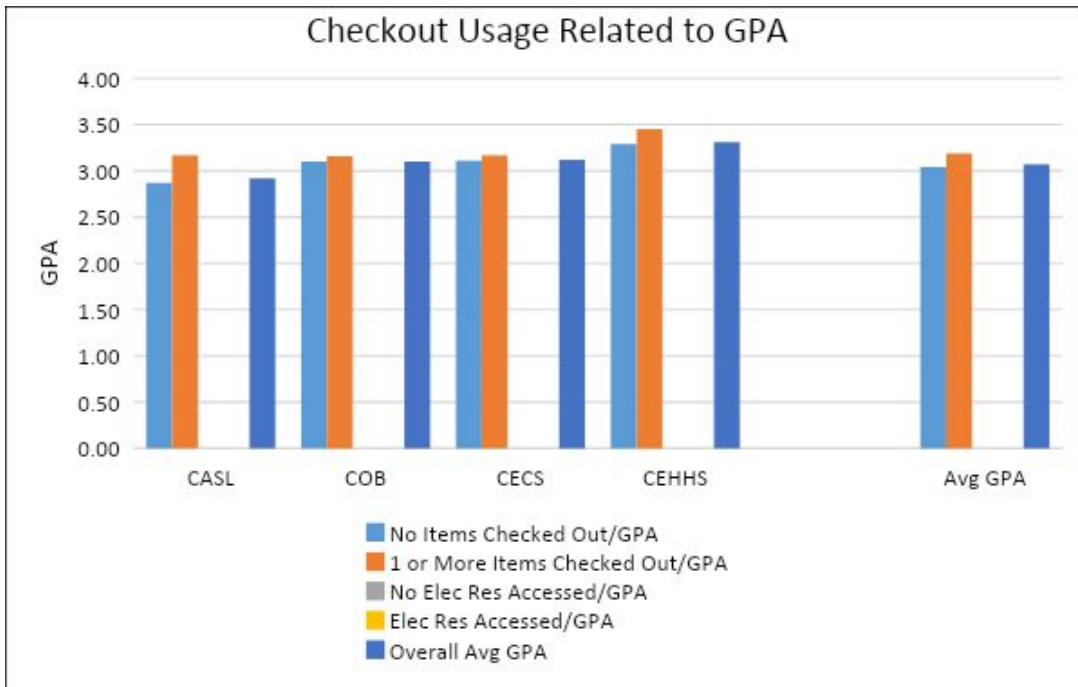
“Student term **GPA tended to be higher for students who checked out library resources (+0.15) and for students who accessed a library database (+0.29)**. It should be noted that only about 14% of enrolled students in AY 17-18 checked out one or more library resources while 40% of enrolled students accessed a database one or more times. The overall level of checking out at least one resource has remained the same as that in the previous year (AY 16-17 = 15%, AY 17-18 = 14%). However, the percentage of students who have accessed databases one or more times has increased 6% (AY 16-17 = 34%, AY 17-18 = 40%, see Proj 853).”

“Mean grade point average (GPA) of students who checked out 1+ library resources and students who accessed 1+ library databases, as compared to those who did not, by unit. Column percentages are shown in parentheses for overall library usage metrics.”¹²

GPA BY COLLEGE

| Unit | Resources Checked Out | | Databases Accessed | | Overall Average by Unit |
|----------------------------------------------------|-----------------------|--------------------|--------------------|--------------------|-------------------------|
| | 0 | 1+ | 0 | 1+ | |
| CASL | 2.87 | 3.17 | 2.64 | 3.13 | 2.92 |
| COB | 3.10 | 3.16 | 3.03 | 3.29 | 3.10 |
| CECS | 3.11 | 3.17 | 3.04 | 3.32 | 3.12 |
| CEHHS | 3.29 | 3.45 | 3.11 | 3.48 | 3.31 |
| Other | 3.04 | 3.26 | 3.01 | 3.24 | 3.06 |
| Overall Average by Library Usage Metric (%) | 3.04 (85.8) | 3.19 (14.2) | 2.95 (60.1) | 3.24 (39.9) | 3.07 |

¹² Univ. of Michigan-Dearborn, Institutional Research. (2018). *ML 2017/18 Library Usage Analysis; Project 1075*



D. Relationship Between Retention/Graduation and Use of Physical and Electronic Library Materials

“Library usage data were correlated with student success using Fall 2017-to-Fall 2018 retention and graduation rates combined as a measure of “student success”. The tables below illustrate library usage by degree- and certificate-seeking students (“students”) in Fall 2017 and their subsequent retention or graduation versus their disenrollment from the institution at official census date in Fall 2018.

