Designing for Academic Success

A collaborative research model between architects and environmental psychologists

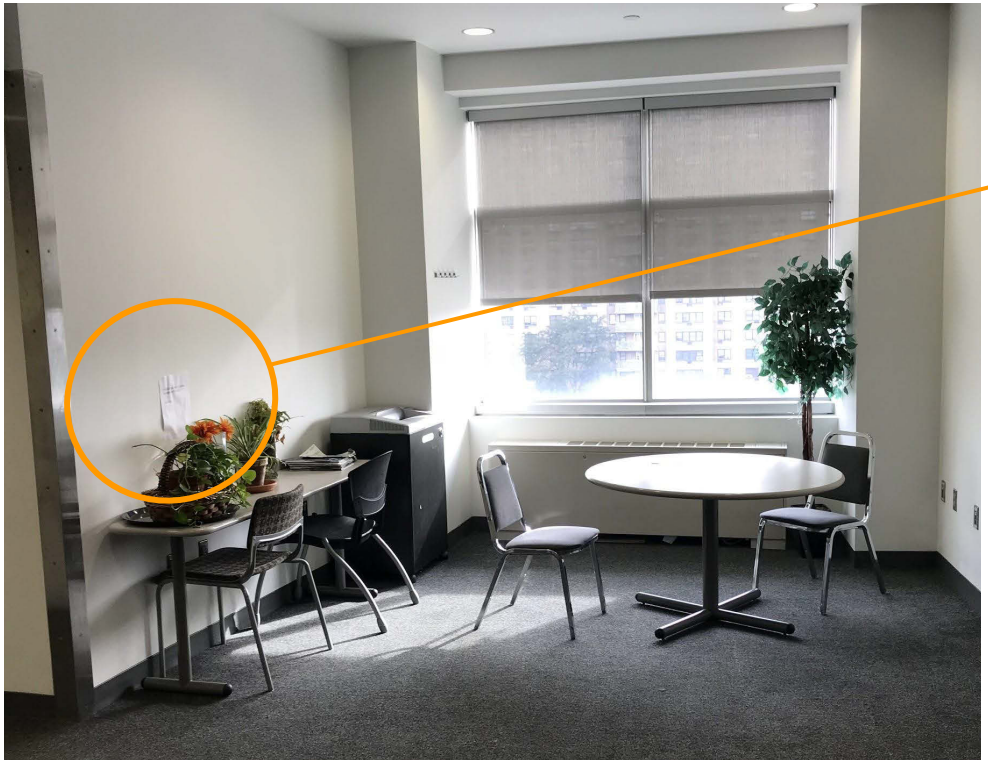
SCUP Regional Symposium // Monday, June 17, 2019

Sara Grant
Evie Klein

THE GRADUATE CENTER
CITY UNIVERSITY OF NEW YORK

MBB

Problem: What Does Equity Look Like?



Relevant Literature

Research Design

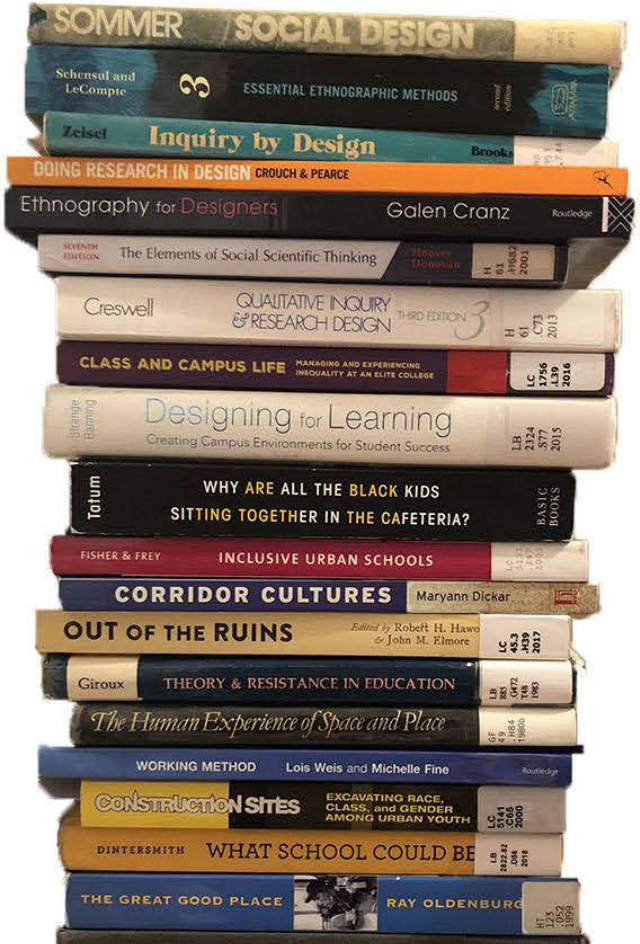
Sommer, Social Design, 1983
Zeisel, Inquiry by Design, 1984
Cranz, Ethnography for Designers, 2016
Crouch and Pearce, Doing Research in Design, 2015

Educational Spaces

Sanoff, School Building Assessment Methods, 2001
Temple, “Learning Spaces in Higher Education.” 2008
Woolner, “A Sound Foundation? What We Know about the Impact of Environments on Learning and the Implications for Building Schools for the Future.” 2007
Strange and Banning, Educating by Design, 2001

