

Ring of Fire: Assessment Comes Full Circle for Rebuilding K-State's Hale Library

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Abstract

Having updated assessment data readily available is important for coping with emergencies such as disasters and pandemics. At Kansas State (K-State) University, recent data from LibQUAL+®, an annual university-wide senior survey, and focus groups for a planned smaller renovation provided valuable information to act upon when fire damage destroyed the interior of the main library. With this data, additional post-fire assessments could be quickly implemented to help inform the greatly expanded scope of the renovation. With the already planned smaller renovation completed first, the Suma toolkit was used to gather information about the newly renovated space to apply to rebuilding the other floors and areas of the building in terms of design and furniture choices to maximize usage and preferences of students and other library users. Experience from the fire recovery prepared library faculty and staff to assist the university with the COVID-19 response regarding working offsite and remote learning.

Introduction

What would you do, as an assessment librarian, if in one afternoon your entire main library suddenly closed for more than a year?

Building and maintaining a body of current assessment data that can be quickly incorporated in multiple ways in an emergency is useful planning, specifically concerning library renovation as an example. Although the focus here is on space utilization, pre-event benchmark assessment data provided important context for all aspects of compensating for the loss of a library and its contents for an extended time.

On May 22, 2018, a fire broke out on the roof of Hale Library, the main library at Kansas State University. The fire was in a difficult-to-access attic and resulted in a 550,000 square foot building fully permeated with toxic soot and approximately 650,000 gallons of water. Although no one was injured and most of the collections were ultimately saved, the interior of the building was almost completely destroyed, requiring a nearly complete rebuild and redesign. Assessment opportunities abounded in every aspect of rebuilding Hale Library, including collections curation, providing services, and facilities/space planning.

In preparation for a planned renovation on part of the first floor of Hale Library to create a new learning commons, several assessments were completed just before the fire to determine users' preferences for new library spaces. Kansas State University conducts an annual Senior Survey of graduating seniors with four questions pertaining to libraries: services, collections, facilities, and ease of access.¹ The response options are:

- Used and was satisfied
- Used and was dissatisfied
- Knew about but did not use
- Did not know about

With this methodology, one can learn about the level of usage as well as satisfaction, as reported by students as they graduate with bachelor's degrees. Data can be filtered by college within the university, giving a broad of idea for variations in disciplinary usage of library resources, facilities, and services. Longitudinal comparisons are also useful, as the data has been collected for more than ten years.

K-State Libraries utilized the LibQUAL survey in February 2018, with results obtained less than three months before the fire. Having such recent assessment data about Library as Place as a pre-fire benchmark proved incredibly valuable in quickly determining user needs and preferences for a rebuild.² Previous LibQUAL assessments in 2014 and 2011 had already offered a good idea for what renovations were needed, and the 2018 iteration reinforced the needs for students to have quiet, undistracted individual study areas and also areas where group study could take place with more privacy and technology available. LibQUAL results can be filtered by user group and discipline and offer data about frequency of library use. This information, along with many comments about the library facility, added to the body of knowledge about how a renovation should proceed.

As a further reinforcement to these quantitative data sources, focus groups with students were conducted to gather more information about preferences for the new learning commons. This data was consistent with the LibQUAL and Senior Survey data. Plans were drawn and the floor area was cleared to begin the construction in late May 2018.

When the fire happened on May 22, 2018, accidentally caused by a roofing repair project unrelated to the planned learning commons construction, everything was put on hold as it was determined the entire building would be closed for an undetermined time because the infrastructure of the building (power, plumbing, HVAC, etc.) was destroyed. The immediate priority was the removal of the physical library collections for salvage and repair—a truly overwhelming effort in a large building with no lights, elevators, or breathable air—and 90-plus degree temperatures.

