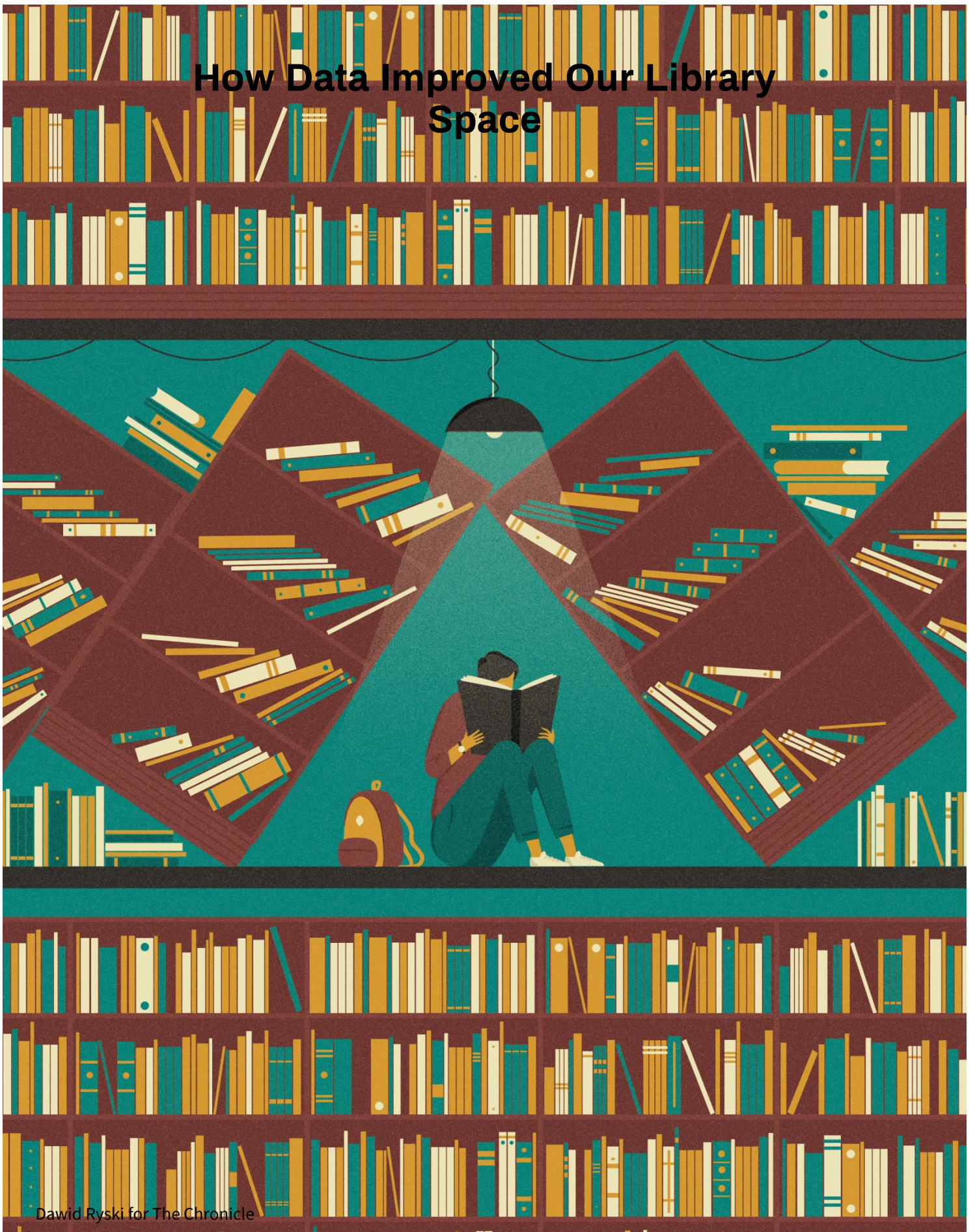


How Data Improved Our Library Space



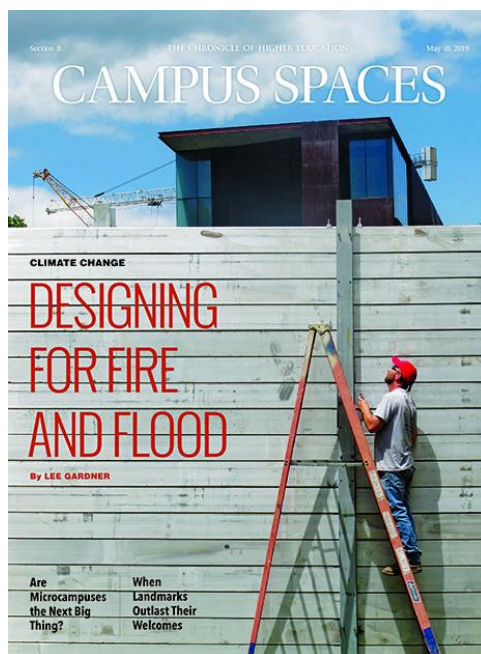
Dawid Ryski for The Chronicle

**By CYRIL OBERLANDER, BENJAMIN MILLER,
ERIC MOTT, and KRIS ANDERSON**

May 3, 2019

Ask your students what they would like to see in your campus library, and they might tell you more group-study rooms. That's what the students at our institution, Humboldt State University, told us. As we discovered, however, sometimes data can provide better insights into student wishes and behavior than students can provide themselves.

Every day in our library, thousands of students are looking for a place to study, conduct research, write papers, and collaborate. Some are looking for a space free of distractions in the quiet stacks, while others are looking for a dynamic group-work space in the social areas. The library has more than a thousand seats distributed across three floors and with various furniture — an ideal environment to research learning spaces. What spaces do students prefer? How do we know what features to increase, decrease, or change?