Equity and Ideology in Educational Space

Giroux, Theory and Resistance in Education, 1983



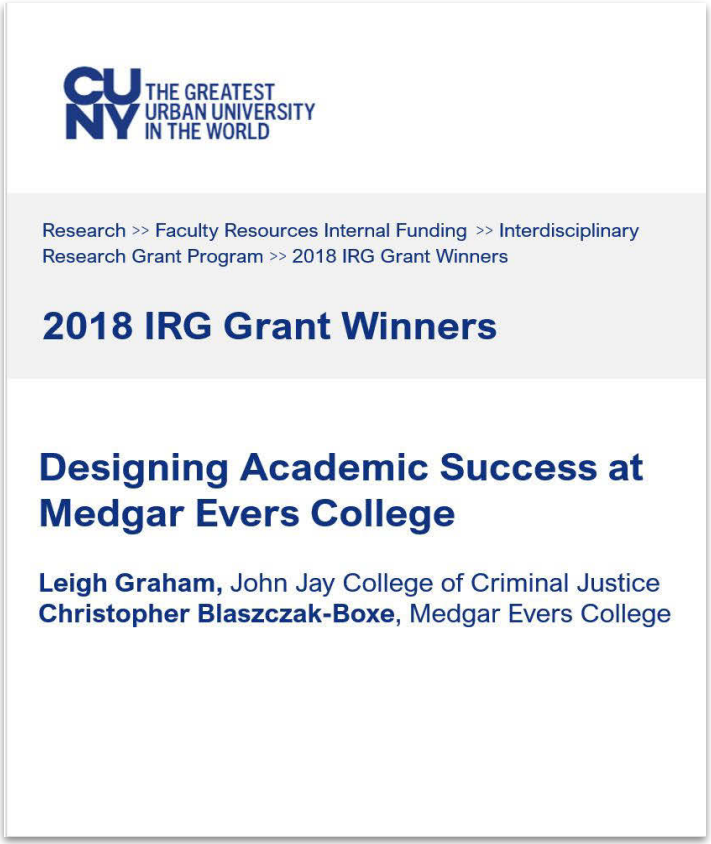
Three Objectives: Medgar Evers College Research Project

Typology:
Informal Spaces Outside the Classroom

Advocacy:
Sharing Knowledge

Practice:
Learn from Data

Recognition: Medgar Evers College Research Project



CUNY THE GREATEST URBAN UNIVERSITY IN THE WORLD

Research >> Faculty Resources Internal Funding >> Interdisciplinary Research Grant Program >> 2018 IRG Grant Winners

2018 IRG Grant Winners

Designing Academic Success at Medgar Evers College

Leigh Graham, John Jay College of Criminal Justice
Christopher Blaszczak-Boxe, Medgar Evers College

THE AMERICAN INSTITUTE OF ARCHITECTS
New York Chapter

VICE PRESIDENT'S CITATION FOR DESIGN EXCELLENCE

ARCHITECTURE FOR EDUCATION & SOCIAL SCIENCE AND ARCHITECTURE COMMITTEES

The 2017 Vice President's Citation for Design Excellence recognizes the AIANY Architecture for Education and the Social Science and Architecture Committees for their outstanding work together on The Medgar Evers Collaborative Research Project.

This unique collaborative pilot program endeavors to provide insight into the effectiveness of implementing social science techniques to evaluate design intervention and to determine the best architectural design practices for social well-being. We applaud this strategic effort and recognize these committees for this remarkable program.

The Architecture for Education and the Social Science and Architecture Committees are leading the way in the importance of collaboration in professional growth and research.

5 December 2017

Jennifer Sage, FAIA, LEED AP
Vice President for Design Excellence

Benjamin Prosky
Executive Director, AIA New York / Center for Architecture

AIA New York

Research Team

SOCIAL SCIENTISTS

Evie Klein, MArch
User Design Information Group
Founding Member

Leigh Graham, PhD
John Jay College
Assistant Professor

Eleanor Luken, MS
User Design Information Group
Founding Member

Troy Simpson, MPhil
User Design Information Group
Founding Member

ARCHITECTS

Sara Grant, AIA, LEED AP
Murphy Burnham and Buttrick Architects
Partner

Luiza Otto
Murphy Burnham and Buttrick Architects
Designer

Temitayo Shonibare
Murphy Burnham and Buttrick Architects
Junior Interior Designer

STUDENT INTERNS

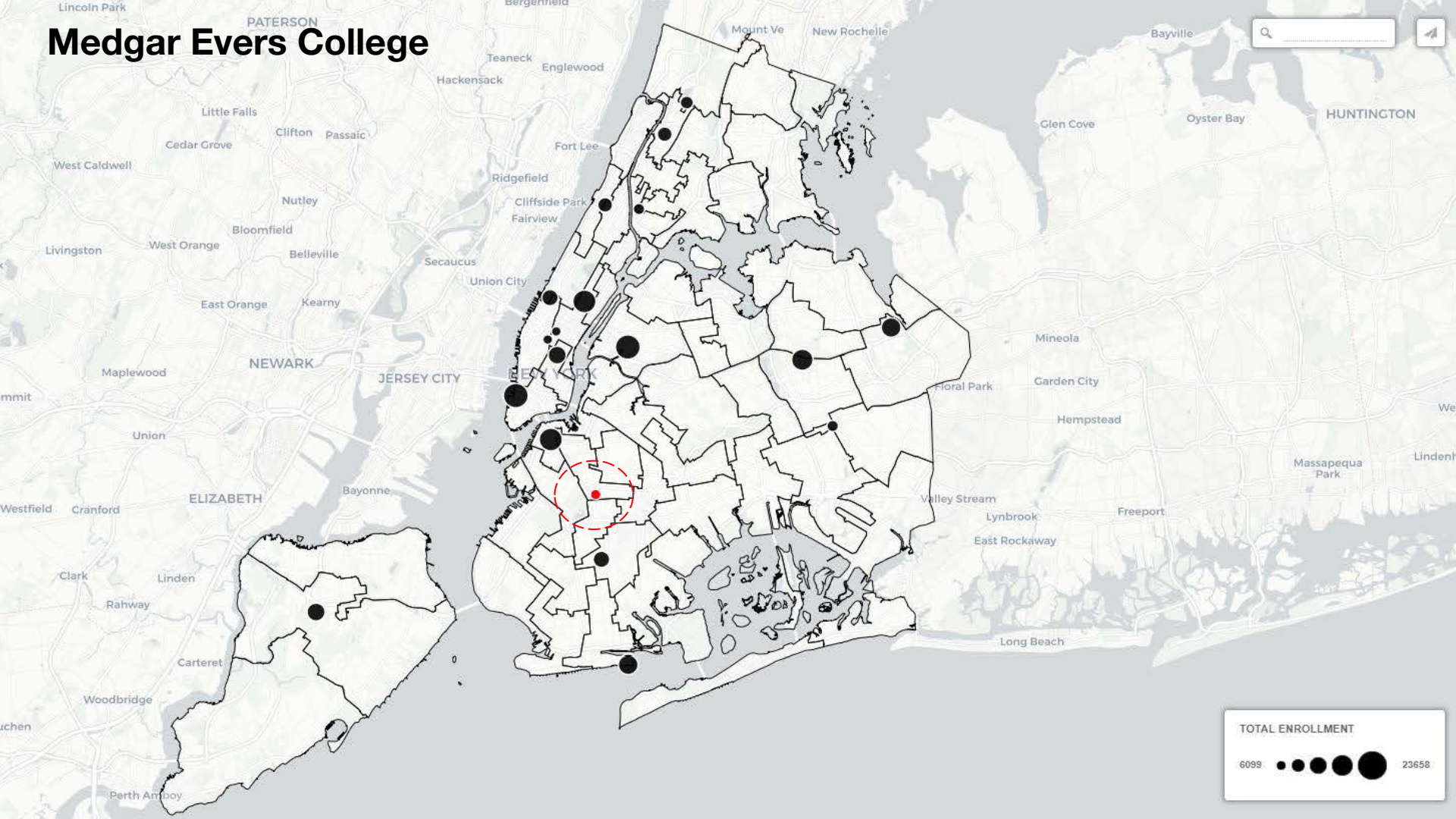
Patrick Gentles
Medgar Evers College
BS Biology Major