As plans proceeded for repair to the building, it was determined that the already designed learning commons should be constructed first, as this area could reasonably be sealed off from the rest of the building. Students on campus were dislodged from this well-used and popular study space and needed part of the library open as soon as possible. Other facilities on campus extended building hours and opened classrooms and conference rooms when not in use, but in the students' view, this did not compensate for losing access to Hale Library. Other libraries on campus included two relatively small branch libraries that could not possibly compensate for the missing space and collections. A Post Fire Assessment Project was quickly developed with surveys and focus groups, targeted to specific user groups such as undergraduate students, graduate students, faculty, staff, and community users. These results exposed the heartbreaking reality of life on campus without the main library, plus preferences and dreams of what a newly renovated library could be. This information, layered upon the pre-fire assessment data from the Senior Surveys, LibQUAL, and focus groups, gave an even more complete picture of how the renovation should proceed.³

In August 2019, the new learning commons finally opened—15 months after the fire. Kansas State University literally endured an entire academic year with no main library, relying on two small branch libraries, other buildings on campus for study space, and an extensive interlibrary loan effort supported generously and kindly by many libraries in Kansas and the United States in sympathy for the catastrophic situation. Upon opening, the new learning commons was flooded—not with water but with desperate students. Based on the Post Fire Assessment and response of users to the new commons, floor plans and furniture decisions for the rest of the building were informed by using occupancy “sweeps” and studying how users interacted in the new space to extrapolate these preferences to other areas in the building.

Design/Methodology/Approach

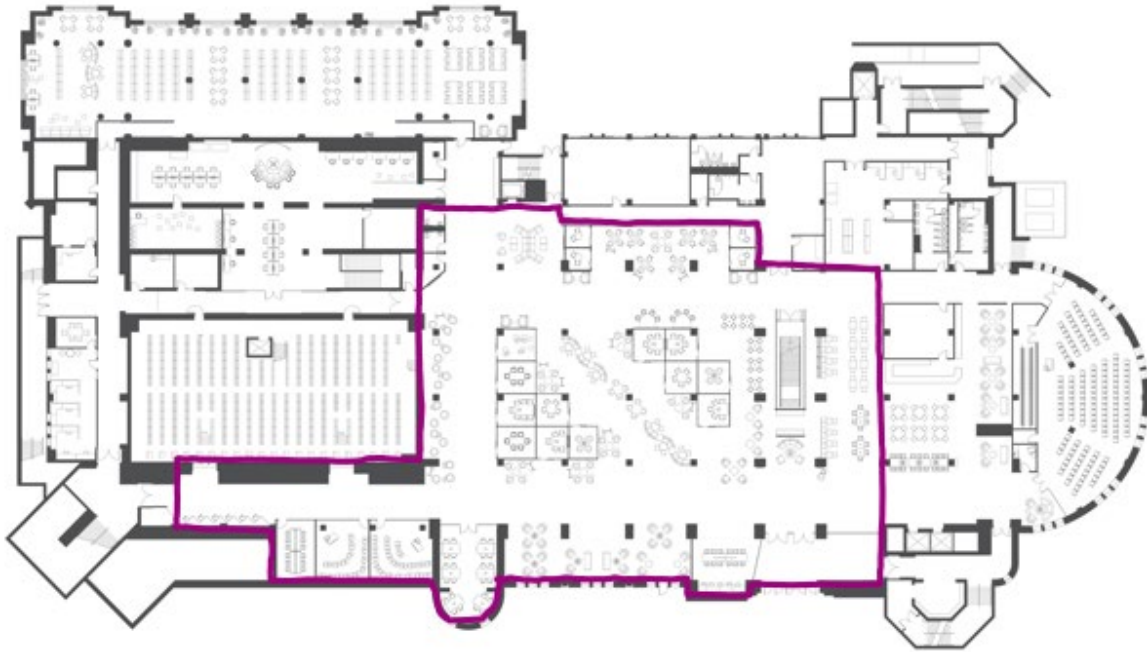
The previous assessments of the Hale Library space indicated that students desired both quiet individual study space and areas for group study. Noise complaints were common and students reported distractions. Attempts at designating areas as quiet zones were not very successful. Much of the library had traditional seating with large tables grouped together. Students studying alone shared these spaces with study groups that created noise and distractions. There was no privacy for anyone. The hard wooden chairs were uncomfortable for long study sessions. Students studying alone were reluctant to share a large table with someone else. There weren't enough power outlets for students' devices. A few portable whiteboards were available but not nearly enough to meet demand. The café in the library was not connected to the main floor and was awkwardly placed. Despite all these deficiencies, students used and loved Hale Library, with a particular sentimental attachment to what they called "the Harry Potter Room" (officially called the Great Room), a large, cathedral-like reading room with beautiful windows and historic murals.⁴ Unfortunately, the fire was on the roof of this room, right above the murals, but was rather miraculously saved.⁵ Many students and other library users expressed the desire that the renovated building incorporate both the modern and the traditional. Expectations and sentiment weighed heavily in redesign and restoration plans, coupled with realistic needs for productivity and functionality—and budget concerns.

