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Rowan University Libraries' Head-Counting Study

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Title: Rowan University Libraries’ Head-Counting Study

Abstract: Many non-library administrators assume that library buildings are no longer needed because resources are online and students can study elsewhere. Rowan University Libraries' head count study began as a way to provide evidence for a pilot project to extend hours. The study identifies the number of people by area in the library as well as the use of technology. The benchmarking (evidence) results have been used for updating the building hours and adding specific types of study/collaboration spaces to better serve the students, as well as articulating how much the library space is used.

Keywords: head counting, space studies, data-driven decisions, user behavior and needs

Project focus: spaces; user behaviors and needs; data-driven decisions

Results made or will make case for: improvements in spaces, proof of library impact and value, how money or resources may be directed, adjustment to operation hours—information for project drove the need to adjust the operational hours of the building

Data needed: number of patrons using which spaces within the library and if they are using technology

Methodology: mixed method

Project duration: over 3 years, but less than the 5 years

Tool(s) utilized:

- One staff person at the top of the hour would walk the entire public area of the entire building.
- The staff person used a clipboard, pencil, and printed survey sheets that listed each of the areas of the library as well as the categories “Individuals without technology”; “Individuals with technology”; “Groups without technology”; and “Groups with technology.”
- Survey sheets were then transferred into Microsoft Office Excel for calculations and creating graphs.
- Some staff would use their personal cell phone cameras to capture some observations.

Cost estimate: < $100

Type of institution: university—public

Institution enrollment: 5,000–15,000

Highest level of education: doctoral
Chapter 10

Rowan University Libraries’ Head-Counting Study

Susan Breakenridge

Introduction

Most academic libraries report information such as the number of volumes held, interlibrary loans processed, and instruction sessions offered. However, those numbers do not easily demonstrate direct impact on the students. For libraries that are new to assessment, a starting point is benchmarking the services that could add value or impact student patrons. Of the basic library services (providing access to collections, access to reference assistance, and access to study and collaboration spaces), space is a relatively easy and inexpensive area to demonstrate value.

Many non-library staff and administrators assume that library buildings are no longer needed because students will and want to study in other spaces since many library resources are available online. But just because students can and might study elsewhere, is that what is best for them? “AiA [Assessment in Action] library impact studies document that students who used the library in some way achieved higher levels of academic success.”\(^1\) A basic way to demonstrate that libraries are physically still being used by patrons is to capture usage. Gate counts are easy enough to capture, but they are not overly informative. Conducting head counts can be more accurate and informative than relying on gate counts when the building houses more offices and services than just the library.
Rowan University’s Campbell Library began conducting head counts during the fall semester of 2013. The number of head counts have transitioned over the semesters to now include hourly head counts for a full week during the middle of the semester as well as the last three to ten days of the semester (including finals). The head counts were conducted for the purposes of (1) making decisions related to services and facility updates and (2) being able to articulate the library’s value and impact on the students. The head counts identify the number of people by area in the library as well as their use of technology. Staff conduct the head counts, recording the usage on paper forms. The trend line shows the number of patrons using the library in the overnight hours has increased over time, as seen in figure 10.1. Only Rowan faculty, staff, and students are allowed access after 8:00 p.m. when the doors require users to swipe their university ID card. The benchmarking results were used for updating the building hours, adding specific types of study and collaboration spaces to better serve the students, and informing administrators. The library administration is now positioned to explore different assessment approaches to demonstrate impact, such as patron surveys and focus groups.

![Figure 10.1](image)