Allysha Nelson
Medgar Evers College
BS Biology Major

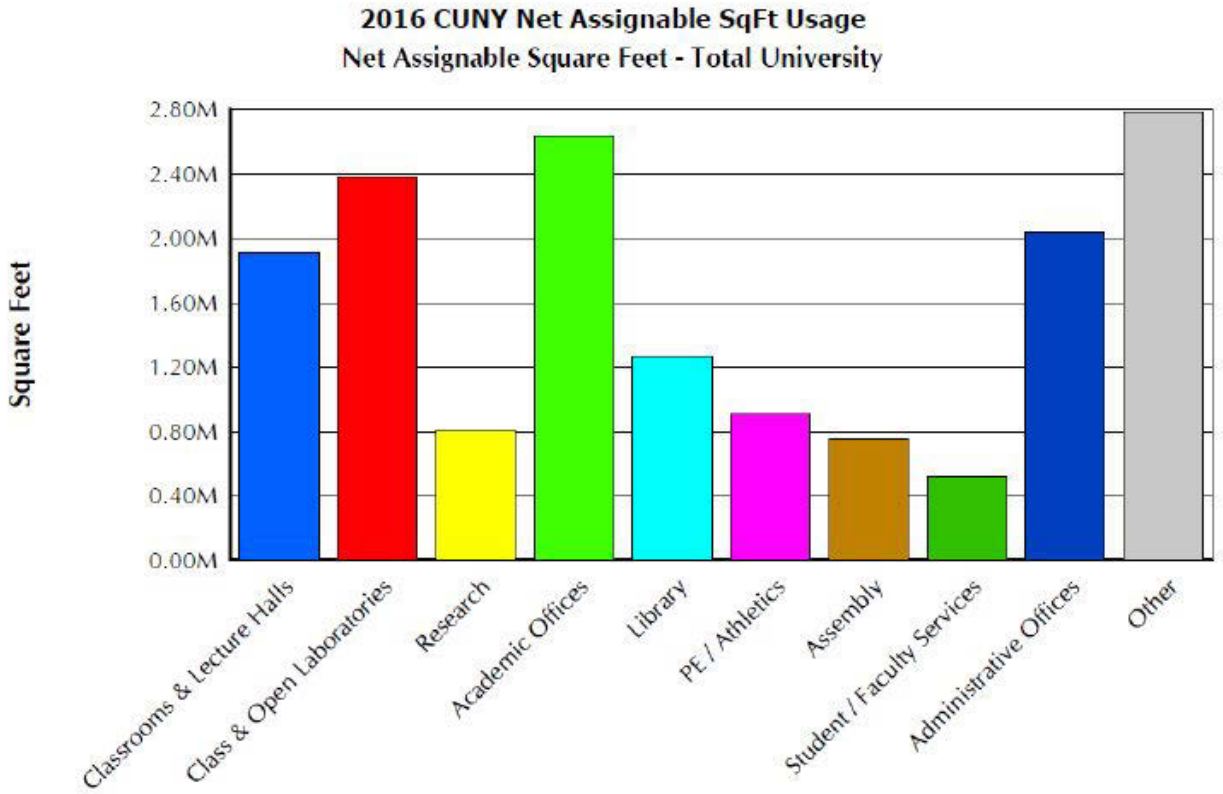
Kelly-Mae Smith
John Jay College
MPA Program

Maya Williams
John Jay College
MPA Program

Medgar Evers College

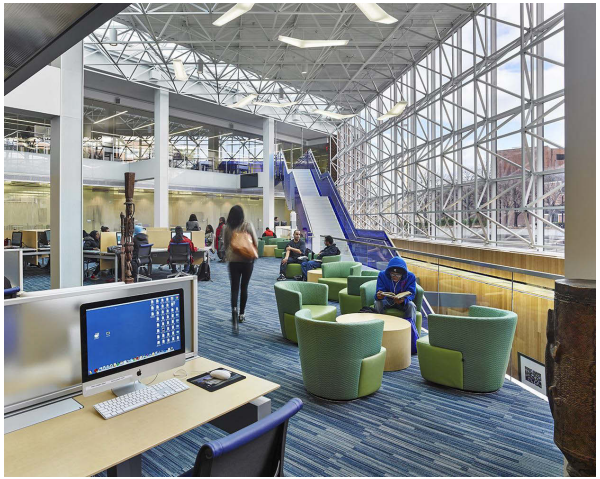


CUNY “Significant Statistics”