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For the last several years, we have walked around to gather precise location information on where students study at the library, and then analyzed the data to determine use patterns so we can adjust library spaces to better serve the needs of the campus. That seating analysis has proved invaluable in helping us see trends. Seating-use analysis includes the average number of students studying in a seating group, capacity, average use, and peak use.

During the first year of our analysis, it was clear that some seating areas were not very well used, such as microform readers, cafe couches, and study carrels in certain locations. We targeted those low-use areas for redesign, and ran tests by looking at preferences for higher furniture use, and recognizing peak use and capacity.

We posted whiteboards that asked students “What would you like to see in this space?” or “What would you like to see more of or less of at the library?” to develop a set of possibilities. We also tested new and relocated furniture with new seating-use analysis, so we could determine preferences for individual or group-study carrels, standard sitting- or counter-height study tables, and soft seating.

Students' patterns of use don't always jibe with what they say they want.

Our seating analysis illuminated some design misalignments between type of furniture and spaces. For example, groups that met at round tables in the quiet areas disrupted nearby students studying. We moved social furniture to the social areas, and individual study carrels to the quiet study areas, and the result was a drop in noise complaints. Interestingly, we also found that our silent study room was rarely used. In fact, it was most often used by one student listening to music with headphones, so we converted that space to an active-learning classroom.

Another design misalignment was couches in the library cafe. That hotel breakfast-cafe design was a low-use area. When we removed the couches and added five bistro tables, we saw use double.

One of the most significant findings in our analysis was the use of group-study rooms. On average, the group-study rooms were not often used, which was inconsistent with what students had requested. Our data showed that the group-study rooms were most often used by groups of two to three people, on average.

Coincidentally, we also noticed that groups of two to three students would study at the round tables and place multiple mobile whiteboards around them, effectively creating group-study rooms. So instead of building expensive and inflexible study rooms, we designed and built low-cost open study areas with whiteboards, modular walls with power outlets, and tables designed for three that allow up to six people to collaborate. Comparing 2015 and 2018 seating-use data on group-study tables and new group-study areas, we saw a 273-percent increase in seating use.

Among the many benefits of seating studies, foremost is making explicit what is popular with students. We gather multiple sources of data, including asking students questions and holding small focus groups, in order to make cost-effective decisions that empower learners. The results have been noticeable. From 2015 to 2018, the overall space use of the library increased by 15 percent, a significant amount given that in 2018 the campus saw enrollment fall by 1.4 percent and the library underwent a loud roofing project for several months.

After each renovation, we gathered new seating-use data for analysis, allowing us to understand the impact of each renovation and to continually improve seating use. With approximately 50 surveys each semester, that was initially a very time-consuming process done on paper. So several staff members and students developed software, called SpaceUse, that allows us to use a touchscreen device to gather data about seating, and even types of use (computer, studying, social) as well as to track the use of mobile whiteboards or the moving of furniture. The software automatically analyzes the data across surveys to visualize patterns of use.

To help other libraries do the same, we have released it as free open-source software:

github.com/LibrarySpaceUse/HSUSpaceUse

(<http://github.com/LibrarySpaceUse/HSUSpaceUse>).

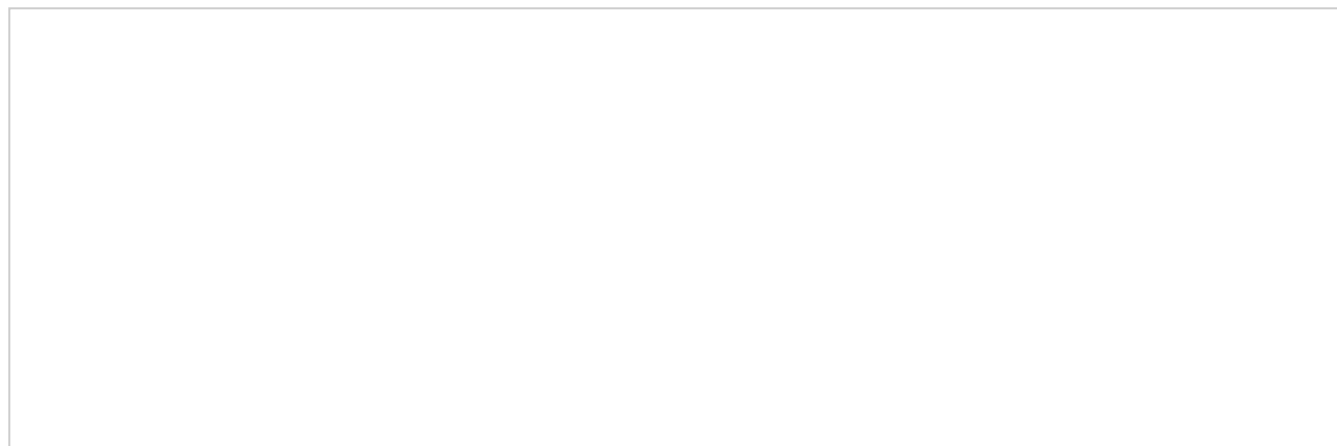
The library has historically been the learning hub and heart of a college. By taking the time and effort to determine how students use the space — and to modify that space accordingly — libraries can ensure that they continue to be seen as a relevant and indispensable part of the college campus.

Cyril Oberlander is dean of the university library, Benjamin Miller and Eric Mott are students who helped design SpaceUse, and Kris Anderson is the former supervisor of special projects, all at Humboldt State University.

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