**Figure 10.1**
Average head count by year and semester.

**Rowan’s Head-Counting Study: Creating a Plan**

In late 2013, the new Rowan University Library administration were requested by the student government organization to have the library open twenty-four hours during finals. The administrators were familiar with these types of requests from previous institutions and knew extending operational hours comes with a cost but not necessarily more building usage. Since the administrators were new, no evidence of need was available. Wanting to be responsive to students, they started with a conservative approach, added some late-night hours, and began collecting data on usage during the added hours as a pilot project.
The first part of the head-counting study plan was recruiting staff from across the library to provide coverage at the circulation desk during the extra hours. The library administration was allowed to offer staff the option of earning either overtime pay or compensatory time. (Two semesters later, the university required that only compensatory time be offered.) Not all circulation services were offered during the extended hours, but the staff from other departments were trained on basic circulation skills (e.g., checking out material and reserving study rooms). The second part of the head-counting study plan was recruiting staff to walk the building, recording the number of people using the facility, especially during the overnight hours. The library administration had the authority to adjust staff schedules with adequate notice to work the overnight hours, but due to concerns that a “required change” would cause poor morale and call-outs, the staff members were offered the option to volunteer to work extra hours for either overtime pay or compensatory time. Over the semesters the most staff ever involved per semester in the overnight counting was four. Though these employees were supportive of the project, they were thankful for its temporary nature. Staffing the circulation desk during the overnights was more challenging even with incentives. The third part of the head-counting study plan was working with the facilities and security departments. Additional janitorial services were needed for restroom checks and trash removal, but coordination was also needed since most of the regular building cleaning happened on the third shift when the building was closed. The library administration also requested a dedicated security officer to be stationed in the building during the extended hours. This was an overtime expense for the officer’s time, but the library was not charged for the service.

In the last ten to fifteen years, library space planning has become more prevalent, for example, the work conducted by Nancy Foster and Susan Gibbons at the University of Rochester’s River Campus Libraries using anthropological and ethnographic methods. Campbell Library was not prepared to do a project of that size, and thus started off simply. The tally sheet document used to record the usage listed all the unique locations in the building as well as four defining categories of how people might be using the space: individual without computer, individual with computer, group without computer, and group with computer. The library administration was curious to know the answers to these questions:

- In what areas of the building were patrons working? This would help to identify which physical aspects of the building patrons navigated to and some popular spots the library administration might consider replicating. Some other library space research includes physical aspects of the building during late hours, student behaviors in libraries, library space and furniture, and physical improvements to libraries.
- Were patrons working alone or in groups? This would help to identify the physical needs of the patrons—single-seat tables, multiple-seat tables, or lounge furniture—and some of the popular configurations that the library administration might consider replicating. Though patron need (individual or group) might dictate the space used, sometimes patrons use spaces and furnishings...
differently than expected. Library social space and informal social learning spaces in libraries can have an impact on how library space is developed.\(^4\)

- Were patrons using computers? This would help the library administration identify if more library computer workstations were needed. Though college students are encouraged to have their own personal computers or laptops, that does not mean they would bring them to the library.\(^5\)

Determining if people were working alone or in groups was easy but determining if the person was using a computer without appearing to be nosy required some tactful discretion. The staff doing the counts were to minimize disruption to users. However, in the early morning hours, sometimes the staff needed to be purposeful to check certain areas for security reasons. The tally sheet document locations were updated as changes to the building occurred. An example of the tally sheet document is in table 10.1.

| Table 10.1 |
| Example of Head-Counting Tally Sheet by Area and Activity |

<table>
<thead>
<tr>
<th>Second Floor</th>
<th>individual</th>
<th>individual with computer</th>
<th>group</th>
<th>group with computer</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAC, Rm 245 - tables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAC, Rm 245 - 2 computers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Rm 242A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Rm 242B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference Computers -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference Rm - tables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microform Reader</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference Area Scanner/Printer Alcove</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference - 240A (Purple)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tally sheets have been used for all the usage collection to date. A complete tally sheet consisted of three pages. Though it would have been more economical to use double-sided pages, it took time to flip sheets, so for the sake of speed and ease, one-sided pages were used. Though paper is relatively inexpensive, it is an expense to note. A staff member explored a digital application that would do the same thing, but it has not been adopted yet due to the multiple steps to record the different categories. Other libraries might find the digital application an option, and it was an open-access application at this writing, but it requires a device that the library might have to purchase.
The number of extended hours and how often the counts were conducted changed over the semesters as shown in table 10.2. Some of the change was due to the finals schedule or the library administration wanting to explore additional or different days before and during finals.