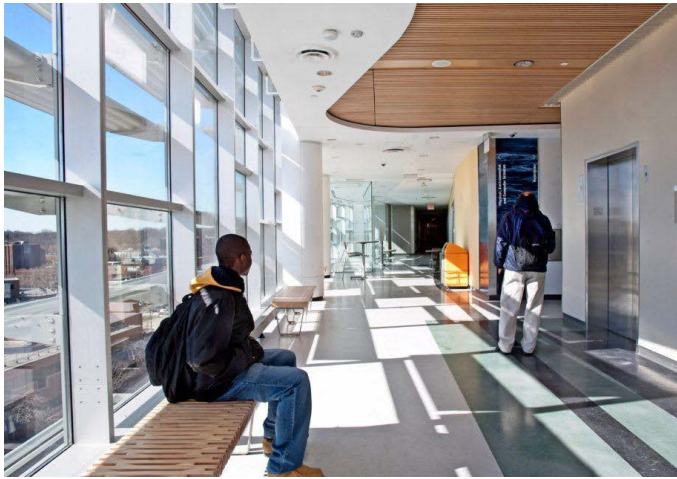


Spatial Typology: Space Outside the Classroom

Class & Open Laboratories: 2.4 M NASF



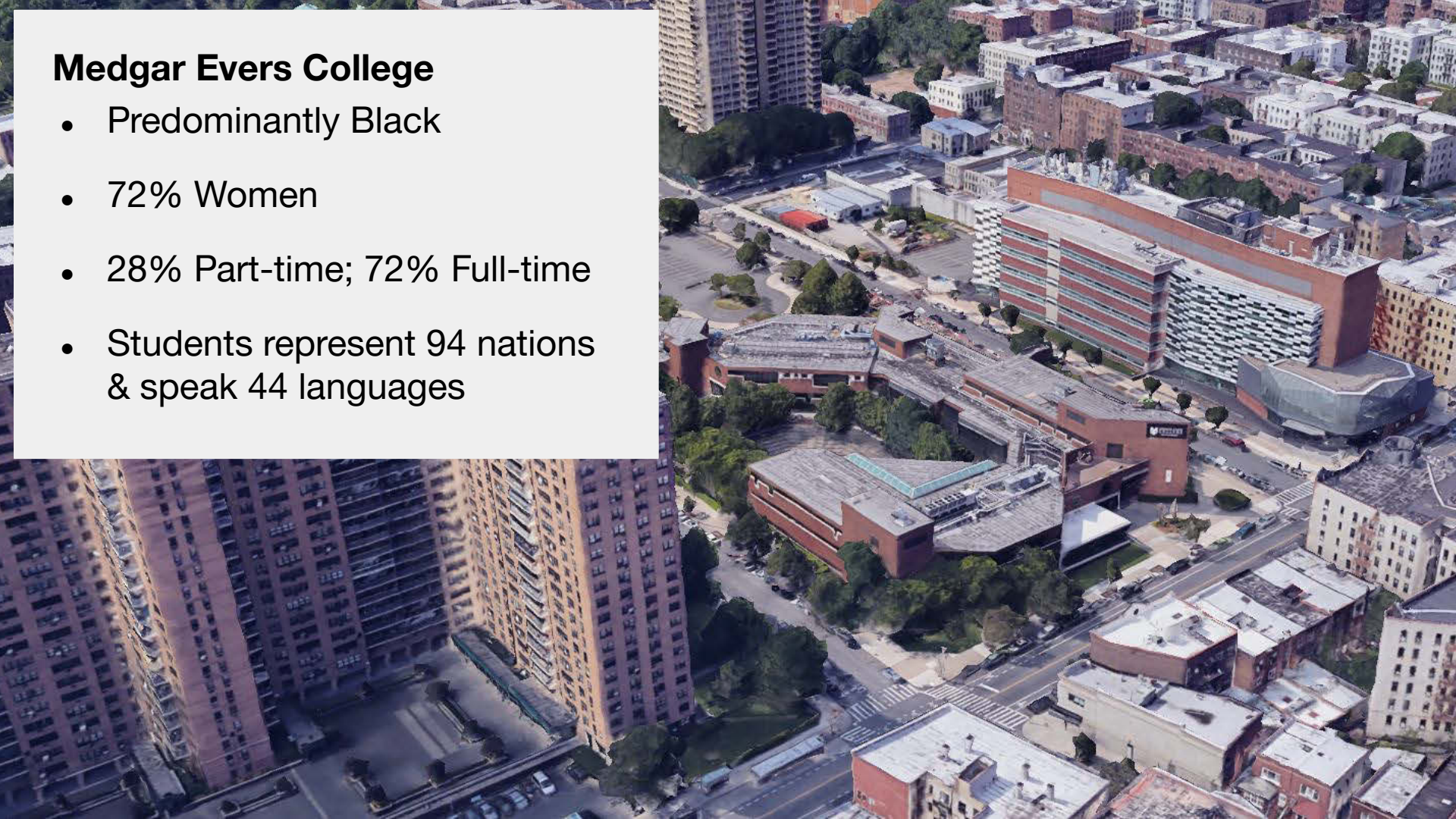
Library: 1.2 M NASF



Student / Faculty Services + Circulation: ?

Photography:
Jeff Goldberg/Esto,
Aislinn Weidele/Ennead Architects

Jeffrey Totaro
Ikon.5 Architects



Medgar Evers College

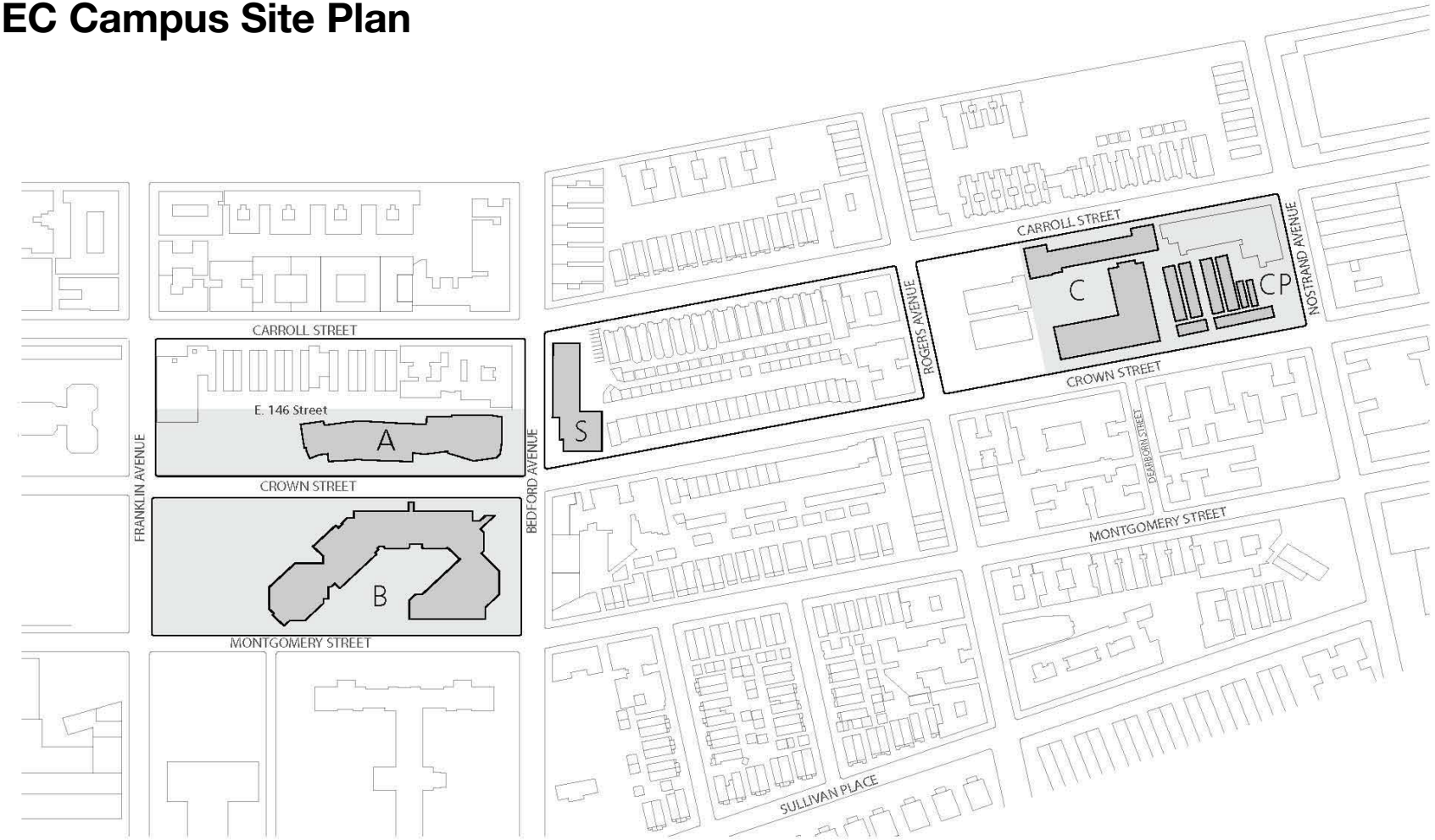
- Predominantly Black
- 72% Women
- 28% Part-time; 72% Full-time
- Students represent 94 nations & speak 44 languages

