Facilitating Creativity for Student Success by Library Space Design

Presented by

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Today’s Agenda

- Introductions
- Study Background
- Supporting Creativity
- Methodology
  - Spatial Analysis
  - Survey
  - Focus Groups
  - Interactive
- Overall Findings
- Continuing the Conversation
ARL Research Library Framework Initiative

2019 ARL call for research proposals

UF awarded "How do library spaces facilitate innovative research, creative thinking, and problem-solving?"

Space awardees also included UC-Davis, Iowa State, Syracuse, Johns Hopkins, Temple University
Valrie Minson, Chair & Assistant Dean of Assessment
Laura Spears, PhD., Assessment & User Experience
Sara Gonzalez, PhD., Assoc. Chair & Physical Science
Jean Bossart, Engineering & 3D Services

College of Design, Construction & Planning
Margaret Portillo, PhD., Professor & Assoc. Dean of Research
Jason Meneely, Associate Professor, Dept. of Interior Design
Sheila Bosch, PhD., Asst. Professor, Dept. of Interior Design
Adrian Del Monte, PhD. – Faculty, University of San Carlos
The 100k sq foot building has 5 floors, ~2 mil patrons/year

About Marston Science Library

5th: Silent Study
4th: Books, Silent Study
3rd: Journals, Classroom, Collaboration
Entry: Service Desk, Makery, Computers, Collaboration
1st: 2 Computer Labs, VR Space, Classroom, 24 Study Rooms, Collaboration
Our research question...

How do library spaces facilitate creative thinking, innovative research, and problem-solving?
From research into action

Spatial Analysis
- Identify space uses
- Develop profile of user types

Online Survey
- Collect impressions of current/desired space
- Articulate impressions

Focus Groups
- Understand perceptions of survey responses
- Confirm tangible results

Design
- Synthesize results
- Develop new innovative evidence-based designs
Limitations & changes

- Library space reduced to just 34% capacity
- Installation of barriers at the Service Desk
- Mask and social distancing requirements
- Data gathering for the student survey moved from Spring 2020 to Fall 2020
- Survey mode changed from “Intercept” style to online
- Focus group format shifted from in-person to virtual
“In a creative ecology, **tension** – a healthy antagonism – creates a culture in which to innovate. The creative ecology thrives on diversity across individuals, teams, and physical spaces within an organization.”

-Margaret Portillo & Jason Meneely

The Handbook of Interior Design - Wiley Blackwell
Why study creativity in the re-envisioned library?

How should we consider creativity when imagining new campus spaces?

And what does choice and control have to do with creativity and the future-poised library?
Spatial Analysis
Method

- 16 observations per floor (20 min approx.), Jan - Feb 2020
- Public/communal spaces
- Private/enclosed spaces
- Individual, group, in a group but working individually
- Examine patterns in library resources/service use
- Identify occupancy/capacity utilization
- Note spaces being used
The spatial analysis revealed patterns in how Marston Library is designed, including but not limited to its occupancy counts, number of students studying, and what spaces they are using.
Intercept Survey
**Preparation**
Private, Individual, Individual/Public

**Incubation**
Private/Individual, Public/Group, Private/Group, Public/Individual

**Intimation**
Private/Individual, Private/Group

**Illumination**
Individual/Private, Group/Private

**Verification**
Group/Public

**Space Typology**

**Creative Ecology**
*Choice & Control*

- Access to resources, authoritative sources, I/P space & facilitated group input
- Access to dedicated and in-between spaces, biofilia, motivation, playful, social areas
- Access to group study, private study, quiet areas with comfort features, creative technologies
- Access to creative technologies, private, quiet areas, group and individual study, private study areas
- Access to creative technologies, group spaces, scholarship resources, feedback
Survey Results (608 total responses; 337 sampled)
Frequency of Library Use by Task: All Students
Statistical Analysis
- Descriptive Statistics
- Means Comparisons
- Related Samples Sign Test

Qualitative Coding
- Space Typology,
- Space Use Concepts,
- System Wide Diversity (Traditional/Modern)

Focus Groups
- Current/Ideal ACL Results
FINDINGS BY FLOOR

**Basement:**
An Ideal space is more relaxing, arousing, and exciting but less noisy and crowded.

**Entry Floor:**
This space had fewer deviations than any other between current and ideal perceptions. An Ideal space, however, would again be more arousing, relaxing, quiet and uncrowded.

**Third Floor:**
This space had the largest difference between Current and Ideal on the crowded/uncrowded dimension; it also reflected a stronger difference on the friendly/unfriendly dimension and also showed a need for more arousing and exciting features.
Fourth Floor: 
This floor has the strongest difference values of any on this index. The responses indicate that this floor is desired to be more arousing, exciting, social, collaborative, friendly and uncrowded. As a note, the adjective dimensions social/unsocial and collaborative/self-reliant were statistically correlated, meaning that as the score for Collaborative increased, so did the score for Social.

