Evaluating Physical and Virtual Space to Support Teaching and Learning

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Background

In 2001, GT Library took steps to turn around falling attendance (steady 15 year decline). Students and faculty complained that the building no longer served their needs, service points were confusing, and hours and amenities were insufficient. A reorganization of public services reduced the number of service points to eliminate customer confusion and to free up staff for expanded 24-hour service and new roles. Folded into this work were two substantial renovations of the 1st floor over the course of 5 years, resulting in the West Commons for individual productivity, and the East Commons for group work.

Our goal was that the library become a destination for all campus constituents. We particularly focused on creating compelling learning spaces for undergraduates. Our objectives clustered around answers to these questions:

- What ideal spaces support study and productivity (qualities, assets, activities to be supported)?
- Can we discover infrastructure and furniture solutions that re-configure for little cost and effort?
- How do we create "malleable" spaces that effectively respond to changes in learning, productivity and research?
- Can we set up experiments in the new learning spaces to yield insight into future renovations?
- What services and content shall we push to the desktop?

Early answers arose by engaging customers in extended conversations, through data gathering exercises and observation. At Georgia Tech, considerable discovery and evaluation are undertaken when programming renovations. As spaces are delivered, evaluation, assessment and reflection are essential for improving learning spaces and associated services. We continually seek fresh approaches to measure and interpret the work on physical spaces.

Metrics toolkit

formal interviews	anecdotal feedback	field observations	LibQUAL
expert opinion	time / motion studies	gate count and hourly head count	surveys
technology use	reservation logs	interviews with frontline staff	funded research
class-based projects	affinity focus groups	corporate sector techniques (Steelcase)	

Discovery and evaluation inform renovations

We were influenced by a number of publications, including two from CLIR: *Libraries designed for learning* (Bennett, November 2003), and *Library as place: rethinking roles, rethinking space* (2005). These and other materials on transforming spaces for learning and productivity provided a beginning. For all improvements to spaces and services, we also seek GT customer suggestions, insight and buy-in. We tap their "well of wisdom".

Discovery techniques for programming learning spaces:

1. Steelcase® Deep Dive is used to identify ideal characteristics of student study spaces, especially for group endeavor, resulting in the report "Review of most popular study spaces on campus" (fall 2003).

2. *Affinity focus groups* reveal student learning needs and behaviors, especially in dynamic settings, resulting in the report "Physical characteristics of the East Commons renovation" (spring 2005).

The data, including observations and focus group suggestions, provide a foundation for renovations. The following were identified as core qualities of ideal learning / productivity spaces:

- A destination that attracts one's friends; a place to see and be seen; ambience focuses on productivity, engagement and academic socializing.

- A convening ground for faculty to mix with peers in other disciplines, and for making introductions.

- Venues to mix students and faculty for serendipitous and planned encounters.

- Policies, accommodations, resources, assets and customer support enhance learning and productivity.

- Aesthetics and well-being: variable lighting; outdoor views; comfortable temperature; inspiring & secure.

- Celebrates the university by showcasing inspiring speakers and compelling research; provides epiphanies and refreshes minds via campus-produced art, exhibits and presentations; awakens individuals from their silos.

- Offers informed assistance and tutors when needed.

- Technology provides good wireless signal / bandwidth, computers, software, print facility, group work stations.

- Productivity tools abound: camcorders, webcams, digital cameras, laptops, headphones with microphones, wireless projectors, firewires & cables, white boards & flip charts.

- Furniture is comfortable, easy to move (all tables and chairs on casters) and sufficient for both task work and relaxation.

- Food and drink are superior and persistent over all hours of operation.

Assessing the new space

We employ a mix of assessment tools to track the performance of these new spaces, and to inform adjustments:

- Periodic print surveys scattered in the new spaces address themes (e.g. ambiance, technology, preferences for student and faculty presentations and performances; etc.)
- Collaborative research between the library and other entities: College of Architecture and other GT academic departments focused on perfecting learning spaces, and dynamics w/in those spaces; Herman Miller Corp.
- Feedback via library webpage, suggestion boxes and on-the-fly encounters with users.
- Library & OIT oversight council tracks how various customers use the space, focused on: occupancy, specific uses of technologies, patterns of customer complaints, assessment.
- Library Student Advisory Council: provides guidance, reaction, connection to student population.
- LibQUAL comparisons . . . assessing the impact of each space transformation.
- Feedback from experts like anthropologists, architects, psychologists, human / computer factors, and from tourists who regard the spaces.

A return on investment: *Faculty*

- Academic faculty expect the library to "now respond to our needs as you have so effectively responded to the study / productivity needs of students." Faculty begin to imagine a *commons* as a convening ground for socializing and intellectual discussion, serendipitous meeting, increased awareness, skills enhancement and engagement with the library's agenda. More discovery, and collaboration with faculty, is needed to determine strategic outcomes such a faculty commons would provide.
- The multimedia studio succeeds at transferring technical skills to students (to relief of faculty who don't have these skills to impart, nor the time to devote in class). Faculty encourage students to produce multimedia products, movies, website designs, 3-D graphics and computer models. Expanded multimedia facilities are required for both training and productivity.
- Faculty reserve the theater space for special lectures and student projects (they tell us the library is a perfect venue for showcasing their programs). Prospective faculty tours increase. The library regularly features top faculty in the series *Research for the rest of us*.
- Faculty respond positively to librarian office hours in their departments. Emerging biotech programs in undergraduate research include librarians on curriculum teams with major exposure in classrooms.
- Archives increases use of primary and rare book collections for liberal arts & social sciences faculty.
- Institutional repository grows quickly w/ faculty content; skepticism about (and ignorance of) the repository and its potential to assist instruction, research and branding of their work remain high.

A return on investment: *Students and others*

- Library attendance doubles+ in five years.
- 2006 and 2004 LibQUAL data compared to 52 ARL libraries reveals staggering leap in GT students' perception of "library as place" (up to # 2 from #40).
- Undergraduates demonstrate a strong sense of ownership. They "re-brand" the library as their primary destination for academic socializing; little variance in undergraduate perceptions across academic majors.
- Students vote the Library's physical improvements the most important at GT in a single year. Editorials say the library's processes for delivering space should be adopted by all campus units.
- Students report they use library services and resources because of extended time spent there, and because the spaces convey the message that the library is "on their side".
- Student government, along with student honors & leadership societies, begin to host special functions in the spaces (late night refreshment, lectures, premiere receptions).
- Students have an unmet need to know their faculty as individuals; they imagine "convening grounds" where the faculty notice them, know them, and influence them. More effort is required in this area.
- Campus support units request "store fronts" in the renovated areas: student tutoring services, counseling center, communications center, academic advising, undergraduate research office.
- Presentation practice studio is mimicked elsewhere on campus. A second is created in the library.
- Agile data, technology and power infrastructures in the East Commons facilitate extemporaneous improvements and additions for little effort and expense . . . a big lesson for future renovations.
- Library becomes laboratory for classes to study human behavior, and to compare these spaces with learning spaces elsewhere. College of Architecture returns each semester with projects.
- Reference librarians excited by library popularity invigorate outreach programs to faculty and graduate students. Marketing targets segments (Chinese students, freshman seminar, online communities, student honors societies, etc). Librarians begin to monitor and interact with student blogs.
- The president encourages all campus units to mimic the library's customer-centric approach to improving spaces and services (*State of the Institute*, fall 2006).