MEC Enrollment and Graduation Rates by Degree Type

Program type	***Enrollment*** *(Fall 2017)*	***Enrollment %***		***Graduation %*** *for full-time first-time freshman, for cohort entering in 2011, after 6 years**
Baccalaureate	3,287	49.4%		27.6%
Associates	2,875	43.2%		10.9%
Non-degree	490	7.4%		n/a
Total	6,652			

Data from the CUNY and MEC Office of Institutional Research
**does not include part-time or transfer students*

MEC Campus Site Plan



Research Methods

Process: Project Phases

Phase 1:
Team formation

Team formation
Campus selection + partnership
Research design
IRB submission
Team training

Phase 2:
Data collection + site selection

Field observation
Semi-structured interviews
Student mobile survey
Phase 2 data analysis
Site selection
Presentation to AIANY+ Admin.

Phase 3:
Pre-design data collection + analysis

Field observations
Interviews
Phase 3 data analysis
Preliminary design
Coordination with administration

Phase 4:
Design

Iterative intervention design
Focus groups

Phase 5:
Post-Intervention Data Collection + Analysis

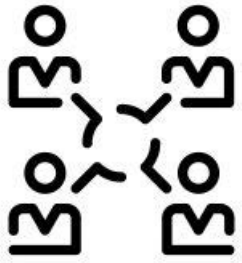
Intervention implementation
Field observations
Interviews
Phase 5 data analysis

Phase 6:
Collaborative Outputs

Final analysis
Paper writing
Presentation + outreach
Methodology recommendation

Research Design and Methods for Phase 2 and 3 Data Collection

Inductive, open-ended approach



Interviews | Observation | Survey | Focus Groups

Goals

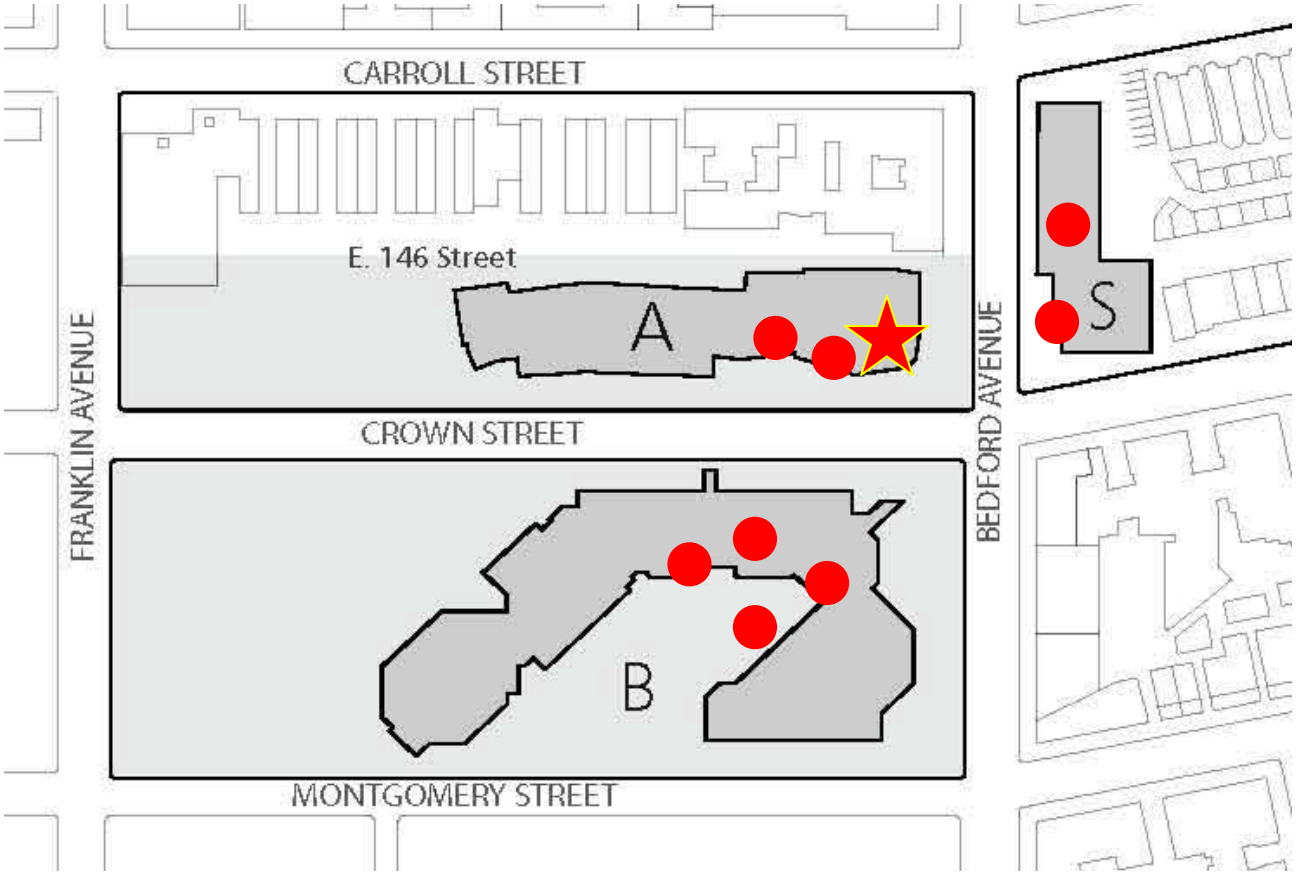
***Phase 2**: Identify campus-wide themes and select a research site*