Improvements to Hale Library are typical requests of students employing modern study methods. All assessments pointed to these ideas with consistency; the most surprising component was the emotional attachment from many respondents to the historic areas of the building and the importance of a traditional "library feel." Examples of requests include:

- Quiet individual study space
- Group study space with privacy and technology
- More outlets
- More whiteboards
- Flexible furniture and layouts
- Desire for a blend of traditional and modern settings
- Comfortable seating
- Table space for laptops, books, papers, etc.
- More restful, subtle color schemes
- Natural light and available task lighting

When the first floor opened in August 2019, a post-occupancy assessment plan was implemented to learn how users responded to the new space with the idea of applying this information elsewhere in the building. Several options were explored, including the Suma toolkit from North Carolina State University,⁶ and SpaceUse from Humboldt State University.⁷ Although Suma was ultimately chosen as the assessment tool, information about library occupancy from a presentation and article from Humboldt State University were invaluable in building the post occupancy assessment, particularly regarding occupancy rates, furniture choices and alignments, and setting up schedules for the walk-through "sweeps."⁸ The architects and designers for Hale Library used reports and data collected through Suma to influence the design and layouts for the remainder of the building.

Figure 1. Plan of the first floor of Hale Library

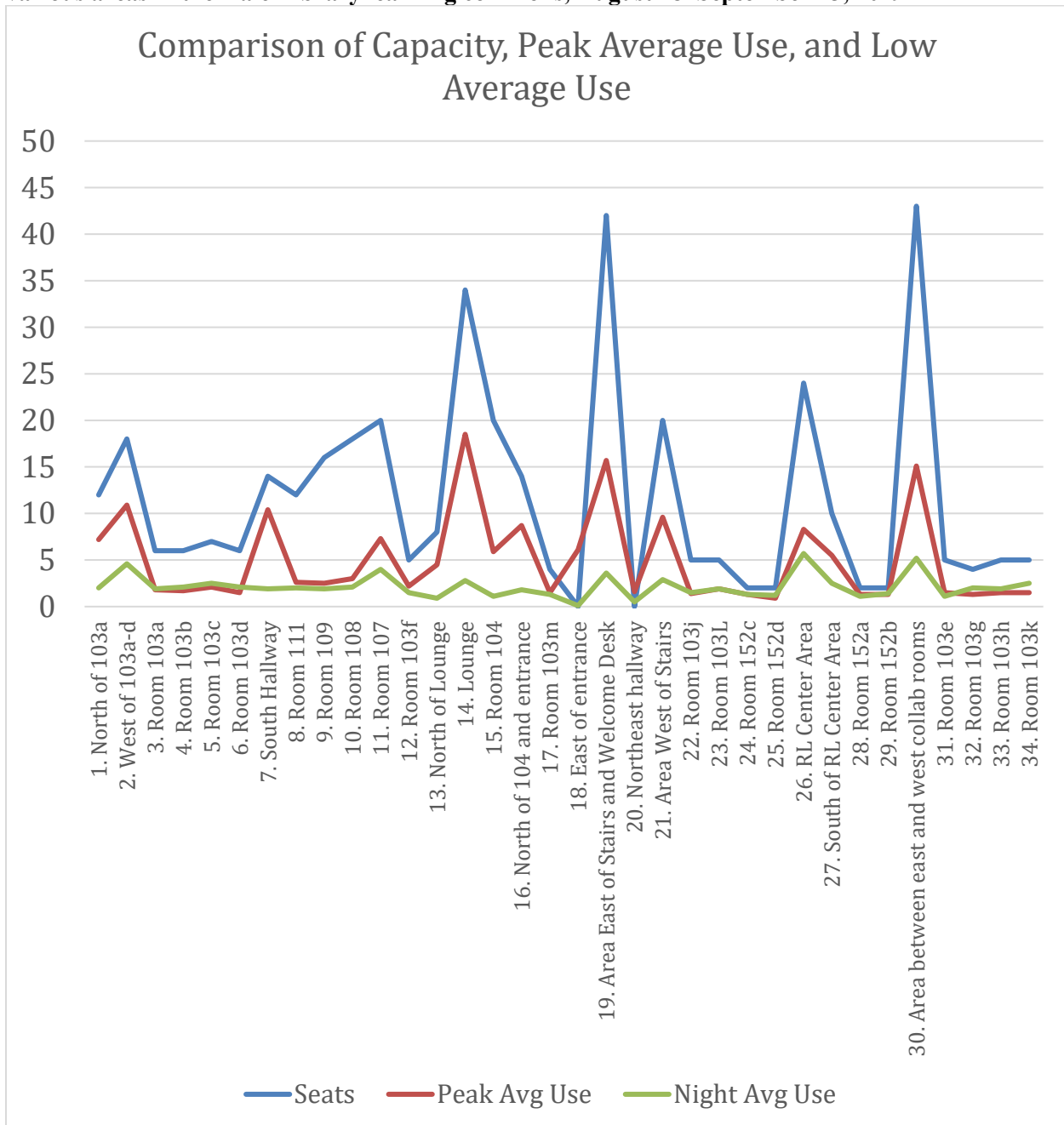


The learning commons that opened in August 2019 is outlined in purple with the remainder of this floor and the rest of the building still under construction during the fall 2019 semester.