The Fall 2017-to-Fall 2018 student success rate was 82% with a student success of 84% for students who accessed library databases one or more times in Fall 2017. For students who checked out one or more library resources in Fall 2017, 86% of those students were successfully retained or graduated by Fall 2018.”¹³

For FY18, there was less than a 4% increase in retention or graduation of students accessing databases or checking out library resources. This is a decline from FY17 when there was a 5-6% increase in retention or graduation of students accessing databases or checking out library resources.

Fall 2017 library database usage and Fall 2018 student success. Row percentages are included in parentheses.¹⁴

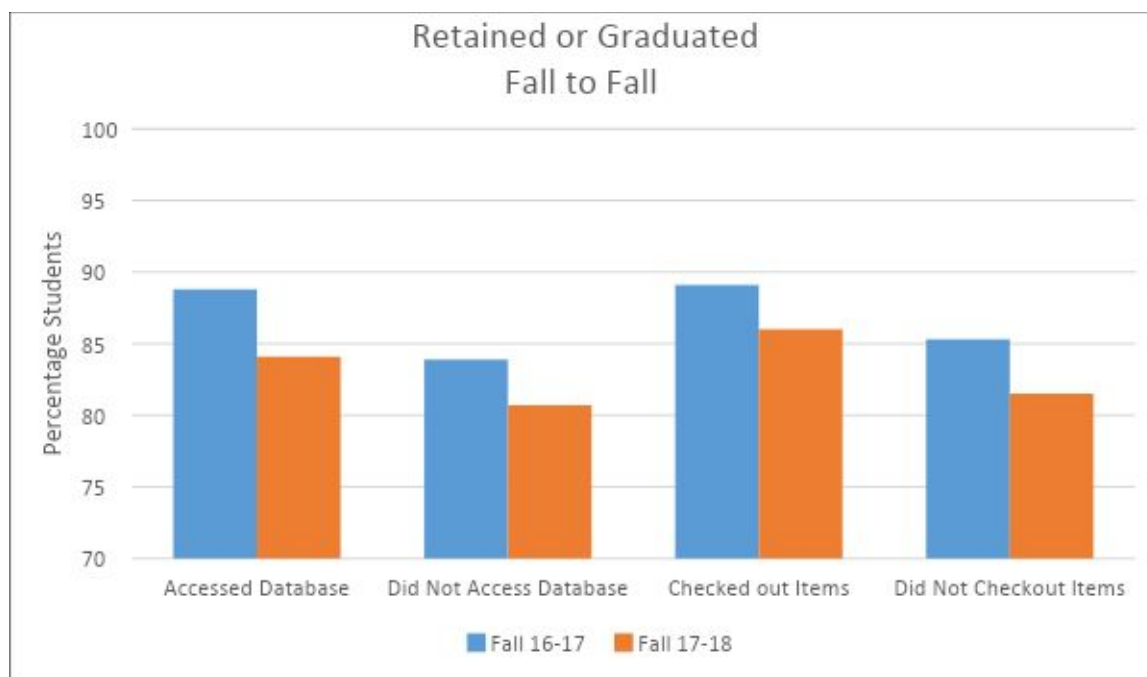
| | Fall 2018 | | Total |
|--------------------------------------------------|-----------------------|----------------------|--------------|
| | Retained or Graduated | Disenrolled | |
| Fall 2017 Accessed Library Databases 1+ times | 3,438 (84.1%) | 648 (15.9%) | 4,086 |
| Did Not Access Library Databases | 4,055 (80.7%) | 968 (19.3%) | 5,023 |
| Total | 7,493 (82.3%) | 1,616 (17.7%) | 9,109 |

¹³ Univ. of Michigan-Dearborn, Institutional Research. (2018). *ML 2017/18 Library Usage Analysis; Project 1075*

¹⁴ Univ. of Michigan-Dearborn, Institutional Research. (2018). *ML 2017/18 Library Usage Analysis; Project 1075*

Fall 2017 library resource checkout and Fall 2018 student success. Row percentages are included in parentheses.

| Fall 2017 | Fall 2018 | | Total |
|----------------------------------------|-----------------------|----------------------|--------------|
| | Retained or Graduated | Disenrolled | |
| Checked-Out Library Resources 1+ times | 1,342 (86.0%) | 219 (14.0%) | 1,561 |
| Did Not Check-Out Library Resources | 6,151 (81.5%) | 1,397 (18.5%) | 7,548 |
| Total | 7,493 (82.3%) | 1,616 (17.7%) | 9,109 |



E. Analysis of Library Materials Usage by STEM Majors¹⁵

“There was a slightly increased level of library resource checkout in STEM majors -- About 17% of STEM major students in each of the terms of AY 17-18 checked out one or more library resources as compared to about 14% of overall enrolled students and just 12% of non-STEM major students (Table 1). Summed resource checkout levels reveal a similarly increased level of resource checkout for STEM major students as compared to non-STEM major students (Table 2).