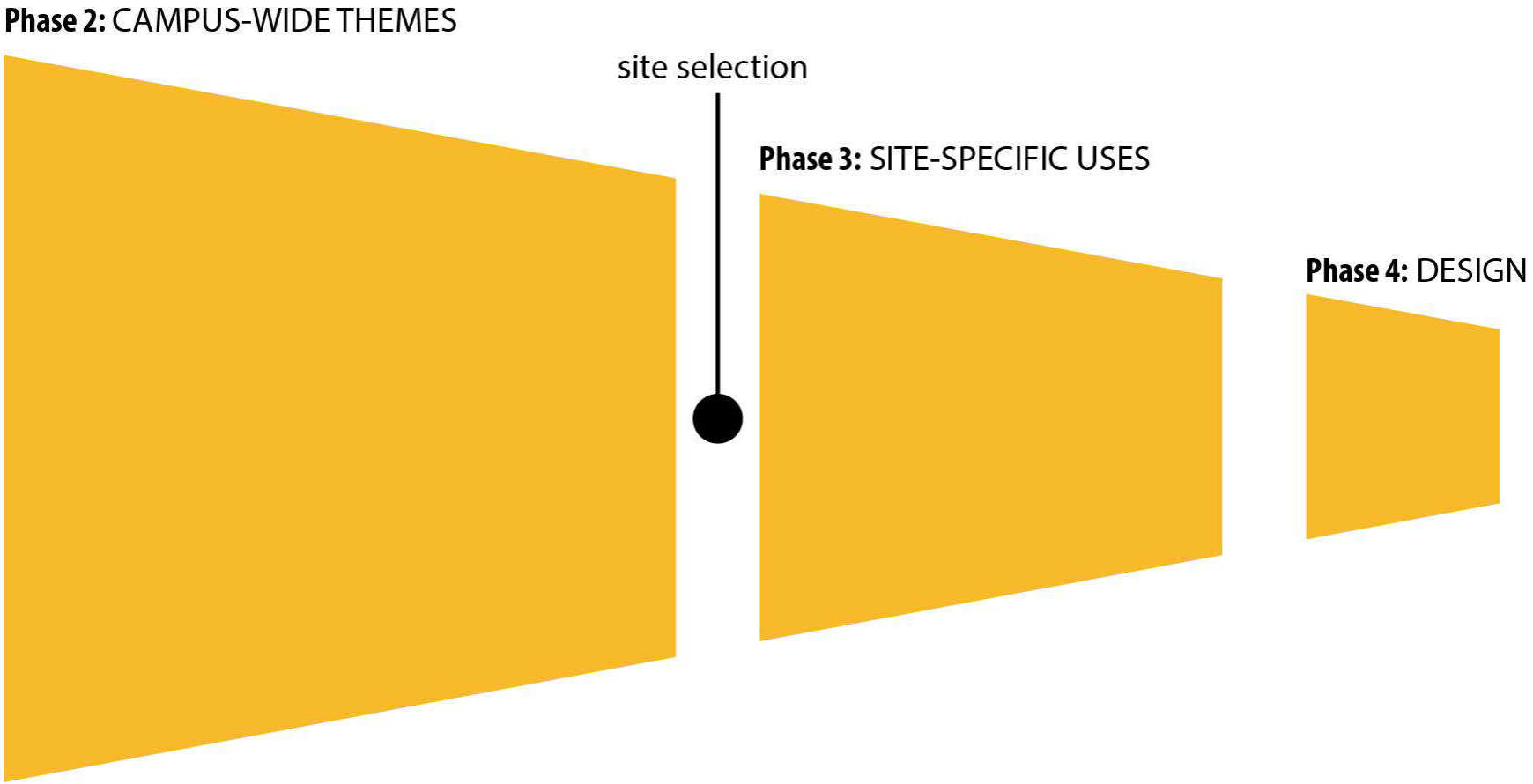
***Phase 3**: Identify how themes are spatialized to inform design*

Low, Taplin & Scheld (2009), Daiute (2013)

Phase 2: Data Analysis

Nine Sites Identified for Phase 2 Observation




Phase 2: CAMPUS-WIDE THEMES
site selection
Phase 3: SITE-SPECIFIC USES
Phase 4: DESIGN

Phase 2 Analysis

1. Conduct bottom-up coding of interviews and field notes

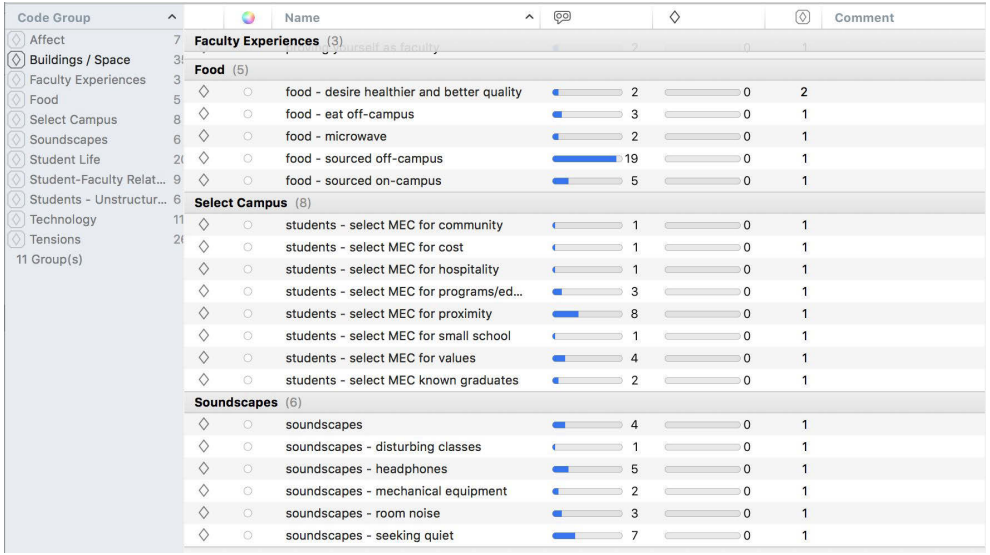
1a. Code each interview

INTERVIEWER: *What do you feel about those different places, like the cafeteria versus the library, versus sitting out here. How do you feel about those spaces?*