In the area outlined in Figure 1, the Suma toolkit was set up to count occupants in 34 distinct areas, including 20 separate rooms and 12 seating areas with different types of furniture styles and configurations. In total, 396 seats were available in the learning commons. Two areas with no seating were also counted, including a hallway with restrooms and vending machines, and the entry area where people often stood in lengthy conversations.

Sweeps were taken every day the library was open at 11:00 a.m., 2:00 p.m., 8:00 p.m., 12:00 a.m., and 2:00 a.m. The peak usage time was 11:00 a.m. Monday through Friday, with consistently over 40% occupancy and often showing over 50% occupancy. With this degree of crowding, it was difficult to determine true user preferences because people appeared to choose seating based on space availability rather than preference. Usage at the 8:00 p.m. time was usually around 15–20%, which allowed users more leeway in choosing the areas they preferred since they truly could choose based upon their preferences rather than just finding the least crowded spot. Late night usage tended to be quite sparse and inconsistent and was not selected as a useful assessment for determining layout and furniture preferences (although it is useful for other purposes).

Figure 2. Usage comparison of capacity against peak usage and “night” usage (8:00 p.m.) for various areas in the Hale Library learning commons, August 28–September 23, 2019



Although the level of detail may appear excessive, an efficient route through the space was mapped out and data collectors quickly became familiar with the easy use of Suma and the route. After one or two sweeps, collectors could easily accomplish the task in fewer than ten minutes. A dedicated tablet for the task was available at the welcome desk, or collectors could use their own device as desired. Occupancy rates were reported to library and university administrators, architects and designers working on the renovation project, library staff, potential donors, and the Friends of the K-State Libraries group.

