

1-2014

Library Space Assessment: User Learning Behaviors in the Library

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Published In

Published originally in *Journal of Academic Librarianship*, vol. 40, no. 1 (2014): 70-75.

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As an essential department at a higher education institution and an informal learning space, little is known about how academic libraries contribute to student learning on campus. At the [library name retracted] we sought to learn about the role of library space in our students' learning. A scheduled renovation of the main floor of the library provided us the opportunity to determine how the change in space impacts our students' perceptions of their learning in that space. We surveyed our users in the space prior to the renovation and then surveyed them in the same space following the renovation. The survey focused on learning styles and how the space facilitated those different behaviors. At the [library name retracted], we wanted to determine how a renovation of a library space changed users learning behaviors in that space.

The connection between libraries and learning has always been strong. Historically, the library's content provided on its shelves has been the center of the learning in the library. Users entered the library building to consult print books, journals, and related materials to supplement their classroom learning. Librarians assisted users to find information helping to stimulate the learning process. With the advent of electronic access to books, journal articles and the like, libraries have experienced a decline in their gate counts and circulation statistics. Users can now access library content and contact librarians electronically and they are often outside the library building when they do.

The change in information access has progressed into a discussion of the purpose of a library building. Librarians have taken steps to redesign or create new spaces in response to the changes in information format and the changing needs of their users. The importance of library space is shifting from the content on our shelves to how students use and learn in our space. The library is considered an "informal learning space" and unlike the classroom, which is a formal learning space, libraries do not have a prescribed course or class dictating the learning. Other informal learning spaces include dorm

rooms, patios, lounge areas or even hallways. In these spaces, students determine their learning needs and goals and can be intentional about their learning (Bennett, 2009).

Literature review

Library space has entered a new design phase that contributes to the informal learning environment our users seek in our building. Scott Bennett refers to the current phase of library design as “learner centered.” Library space investments completed during the 1990s cited the “changing character of student study space needs” as the 2nd highest project motivator (Bennett, 2003). Our users’ needs have become a center of library space planning. Foster and Gibbon’s extensive research of undergraduate students at the University of Rochester enabled them to create a “student-centered library” (2007). Creating such a space requires understanding how students learn with the goal to facilitate their learning in the space they choose. Danuta Nitecki states in her article that one of the main functions that define library space is the role of facilitator. In that role, the library provides spaces to “foster self-directed learning and the creation of new knowledge” (2011). Informal learning spaces, like libraries, give students the opportunity to “linger, meet, and talk informally out of class” (Acker, 2005). The goal of these spaces is to enhance user learning and encourage social learning.

Social learning emphasizes students as active learners. They are contributors to the discussion rather than merely absorbing content. Malcolm Brown writes that higher education needs to apply constructivist learning theory when teaching to the current generation of students, known as the NetGen (2005). He emphasizes three characteristics of constructivist theory and its relation to learning: learning is contextual and recognizes the student understanding; it is active and engages students in the learning activities; it is social and utilizes discussion and conversation between students and between students and faculty (Brown, 2005). In social learning, there is an interdependence of personal and environmental influence in which a person’s behavior determines which “environmental influences will

come into play” while the external influences also determine the student’s behavior (Bandura, 1977). Depending on the needs of the learner, a specific space will be sought to satisfy the need (Bligh and Pearshouse, 2011). Thus, students seek out environments that satisfy their social learning needs. Libraries can satisfy that need by providing informal learning spaces where social learning is encouraged.

Scholars widely discuss the library as a place for social learning. Libraries provide spaces that inspire students to learn from each other in addition to learning from our content. In these environments, open conversation and collaborative learning are encouraged. Learning centered research identifies learning as a social experience where individuals can interact and engage in dialogue (Oblinger, 2004). The library has evolved into a space where active learning occurs, facilitating student interaction with each other and with faculty in an environment outside the classroom (Hunley and Schaller, 2009). Libraries can provide spaces that enrich the social learning needs of our students.

Determining the effectiveness of space on student learning is a challenge. Researchers have succeeded in assessing learning in formal learning environments and their impact on student learning. Active Learning Classrooms (ALC) substantially enhance student learning experiences and outcomes when compared to a traditional classroom design (Brooks, 2010; Whiteside, et al., 2010). Nitecki explains that because learning is “a highly individualized change in personal knowledge,” it is “difficult to separate influences of space from other variables such as prior experience, personal distractions or stress, or styles of learning”(2011). Although assessing student learning in an informal learning space like a library may be difficult, it is important. Informal learning space assessment has been accomplished through qualitative methods such as photo surveys, mapping diaries, focus groups, and interviews (Foster and Gibbons, 2007; Matthews, 2010; Whiteside, et.al., 2010; Lawrence and Weber, 2012). Results from these methods help inform library design as well as help librarians evaluate the space and its usage. Library space renovation has relied on use and visitation statistics to determine

users' acceptance and the success of the renovation (Shill and Tonner, 2009; Starkweather, 2005).