Table 10.2  
Number of Head-Counting Hours by Semester

<table>
<thead>
<tr>
<th>Semester</th>
<th># of Nights with Extended Hours (Open Overnight)</th>
<th># of Days Counted</th>
<th>Hours Counted</th>
<th>Conducted Mid-semester Counts (1 Week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2013</td>
<td>6 (7th canceled due to storm)</td>
<td>5</td>
<td>5, 7, 9, 11 p.m. and 1 a.m.</td>
<td>No</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>8 (no weekends)</td>
<td>6</td>
<td>Midnight–7 a.m.</td>
<td>No</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>3 (no weekends)</td>
<td>3</td>
<td>Midnight–7 a.m.</td>
<td>No</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>7</td>
<td>7</td>
<td>Midnight–6 a.m. (and most of the weekend hours)</td>
<td>No</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>5 (no weekends)</td>
<td>8</td>
<td>All open hours</td>
<td>Yes</td>
</tr>
<tr>
<td>Spring 2016</td>
<td>7 (no weekends)</td>
<td>15 consecutive days</td>
<td>All open hours</td>
<td>Yes</td>
</tr>
<tr>
<td>Fall 2016</td>
<td>5 (no weekends)</td>
<td>10 consecutive days</td>
<td>All open hours</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Communicating Results and Impacts

Initially the pilot project study results were shared internally with the library administration and staff. Though the administration did not identify any number at which to continue the extended hours, the results were adequate to continue the pilot the following semester. Due to the different dynamics (i.e., weather, holidays, and graduation ceremonies) between the end of the fall semester and the end of the spring semester, the pilot extension included being open twenty-four hours.

Besides informing and influencing the building hours during finals, facility decisions were made based in part on the usage numbers and staff’s anecdotes from their head-counting experiences. Staff conducting the head counts noted noise problems near the public restrooms and elevators filtered into study areas. In March 2014, four doors were installed at room entrances to keep noise down near study areas on the third and fourth floors (see figure 10.2). Also in the spring of 2014, planning started for the renovation of the fourth floor study area funded by the library’s endowment. Since patrons moved the heavy furniture around during finals, the new furniture for the space was selected knowing that patrons would likely rearrange it to make group settings. The space renovation received new carpet, paint, and furniture—tables, chairs, lounge furniture, and movable whiteboards (see figure 10.3).
The head-counting study during the spring 2014 finals continued to be informative. Group space was at a premium, so the library administration identified two spaces that could be turned into three study rooms. During the fall of 2014, a large room that housed a photocopy machine was renovated into two 6-person study rooms (see figures 10.4 and 10.5). During the spring of 2015, another, smaller photocopy room was transitioned into a third 6-person study room.

The spring of 2015 library hours for finals included being open twenty-four hours over the weekend. Though the library administration predicted the counts would be low, it was agreed that having the data was important. The study results continued to show that most patrons in non–computer lab spaces had personal laptop computers or alternative technology. Due to the lines of patrons waiting to use the second floor desktop computers, the library administration acknowledged the need for more computer workstations.
The reference collection deselection project in the spring of 2015 dramatically decreased the collection’s footprint on the second floor, so library administration began looking at alternatives for the space and the adjacent areas that had microforms. With the need for more collaboration rooms, desktop computer stations, and another printer, the 2015 Library Endowment Project started to take form. Each year, the administration has endowment funds to use as it sees appropriate. The 2015 Library Endowment Project was the redesigning and repurposing of the second floor reference area. The microforms were moved to other areas in the library, and then the architect was able to design a space that had four 5-person collaboration rooms, sixteen new desktop computer stations, and new tables for fifty users (see figure 10.6). The student printers were provided by the university IT department, so providing usage information was important to proposing that IT add another printer in the library. IT agreed, and it was added after the renovation project was complete.

The four new collaboration rooms included large-screen monitors that had wireless connections for laptops. The Facility Project Planner assigned to the renovation work was aware that two new university buildings being constructed on campus were planning similar group spaces, so this was an opportunity for the university IT department to experiment with less-expensive technology in preparation for those new building spaces. Some of the study tables in the reference area (a variety of two-, four-, and six-person tables) had electrical and USB power outlets available on the tabletops.