Fifth Floor: 
This floor was desired to be more arousing and exciting and uncrowded as the others; also responses indicate an Ideal space would have more playful and collaborative features.
Focus Groups
Focus Groups

- 45 minutes, online

- 5 Total Focus Groups
  - 4 student focus groups: 2 graduate & 2 undergraduate
  - 1 library employee group

- 2 moderators + 1 assistant from Libraries & Interior Design dept.

- Used Zoom and Poll Everywhere

- Transcripts coded using NVIVO

- Discussion centered on:
  - current space
  - ideal space

Prompts:

1. When you're working independently, what should the space look like?

2. When you're working in groups, what should the space look like?

3. When would you want a playful space versus a serious space and what would it look like in terms of furniture, lighting, and privacy?

4. How would you define social space and unsocial space and when do you want to use these kind of spaces? What does it look like (i.e., furnishings)?

5. What can we do with the physical space of our building to better support your success, creativity, innovation, and problem solving?

6. What small changes could we make to the library?

7. What big changes could we make to the library?
Focus Group Results

What was important to each focus group?

- Undergraduates focused predominantly on the importance of group study and furnishings.
- Graduates discussed the importance of group and individual study.

“I want ergonomic chairs, maybe an adjustable desks. I'm encouraged to not just sit down but to set up, open space, nothing too clustered or clumped or busy looking…”
“More efficient use of space and more moveable seats (like chairs). More modern furniture and more noise-absorbing materials (sound dividers) would be great at making the space a bit more bearable to concentrate in.”

UNDERGRADUATES

“I feel like Marston at this point plants are kind of one of our signatures and that we should continue with that. Plants grow really well in our building, with the lighting.”

MSL EMPLOYEES

“Add another room with a big table that would be to suit large groups. There aren’t too many big study rooms around campus, so one more would definitely be an improvement.”

UNDERGRADUATES

“I like going idea of having few distractions, something that’s clean and clear. I like to sit on little lounging chairs and think. So, one main reasons I go to Marston is to kind of get away from my lab space which is kind of busy.”

GRADUATES

“A bit of a background noise and natural lights. Some couches or alternative chairs like bungee chairs. We just sink into them, and those are fun if you’re doing some light work or brainstorming with a group”.

GRADUATES

“I think Marston has a unique charm compared to other buildings on campus. We could totally renovate it based on how our current users want to interact with the building. Make it more of what a 21st century UF student would want to experience.”

MSL EMPLOYEES
Interactive Activity

For each of the adjective pairs, please move the slider to the side that represents how the CURRENT/IDEAL library space feels/would feel.
## CURRENT SPACE

- **81%** Undergrad
- **84%** In-person Users
- **55%** 2-5 hrs/week Frequency of use

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<thead>
<tr>
<th></th>
<th>strongly</th>
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<td>Quiet</td>
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<td>16.02%</td>
<td>20.18%</td>
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<tr>
<td>Playful</td>
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**337 respondents**
Collection Period: November 9 – 21, 2020

- Unpleasant
- Distressing
- Arousal
- Gloomy
- Calm
- Noisy
- Serious
- Unsocial
- Self-reliant
- Private
- Formal
- Superficial
- Unfriendly
- Uncrowded
**IDEAL SPACE**

“High and low tables with many outlets, comfortable chairs, booths with the same features typically seem to make the students very happy. Different lighting features might be nice for a more comfortable and less clinical feeling.”

“More efficient and aesthetically pleasing study spaces. There are a lot of tables for groups of 4, but not a lot for smaller or bigger groups.”
Overall Findings
Create a Sense of Place

Solve for the Group, by addressing the Individual

Palette of Posture

Biophilia for PUBLIC and PRIVATE space

Choice and Control for I and WE spaces
SPECIFIC SUGGESTIONS

- Tables that allow spreading out study materials
- Replace damaged furniture
- Offer a variety of seating; standing desks, exercise seats, sleep pods
- Increase white boards and offer erasers/markers on each floor
- Increase dinner table/banquet seating
- Allow for individual choice and control with seating, lighting, privacy, etc.
- Provide stimulating, but not overly arousing space
- Offer a central/easily accessible social space
- Increase sight lines to restrooms on each floor
- Increase connection with nature including plants and natural lighting
**Meeting Spaces**
Increase evening meeting spaces for student clubs/groups
Open up instructional space in the evening

**Study Rooms**
Increase study room offerings for groups and individuals
Improve the branding and visibility of the makery
Locate underutilized space for increased individual study rooms

**Instructional Experience**
Feature MADE@UF
Instructional furnishings and screens
ARL Workshop 2
Tuesday, April 19, 10:30-12
Inside the Design Studio: Reimagining Library Spaces in Partnership with Interior Design & Engage Design Lab

ARL Workshop 3
Wednesday, May 4, 10:30-12
Inside the Research Process: Survey Analysis, Creativity Index, & Overall Findings
Thank you!