PART_TS001: I think they're pretty good. Cafeteria you can meet with people. Um, library, strictly for studying, if you don't want to be disruptive you can come out here. You can come out here with your friends and just do whatever without worrying about disrupting other people.

evaluative - "pretty good"
cafeteria - for socializing
non-class time - study
non-class time - socializing
library - strict use limits
soundscapes / disturbances
designated group socializing areas

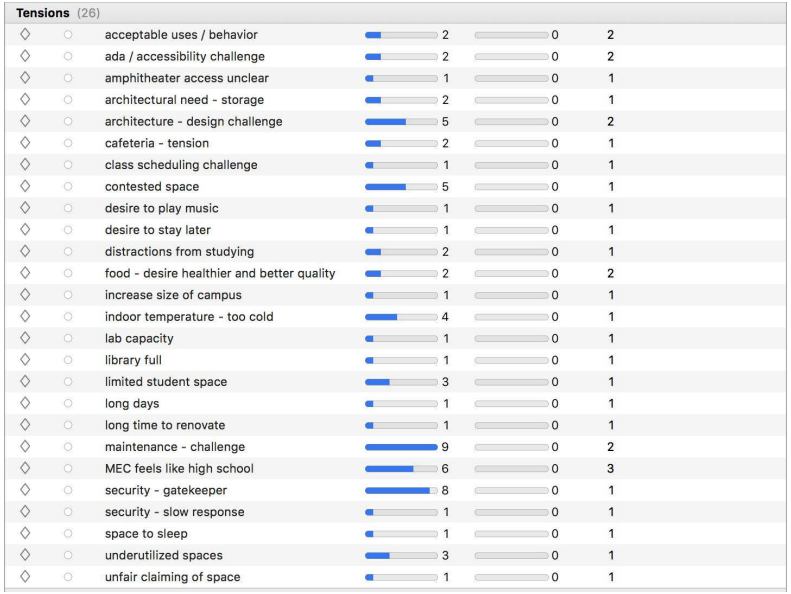
1b. Merge codes into groups



Phase 2 Analysis

2. Iteratively review codes and code groups to identify methodological and metatheoretical results

2a. Examine “tensions”



Tensions (26)			
acceptable uses / behavior	2	0	2
ada / accessibility challenge	2	0	2
amphitheater access unclear	1	0	1
architectural need - storage	2	0	1
architecture - design challenge	5	0	2
cafeteria - tension	2	0	1
class scheduling challenge	1	0	1
contested space	5	0	1
desire to play music	1	0	1
desire to stay later	1	0	1
distractions from studying	2	0	1
food - desire healthier and better quality	2	0	2
increase size of campus	1	0	1
indoor temperature - too cold	4	0	1
lab capacity	1	0	1
library full	1	0	1
limited student space	3	0	1
long days	1	0	1
long time to renovate	1	0	1
maintenance - challenge	9	0	2
MEC feels like high school	6	0	3
security - gatekeeper	8	0	1
security - slow response	1	0	1
space to sleep	1	0	1
underutilized spaces	3	0	1
unfair claiming of space	1	0	1

2b. Review codes by source type

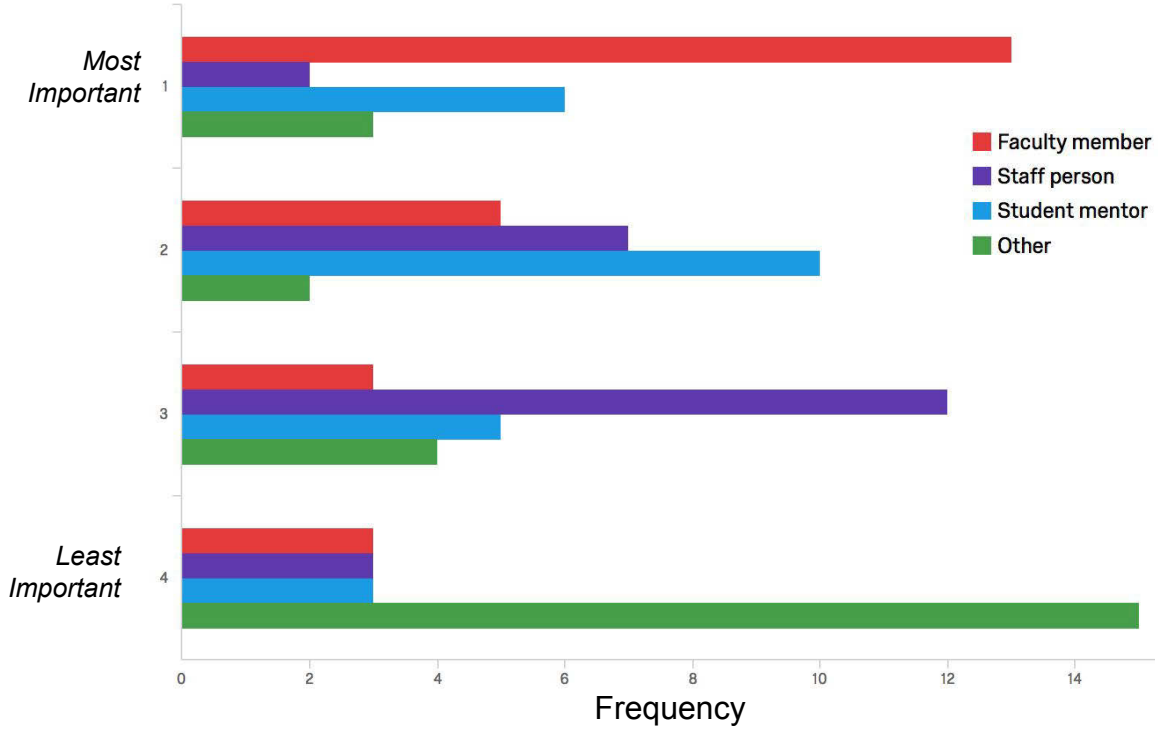
This code document table shows each code identified through a first-pass bottom-up coding process and an indicator of how frequently each was expressed in three types of data: field observations, faculty/staff interviews, and student interviews. The values represent the percentage of all quotations associated with each document group type as represented by each code.