There was a slightly decreased level of library database access in STEM majors -- About 33% of STEM major students in each of the terms of AY 17-18 accessed a database one or more times as compared to about 40% of overall enrolled students and 46% of non-STEM major students

¹⁵ Univ. of Michigan-Dearborn, Institutional Research. (2019). *ML FY18 Library Usage Supplemental Analysis Project 1288*

(Table 1). Summed and mean database usage levels reveal a similarly decreased level of database usage for STEM major students as compared to non-STEM major students (Table 2).

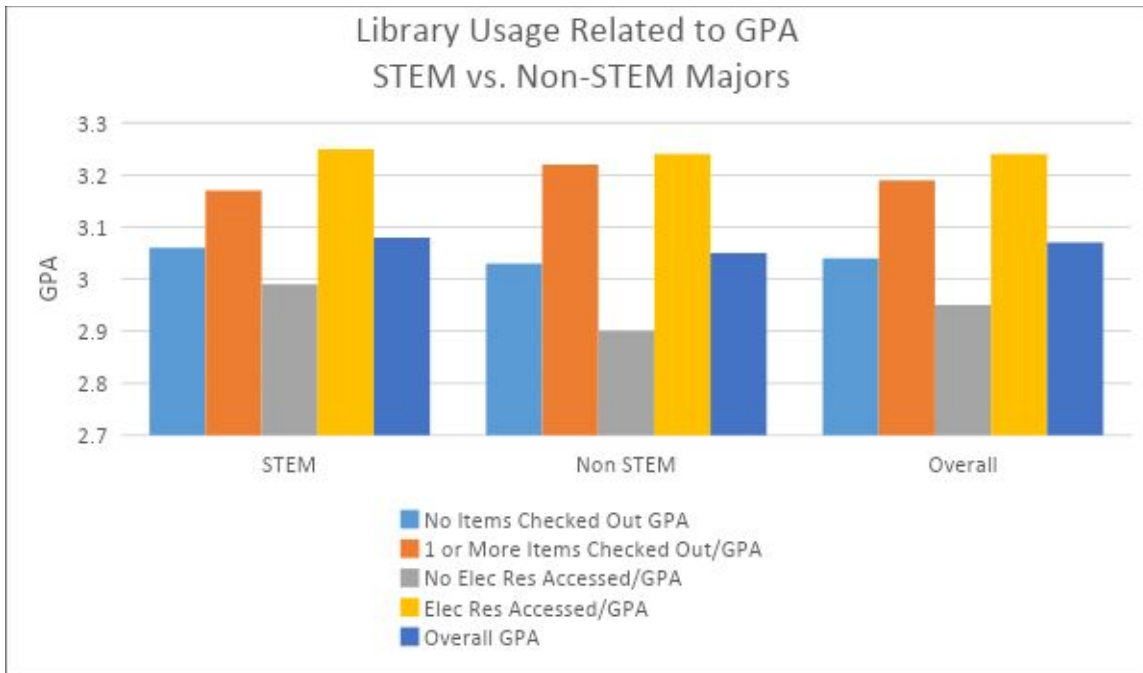
The addition of term GPA to the analysis of library usage by STEM major does not appear to be warranted as the differences observed are slight and not apparently related to either type of library usage.”

Table 1. Students who checked out 1+ library resources and students who accessed 1+ library databases each term in AY 17-18, as compared to those who did not, by primary major in a STEM field. Mean grade point average (GPA) of students each term in AY 17-18 is included. Column percentages are shown in parentheses for library usage metrics.

| STEM Major | Resources Checked Out | | Databases Accessed | | Overall by STEM |
|--------------------------------------------|-----------------------|---------------------|----------------------|---------------------|-----------------|
| | 0 | 1+ | 0 | 1+ | |
| STEM | 8,971 (83.5) | 1,779 (16.5) | 7,169 (66.7) | 3,581 (33.3) | 10,750 |
| GPA | 3.06 | 3.17 | 2.99 | 3.25 | 3.08 |
| Non-STEM | 9,928 (88.1) | 1,337 (11.9) | 6,052 (53.7) | 5,213 (46.3) | 11,265 |
| GPA | 3.03 | 3.22 | 2.90 | 3.24 | 3.05 |
| Overall by Library Usage Metric (%) | 18,899 (85.8) | 3,116 (14.2) | 13,221 (60.1) | 8,794 (39.9) | 22,015 |
| GPA | 3.04 | 3.19 | 2.95 | 3.24 | 3.07 |