Hunter and Shaller's multi-year assessment project examined the relationship between learning space, academic programs and learning. They found that learning spaces can encourage or constrain behavior and determined that students will use any space for learning activities if the space is so designed appropriately (2009).

Social learning relies on users' conversing and learning from each other in a space. Spaces where users can meet and talk comfortably are more apparent in libraries. The library can be "a place to be with other people in a learning/cultural environment" (Demas, 2005). Such areas draw in users providing them the opportunity to discuss their learning and develop a sense of belonging. Libraries have also made their spaces more comfortable in order to enhance their users' social learning. Students are more engaged in their learning in spaces where social learning is encouraged (Matthews, et.al., 2010). The importance of assessing student learning in informal spaces like libraries provides valuable insight about how our students perceive the space in their learning. This research aims to contribute to the ongoing discussion of library space assessment serving as a case study of assessing user learning behavior in a renovated library space.

Context

[library name retracted] is the only library at [institution name retracted] – a small private college in Winter Park, FL. It serves approximately 3,000 students that are comprised of a traditional undergraduate population, an evening and weekend undergraduate and graduate non-traditional student population and a small graduate business school. The main floor of the library houses a small café, an IT help desk, several computer areas as well as circulation and reference desks, librarians' offices, and a print reference collection. Open conversation and dialogue is encouraged and students gather in various areas to converse. Prior to the renovation, a large print reference collection

dominated a substantial portion of the floor limiting the space available for our users. The popular café was an unappealing assortment of refrigerated carts and a cashier stand. In addition, the librarians' offices were hidden from view.

Like other academic libraries, [library name retracted] had succeeded in enhancing its electronic collection over the past few years in order to facilitate users' access to our content. We saw decreases in our building gate counts and circulation numbers. The library had been adopting content in new formats, but the main floor had languished in a 1980s décor that did not enhance the learning environment on campus. Ironically, our college established the "Conference Plan" style of instruction in 1927 which promoted conversation as an ideal instruction method. This style encouraged faculty members to engage in students in a "conversational-style class structure" rather than a lecture format ([institution name retracted], 2012). The president of the college at that time wanted to "humanize education" and minimize the barriers between instructor and student (Stockbridge, 1938). Furthermore, learning extended outside the classroom onto campus grounds where students engaged in conversations with each other and their professors (Stockbridge, 1938). As an active learning place where students and faculty could meet and exchange ideas, we desired to create a more inviting learning space in the library to complement the classroom environment on campus, to reflect the college's tradition of conversation, and to better meet the learning needs of our users.

Methods

[Library name retracted] renovated 80% of the main floor over the summer of 2012. In preparation, we conducted ethnographic surveys of the space including observations and student focus groups giving us information about our users' and their space needs (Montgomery, 2011). As a supplement to those studies, we wanted to ask students how they learned in the particular space on the floor and how that space met those needs. We decided to conduct a 14-question survey asking users

about their learning behaviors in the planned renovated space (See Appendix A). The survey also included demographic questions about the user such as academic year, enrollment status, academic major and living situation (off-campus or on-campus) and three open-ended questions about the space they were in. We secured IRB approval and modeled our survey on questions from the National Survey of Student Engagement. We administered the survey during the spring semester of 2012 and then repeated it in spring 2013. We chose to administer the survey during weeks that did not coincide with mid-terms, spring break, or finals. Essentially, these were typical weeks during the semester on our campus. Our research team consisted of one librarian and two library staff members.

Initially we scheduled the survey to be administered at 2:00 pm, 6:00 pm and 10:00 pm from Monday through Thursday. We kept a log of surveys completed at each time along with concerns or questions the researcher had about conducting the survey. Users had the option of completing a paper survey, using an I Pad or scanning a QR code with their smartphone. We only wanted users to complete the survey once. After the first week, many people refused to do the survey because they had already completed it. Therefore we expanded the time slots for conducting the survey, which allowed us to increase the number of responses.