Findings

Consistency among the various sources of data was further borne out by the post-occupancy assessment, providing reliable information for the redesign of the rest of the building. Greatest users of the physical library building are undergraduate students, who were not shy about expressing definite opinions about what they want in a library facility. When the first floor of the library opened, students immediately took ownership of the available space and the rate of occupancy was consistently very high throughout the fall 2019 semester.

As presented by experts at Humboldt State University, occupancy of 40% seems full, with 20% as a good, realistic target. Consistent usage below 10% indicates a need for evaluating the configuration of a space to draw users.⁹ During the evaluation time of August 28–September 23, 2019, average occupancy of the Hale Library learning commons was 42% at the peak time of 11:00 a.m. Monday through Friday, and 18% at 8:00 p.m. Sunday through Thursday. Preferences were difficult to determine during the peak times because people were everywhere but were easier to determine with the 8:00 p.m. time. Considerations for selecting furniture layout requires a balance between comfortable usage and efficient density. Strong preferences may be held for a type of furniture, but users may be reluctant to sit next to each other. Finding comfortable furniture that encourages density is helpful to maximize space.¹⁰

Preferred Configurations

Collaboration Rooms

The new learning commons featured collaboration rooms, which were lacking in the previous building design. Fourteen rooms were built, ranging in occupancy from two to seven people. These all consistently saw heavy usage throughout the semester, although often the rooms were used by single individuals. Users do have the ability to reserve the rooms in advance and once the learning curve for this was passed, the rooms began to be used more efficiently by groups during the peak times.

Tables

Tables, regardless of the size, were consistently used at all times. Smaller tables seating one to two people provided more efficient use of space than larger tables, which also tended to be used by one or two people.

Lounge Seating

Living room style seating (sofas, chairs, low tables) are popular for users stopping in for a quick visit and tend to be most used near entrances. This seating is not selected as much during non-peak times although this type of seating definitely serves an important purpose, especially for shorter visits to the library. Users like soft seating but prefer lots of space; this seating does not encourage density.

Flexible Chair Configuration

Large, overstuffed chairs with handles to drag them around proved quite comfortable and popular. Coupled with small moveable tables and portable “post power strips” with several outlets and long cords, these were well used. Padded “shield chairs” were very popular for comfort and privacy. These offered a spacious place to “curl up” and minimize distractions and (so far) have proved sturdy to hold up under the varied postures of users. Shields, both fixed around chairs and portable, were in constant use.

Figure 3. Padded “shield chair” with small moveable table



Padded roller chairs with large swing arm tablets allow students to move them to distance or position themselves as they prefer, with maximum flexibility while still offering comfort and a useful surface for work.

Zigzag Carrels

These carrels were surprisingly popular not only in the consistency of their usage, but because students were comfortable sitting next to each other. Despite being in a back hallway against a blank wall and no windows, these carrels were almost always at 100% use. These carrels are incorporated into the design for the rest of the building more than previously planned because of their popular and efficient use. The angling of the carrels provides plenty of surface space and an acceptable sightline, so users don't feel crowded. Wall outlets above each carrel provide plenty of power.

Figure 4. “Zigzag” carrels



Overall, preferences for library seating include a variety of configurations. Someone stopping in for a short visit to check their messages has completely different needs than someone settling in for a marathon study session. Efficiency of seating versus a comfortable degree of space is a balance that may require some trial and error.¹¹ Users will disperse themselves broadly within a space, but furniture design and placement can encourage a higher percentage of seating utilization while retaining comfort and ease.