Table 2. Library resources checked out and database usage by primary major in a STEM field. Column percentages are shown in parentheses for student counts and library usage sum totals.

| Primary Major Field | Count | Sum | | Mean | |
|---------------------|---------------|-----------------------|--------------------|-------------------|----------------|
| | Students (%) | Resource Checkout (%) | Database Usage (%) | Resource Checkout | Database Usage |
| STEM | 10,750 (48.8) | 7,174 (57.6) | 63,213 (33.3) | 0.7 | 6 |
| Non-STEM | 11,265 (51.2) | 5,279 (42.4) | 126,639 (66.7) | 0.5 | 11 |
| Total | 22,015 | 12,453 | 189,852 | 0.6 | 9 |



F. Analysis of Building and Furniture Usage: Several weeks during the Winter semester, Users Services staff conduct a Qualtrics “walk-around” tablet survey, using an Excel file to collect and store data. They count use of various spaces and furniture options, as well as usage of various technology.

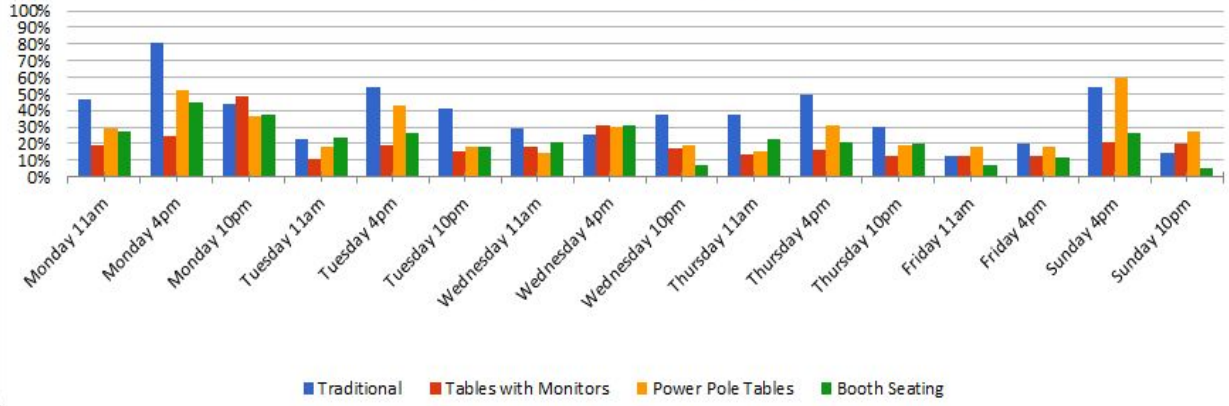
a. Building Usage:

- Tuesday and Wednesday were the busiest week days. Sunday was the busiest weekend day.
- There are frequently more people on the 2nd floor than there are on all 3 of the other floors combined.
- Each group study rooms averages about 3 people when occupied.
- The white noise system on the 2nd floor is working well. Most often the students conducting the survey “can hear voices but not conversations”.