Results

After gathering the surveys from both semesters, we compared the data from the first 240 completed surveys. These surveys included a diverse group of respondents and data to understand how students use the space for learning. [t] Table 1 [t] The survey included six Likert questions which asked about learning behavior in the space, using the resources in the space and the respondent's "ability to find assistance in the space." Respondents answered on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree) for each question. [t] Table 2 [t]

After calculating averages for the five Likert questions, the numbers from the 2012 pre-renovation survey were quite high. On the five-point scale, our users' ability to work alone in the space ranked at the lowest mean at 3.6. The highest mean that year by our users was 4.5 in their ability to find assistance in the space. Since we received high averages prior to the renovation, we had little capacity for increasing them. The pre-renovation averages indicated that our users found the space complemented their different learning behaviors asked about in the survey.

Questions two and four directly inquired about users' social learning abilities in the space. As the means demonstrate our users perceived the space to highly satisfy their social learning needs. When we reviewed the averages of responses to question 2, sophomores, juniors and seniors ranked it among the highest of the learning behaviors in both 2012 and 2013. These students utilized the space to work with other students slightly more than first year or graduate students. The average for question four resulted as one of the highest, 4.3, in both 2012 and 2013. Again, sophomores, juniors and seniors found that this space complemented their learning need to discuss their work with other students. As students' advance through their academic program, they may be assigned group work or they may find that working with others enhances their learning experience. That is not to say first year or graduate students did not use this space to work with others, they did. But sophomores, juniors and seniors in both pre and post renovation used the space more for social learning than students just beginning their academic journey or students at a higher academic level.

The lowest average, 3.6, emerged for question 1 which inquired about the space enabling students' ability to work alone. We did find it interesting that the average for people using the space to study alone increased to 3.8 following the renovation. User comments in both 2012 and 2013 help illustrate their decision for choosing to do their work alone in this space.

"I need an environment where I am surrounded by people working."

“It’s comfortable and I can study in the presence of others without being disturbed too much.”

“I can focus on my work while also seeing and interacting with others around me.”

“I can work alone, but the presence of others allows for a better working environment.”

For our students, “being seen studying” or “seeing other study” appears to be a valuable stimulus in their learning behavior. Evidently they get inspired seeing others studying which impacts their learning.

Questions 13 and 14 in both surveys were open ended questions regarding the space: “What is it about this space that works well for you?” and “What would you change about this space?” The most frequently listed comments from both years were compiled and tabulated. To tabulate the comments, we counted those words users regularly cited. We only counted the word one time per comment even if the respondent wrote it more than once. For example, one comment said “I am waiting to meet a group here - good group work space.” Although the respondent said “group” twice, we counted the word “group” only once. We listed the top five comments in tables according to our calculations. [t] Table 3, Table 4, Table 5, Table 6 [t]

In 2012, users appreciated the ability to work in groups and collaborate in the space. Group space/collaboration combined with users’ comments about the freedom to talk or discuss in the space and the presence of other people in the space added up to 77 (see Table 3). The total of these comments is the most frequently mentioned that year in response to question 13- “What is it about this space that works well for you?” These remarks further indicated how our users utilized the space for social learning prior to the renovation. After the renovation, the total number of cites identifying collaboration and talking in the space remained high. Users found this space to be conducive to conversation both prior to and after the renovation which supports their social learning behaviors.

Our users also commented on their need to be comfortable. We counted twelve cites by users mentioning comfortable in their 2012 comments for question 13. Interestingly, users indicated a need

for “more comfortable furniture” in the 2012 comments when asked what they would change about the space (see Table 4). Thus, although they found the space comfortable in 2012, users desired it to be more comfortable, i.e. sofas and chairs. In the comments following the renovation, our users identified comfortable as the aspect of the space that “works well for them,” the largest number of remarks for question 13 in 2013. Comfort in a learning space allows users to feel more at ease, engage in conversation and support “the social dimensions of learning and knowledge” (Bennett, 2003). Thus, following the renovations, our users found the space met their comfort needs. Our users perceived comfort as an important factor enhancing their learning needs in this space.

Users warmly received the creation of a designated café space on the main floor of [library name retracted]. In 2012, users noted that they would like to change the café either in the size of the space or in service hours. Then in 2013, they noted the new café along with the availability of food and coffee in the space as one of the top categories that “works well for them.” In higher education, academic libraries are encouraging food in their buildings in order to encourage learning and make their space more inviting for groups and users (Foster, 2008). Cafes also enhance the level of social learning in the library. They give users a place to gather, meet and converse comfortably. Libraries are “maintaining the strong customary association between food and socially shaped activities.” (Bennett, 2003)

In the 2012 comments, users also mentioned the need for more electrical outlets in the space indicating their desire to connect their electronics. Technology has become an integral part of a learning space in higher education today. Students are increasingly using technology in their learning and for communicating with others (Gardner and Eng, 2005). Library users want to plug in their laptop, or tablet or any other electronic device they use regularly. Thus, electronic access and being connected is a must for library users today. Although the renovation provided more outlets for our users, they still stated

the need for more in 2013. Therefore, we believe that expectation will increase and the library will need to satisfy that need in future space improvements.