**Figure 10.6**
Reference area—computers, tables and study rooms.

In the fall of 2015, a week-long mid-semester count was started to capture a benchmark to compare to the end-of-semester counts. News of the library’s head-counting study had spread through the university’s Facilities Campus Planning department. This department is responsible for assigning or reassigning campus space. Campus space is at a premium, and no space is off limits for consideration. The library’s study results showing usage in daily and hourly increments help keep the space planners from taking more library space for other academic needs. On a historical note, taking space from the library for university needs is not unheard of. Four large meeting rooms...
were taken years ago and made into university classrooms, and in the summer of 2013, the unfinished fifth floor of the library was completed for academic offices.

The renovated spaces have proven to be popular even after the newness wore off. As seen in table 10.3, the fourth floor reading room (Rm 425—Open Study Area—tables) continues to be busy three years after renovation, and the reference area renovation (Reference Computers) made the top list within less than a year after renovation completion.

**Table 10.3**
The Top Five Areas Used during Specific Semester

<table>
<thead>
<tr>
<th>Totals</th>
<th>Space</th>
<th>Totals</th>
<th>Space</th>
<th>Totals</th>
<th>Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Finals 2016</td>
<td>Rm 425 - Open Study Area - tables</td>
<td>2744</td>
<td>Current Periodicals Rm - tables</td>
<td>2272</td>
<td>1st - individual desks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3419</td>
<td></td>
<td>4255</td>
<td>4th Center - individual tables/desk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3064</td>
<td></td>
<td>2598</td>
<td>1st - individual desks</td>
</tr>
<tr>
<td></td>
<td>Reference Computers</td>
<td>2832</td>
<td></td>
<td>2680</td>
<td>Reference Rm - tables</td>
</tr>
</tbody>
</table>

The pictures taken during spring 2016 finals (see figure 10.7) in the fourth floor reading room shows how popular the space has become.

![Fourth floor reading room—spring 2016 finals.](image)

**Figure 10.7**

Leveraging the Findings

Now that the library administration has a better understanding of which spaces are being used and to what degree, the next steps are to learn (1) more specifics about what the student patrons are doing in the space, (2) why they choose the library and the specific location within the library, and (3) why students are not using the physical library resources, services, and space. These three areas will require special user engagement with formal planning and preparation that includes human subject approval from the institutional review board. The library’s assessment staff has begun developing a project plan that includes patron surveys (physical forms and online forms) during finals, student focus groups within the next year, and survey distribution.
to student populations not entering the library also within the next year. Depending on the types of questions, the library administration may need to use staff less directly involved with library services or project planning to ensure staff are not influencing the results.

The results of the next study should provide the library administration with information about how to market the library resources, services, and spaces. The results may provide more information about the type of spaces students would like that could be incorporated into renovation projects. The results may also assist the administration in fund-raising efforts because it will be information directly from students.

**Reflection**

This very basic assessment project of conducting head counts has proven to be very informative for the new library administration. This author personally conducted many of the head counts over the semesters and has observed unique behaviors and phenomena. An example of a regular occurrence was how groups of students, such as sorority or fraternity “study table” groups, had to have their tables touching. The individuals in the group were not necessarily studying the same subject or even working together, but they had a great need to move tables so everyone in their group was at a spot that touched the “group table.” Being able to see one another was not sufficient. It also made no difference if the tables were rectangle or round, the tables just had to touch at one point.

Another interesting observation was the patrons’ choice of technology. When the initial head count was conducted, it was assumed that patrons would have laptops to write papers or interact with the library’s electronic resources. Though that was still a popular approach, this author came to appreciate how many patrons used tablets or iPads and even smartphones to do all these activities. Some users even had two or more electronic devices in front of them. Not all activity was scholarly in nature, but even from this author’s quick glance observations, it cannot be assumed that the patrons’ social media engagement was not with classmates on a course project.

Noise was an interesting issue. Though many library users understand that libraries should be moderately quiet, when groups of people gather, noise occurs. On occasion complaints were reported to the service desks, but they were typically related to spaces designated for group study. The staff that conducted the head counts discussed the noise issue on multiple occasions. One particular space was designated a quiet zone, but due to the furniture in the area, patrons regularly created large group tables. The staff was frustrated that the groups disregarded the quiet signs, but the patrons studying at individual tables in the vicinity rarely seemed affected. The staff concluded that most of the individual patrons were using headphones or earbuds and were not bothered by noise.