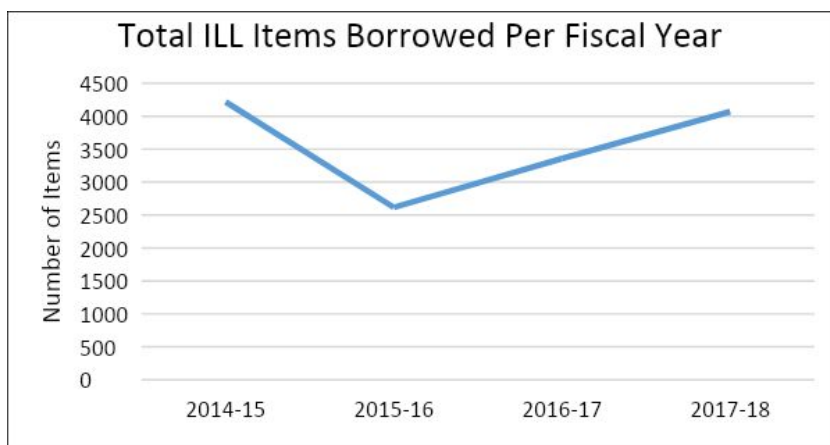
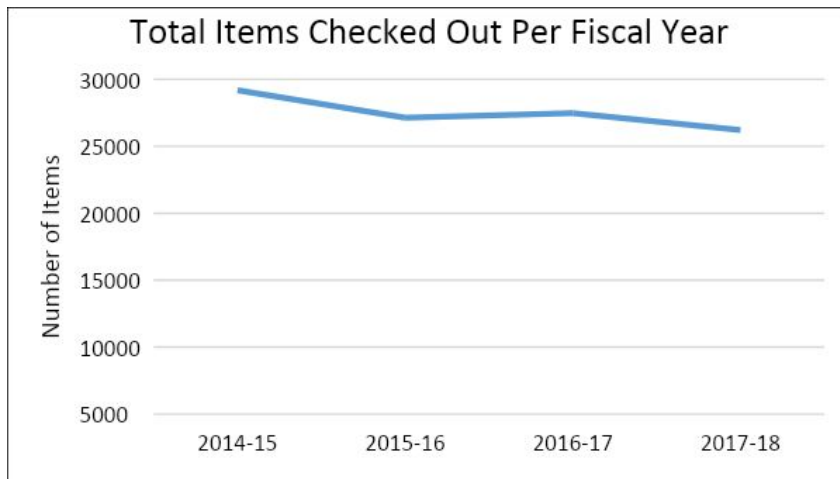
b. Furniture Usage:

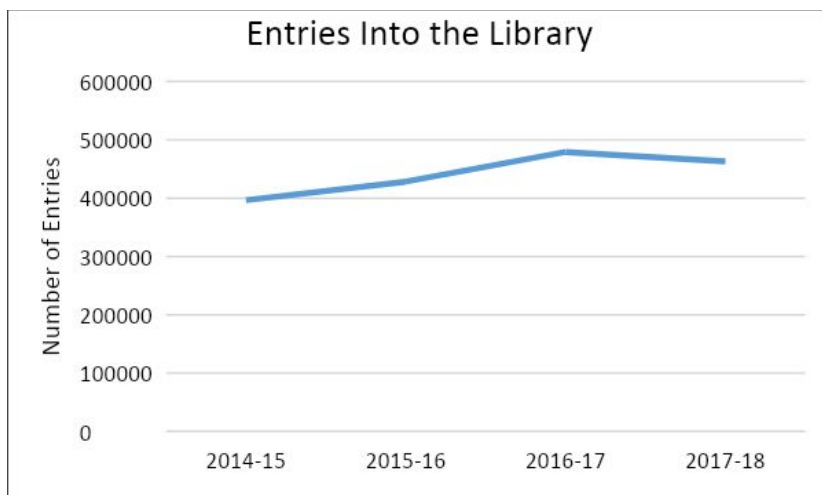
- Overall, traditional tables were the most popular.
- Following, in order of use, were power pole tables, tables with monitors, and booth seating.

Second Floor Seating Usage



Traditional Assessment Statistics





Other Library Assessment Initiatives

- A. **Research Education:** The full report of FY18 Research Education initiatives is available at: <https://library.umd.umich.edu/us/assessment.php>
- B. **Database Usage Costs:** A tracking system to monitor database usage and cost-per-use information was created. Librarians and collectors review reports and use the information 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 and Outlook

With the second year of reliable data, we were able to begin comparing data analysis results. Now that trends can be seen, it will be easier to establish benchmarks and set goals.

- Timeliness of Data Availability and Analysis
 - A considerable amount of clean-up work was required for the FY18 raw data. This has now been streamlined which should enable the library to provide data sooner so that Institutional Research can analyze the data in the summer months when they have more time.
 - The goal is to have FY19 data analyzed by fall of 2019, so that results can be used in FY20 initiatives.
- Campus Strategic Planning
 - The campus is embarking on a new strategic plan. The library identified several student learning goals for FY20; the Assessment Committee recommended methods to assess the goals. The Committee will help assess the goals and will report findings in future reports.
- Benchmarks
 - Benchmarks need to be established for various key indicators.

- Transparency of the library's Assessment Strategies Project
 - Assessment documents are available through the library's homepage <http://library.umd.umich.edu/us/assessment.php>.
- Additional Assessment Strategies
 - The Assessment Committee recently led an initiative to form a three campus library assessment group. The first meeting was held in April 2019 and plans are underway for a group meeting in October 2019. The goal of the group is to collaborate on assessment strategies and to learn more from each other about quality assessment.
- Research Education Assessment Report
 - The Assessment Team is considering combining this annual report with the annual Research Education Assessment Report. A merged report could show the overall relationship and impact among the library's various initiatives and projects.