The majority of respondents stated in 2012 and 2013 that they would not change anything about the space, which we found surprising. In 2013, we added a third open ended question “What comments do you have about the renovation?” Most users responded positively stating that they “love” the changes or indicated that the new space is an improvement. One user stated “the renovation was unknowingly needed. I approve 100%.” That statement demonstrates how many of our users who may have thought no changes were needed in the space did in fact appreciate the changes afterwards.

We analyzed our gate counts for both semesters to measure user response to the renovation. Although people may use different spaces after they enter the library, we were interested to learn if the space renovation would deter or attract users into the building. We compared data from 2012 and 2013 for February, March, and April - the months we administered the survey. On average, our monthly gate counts increased 15 percent. The increase indicates that more people did enter the library following the renovation demonstrating a favorable response to the changes.

When planning this research project, we anticipated that users’ responses would change significantly between the pre and post survey. Previous library space research revealed that asking users about their learning needs enabled libraries to create spaces that satisfied those needs. Our survey results showed that users’ learning behaviors did not dramatically change in this space even though we asked. Users perceived the space to be conducive to their learning needs prior to the renovation and the space continued to satisfy those learning behaviors afterwards. Even though we sought our users’ input and feedback regarding the space and learning, which did help in the design of the space, users’ perceptions of the space were positive before the renovation and remained positive post renovation.

In retrospect, we recognized two shortcomings in our research. The renovation encompassed a large section of a popular floor of the library but was in fact a small section of a 4 story building. Although users frequent the space regularly, we did not make any substantial changes to other floors. The renovation only changed approximately one quarter of the entire building. Our users work in various spaces throughout the library and the partial renovation of one floor did not markedly impact their learning behavior in the space.

Secondly, although we changed the layout, added more computers and comfortable furniture in the space, the library's services did not change. Our reference and circulation areas changed in appearance, but continued to provide the same services following the renovation. The only major service transformation was making the entire main floor accessible 24/7 which students requested in the design studies and in the pre-renovation survey. Thus, future space assessments need to include our services in order for us to better determine how the library contributes to student learning behaviors.

Conclusion

The creation of new content format and access has stimulated a redistribution of library space from collection focus to user focus. Libraries have made more space available for users and their learning. The library is considered an informal learning space and there is growing interest to understand our users' learning needs in order for our space to satisfy them. The [library name retracted] administered a user survey to determine if a designated space met our users' social learning needs. We wanted to see if their social learning- i.e. user interaction, conversation and work collaboration, changed as a result of the renovation. Gate counts indicated an increase in building access from 2012 to 2013. Survey results revealed that users had utilized the space for social learning prior to the renovation and the space continued to support that learning behavior after the renovation.

The floor's new environment allows for open conversation and provides space for users to meet in groups. In addition, the availability of food and drink makes it conducive for social learning in the library. Our students seek out this environment to satisfy their social learning needs and the floor's renovation continues to foster this need. We also learned that the renovation provided users with a better space to work alone in addition to it being used for social learning. We did not anticipate users seeking individual studying space in a social learning environment, but welcomed the flexibility of the space to meet this learning behavior.

The learning needs of library users are diverse. Our research revealed the diversity of our users' learning needs within a specific space in the building. In conducting our research, we met the challenge of space assessment in an informal learning space like the library and acquired a better understanding of our users learning behaviors. Although pleased with the feedback we received, we cannot rest on our laurels. We need to continue to assess our users learning needs and monitor how the library can continue to best meet those needs. Therefore, we intend to continue gathering user input on our library space because we find it valuable and essential in our space assessment.

We believe users learning behaviors will continue to evolve and librarians will need to adapt the library's design with those changes in order to be a valued informal learning space on campus. Since we did find that social learning varied depending on academic status, future research will investigate the relationship of library use and learning behavior with academic status. Also, future space assessment plans will include other services such as circulation and/or reference assistance in order to obtain a more complete picture of how our users utilize the space. Overall, we found the study beneficial because it gave us a better understanding of our users learning needs in an informal learning space like the library.

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