Furniture encouraging greater density

- “Zigzag carrels” with angles and sightlines
- Small tables
- Moveable chairs with swing arm tablets or coupled with small portable tables

Furniture encouraging less density

- Large tables
- Bench seats along walls
- Lounge seating

Practical Implications or Value

Based upon the results of this study, furniture configurations and selections were adjusted for the remainder of the building renovation, with more zigzag carrels, moveable seating, and small tables chosen. The second floor of Hale Library (a similar footprint in size to the first-floor learning commons)

was scheduled to open, with much anticipation, after spring break on March 16, 2020. This configuration featured more small tables and computer workstations, plus newly designed library and information technology help desks located adjacent to each other for ease of referral and addressing questions. Unfortunately, this opening was derailed by the pandemic until July 1, 2020, as the library was closed down yet again. More than half of the newly installed computers and furniture had to be removed to allow for appropriate distancing when it reopened.

Ironically, the libraries' faculty and staff were familiar with sudden shutdowns, being displaced, relying exclusively on online tools, and finding themselves needing to work remotely. This was a new, unpleasant experience for the rest of the university community however, and librarians were well positioned to assist with moving course content online, dealing with videoconferencing for meetings and classes, and helping users find online content for classes and research assignments. As the campus slowly reopened in hybrid learning mode in fall 2020, the importance of Hale Library emerged once again as students desperately needed study space with robust Wi-Fi for classes that had been moved online. For students monitoring real-time classes with requirements for discussion and recitation, having the collaboration rooms in Hale offered privacy and reliable connections. In hybrid learning, some students shared that they alternated between online and in-person classes, sometimes one right after the other, and being able to pop into Hale for the online class was critical to successful participation.

The Full Circle of Assessment

Demonstrating library value was easy when suddenly the library was unavailable, but it created heartbreaking hardship to the university community. The opportunities for reconfiguring services, collections, and the facility are unprecedented and must be fully leveraged. This tragedy demonstrates the importance of keeping current reliable assessment data from multiple sources at the ready.

By studying patterns of library space usage during both peak and non-peak times, determining space and furniture needs can be applied to future renovations. Balancing user comfort and efficiency of space usage can assist with designing library environments that are attractive to users yet will accommodate more people comfortably.

Almost all of Hale Library will open in late January 2021, including the historic and fully restored Great Room. Collections are being moved back into the building and will be available later in the spring of 2021, nearly three years after the fire. When the pandemic eases up, Suma will be used again throughout the public seating areas of the building to determine occupancy rates and offer the opportunity of fine-tuning the layout of the building. The impact of the pandemic on the return of users to Hale Library is unknown. The university and higher education in general could potentially move more to an online environment on a permanent basis; nevertheless, students are expressing a definite preference for in-person learning and will still have need for a functional physical library.¹² Continuing to assess usage and preferences for library spaces, collections, and services will remain important during these times of change as the 21st century unfolds.

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Endnotes

¹ Kansas State University, "Assessment of Student Learning," <https://www.k-state.edu/assessment/data-surveys/seniorsurvey/>.

² "LibQUAL," <http://www.libqual.org/home>.

³ Littrell, "Smoke on the Water! Fire in the Sky."

⁴ Kansas State University Libraries, "The Great Room," <https://www.lib.k-state.edu/great-room>.

- ⁵ Kansas State University, Hale Library Blog, <https://blogs.k-state.edu/hale/2018/11/20/giving-thanks-for-the-manhattan-fire-department-and-all-first-responders/>.
- ⁶ Suma: A tablet-based toolkit.
- ⁷ SpaceUse: Humboldt State University.
- ⁸ Oberlander, Miller, and Mott, “Seating Use Analysis.”
- ⁹ Oberlander, Miller, and Mott, “Seating Use Analysis.”
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- ¹¹ Oberlander, Miller, Mott and Anderson, “How Data Improved our Library Space.”
- ¹² Greta Anderson, “Fall Semester was not a Wash for All.”

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