Consistency in how different staff might conduct a count was a minor concern. Each time a new person was added to the group conducting head counts, he or she was put through a minor training session that included a simulation. The person was
shown the path through the library that is the most efficient, since during busy times, a single count (walk through the entire building) could take about thirty minutes. The person would be asked to conduct a head count while the trainer also completed one to determine how far off the trainee’s counts were. Manual head counting is not perfect since the staff conducting the counts must always be looking for people who are walking as well as recording the location and activity of the patrons who are sitting. Other rules for the head counts included these:

- Count only patrons. Do not include library staff, university staff who are working in the area (e.g., custodial or facility staff) or library student staff who are working.
- When counting, continue on the designated path; never double back to “re-count.” Library users move around and will never stand still for a count, so stay on the path and count what is ahead, not behind.
- Be as inconspicuous as possible when trying to determine if technology is being used. Being too nosy could scare users out of the library.
- Patrons who are not sitting will be counted and recorded in the “walking through” category on the tally sheet.
- The head-counting staff will be asked by patrons about what they are doing since the counting activity is so systematic. Some patrons may be suspicious and concerned, while others will just be curious about why the staff member is walking by every hour.
- Remember that head counting in this fashion is not an exact science, but it can still be quite powerful.

The project collaborators included the university’s Department of Public Safety and Facilities. Like most universities, the institution, as well as the city it is in, has its share of crime, so requesting a security presence was important to help make the staff and patrons feel safe. Though the library building’s access in the late evenings and overnight was only via a card swipe for Rowan faculty, staff, and students, the security officer was stationed at the front desk and conducted periodic walks through the building. One of the security concern was fear that stressed patrons would have confrontations within the building. The facility department was not able to provide more dedicated staff during the extra hours. However, when the regular janitorial staff was not scheduled in the building, a campus janitorial floater checked the restrooms’ toilet paper and hand towel supply and pulled trash. Luckily the amount of vandalism and theft over the eight semesters was minimal.

**Lessons Learned**

A major lesson learned was to take pictures—before, during and after! Pictures are critical to tell the library’s story from multiple perspectives:

- space improvements—then and now photos
- space usage—document that the space is being used (take photos of users in the space)
• space usage—document how the space is being used (examples—study room windows being used as impromptu whiteboards; unplugging library equipment to plug in users’ devices; movement of furniture, especially when furniture appears to be switched out—a likely sign the original furniture is broken or uncomfortable).

Another lesson in hindsight was to conduct the hourly daily and mid-semester counts. It seems so logical and immediately worthwhile, but for the library administration it took time with the interval steps to agree on the need for and value of such information. This author would highly recommend to other institutions that they do the hourly daily counts from the very beginning.

A final lesson is to decide whether to include a location of “book stacks” on the tally sheet to record patron activity that is specific to the library activity of looking at books on the shelf. That activity was not important to the library administration to capture, so those people were recorded as “walking through” in the appropriate area.

**Challenges**

Academic library usage is cyclical, with peaks typically happening around mid-semester and going into semester finals. Library usage can be different based on which semester and, to some degree, on the weather. Winter weather impacted Campbell Library during the first semester’s head count—the institution had a snow closure. During a different semester, this author heard patrons discussing how they were staying at the library because it was raining outside, so if one patron was not leaving during a storm, it is reasonable to assume that others were not coming to the library from other locations for the same reason.

Another challenge of the project was arranging for staff to do the counts. In the first few semesters, it was only a few days with a few counts being done by two staff members, but by the spring of 2016, the number of hourly counts hit 280, requiring up to six staff. This came with a significant amount of compensatory time for the staff, which can have a monetary value calculated, but the library administration was committed to the project and assessment and deemed it worthwhile.

The Campbell Library has approximately 800 seats (tables, seats, lounge seats, single units, and multiple) and some of the highest head counts have reached over 500. A challenge is having enough of the seating the patrons want. As the number of users increases, the likelihood of users not finding the seating they want increases. The question is how many times users will tolerate no space before they do not return to the library.

This project can be done at any type and size of institution, with the primary issue being compensating staff conducting the head counts if they need to work overtime.

**Notes**


**Bibliography**