Code	Field Work	Interviews - Faculty/	Interviews - Students
signage - corporate	1.6%	0.0%	0.0%
signage - gender identity	1.6%	0.0%	0.0%
sitting	1.6%	0.0%	0.0%
social events	0.0%	0.0%	0.5%
socialize off-campus	0.0%	0.0%	0.5%
soundscapes	0.0%	0.0%	1.9%
soundscapes - disturbing classes	0.0%	0.9%	0.0%
soundscapes - headphones	3.2%	0.0%	1.4%
soundscapes - mechanical equipment	3.2%	0.0%	0.0%
soundscapes - room noise	1.6%	0.9%	0.5%
soundscapes - seeking quiet	0.0%	1.8%	2.4%
space to sleep	0.0%	0.0%	0.5%
specific uses	1.6%	0.0%	0.0%
sports as pathway to friendships	0.0%	0.0%	0.5%
steelcase sales	0.0%	0.9%	0.0%
student - peer support	0.0%	0.0%	0.9%
student - professor relationships difficult	0.0%	0.0%	0.5%
student clubs and government	0.0%	0.0%	0.5%
student employment	1.6%	0.0%	0.5%
student financial struggles	1.6%	4.5%	0.0%
student government space	0.0%	0.9%	0.0%
student important place - AB-1 back stairs	0.0%	0.0%	0.5%
student important place - amphitheater	0.0%	0.0%	0.9%
student important place - athletic study hall	0.0%	0.0%	0.9%

Phase 2 Analysis

3. Review survey results

Rank the following members of the MEC community by how important they are to you (drag and drop, with the most important on the top)



Phase 2 Analysis

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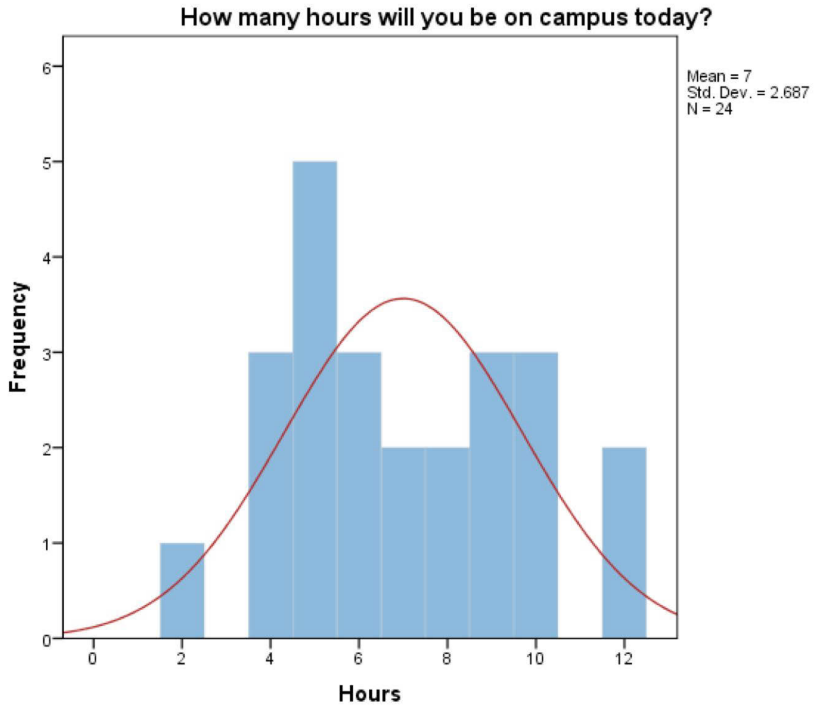

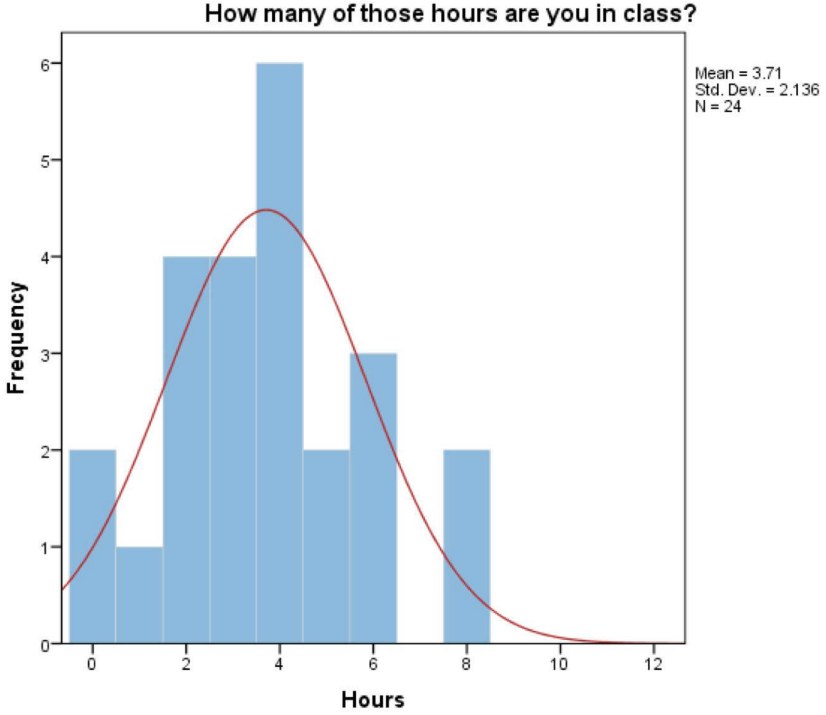

Phase 2 Analysis Results

“Home” Space vs Professional Space

High Stakes Student-Mentor Relationships

“Home” Space vs Professional Space

High Stakes Student-Mentor Relationships

“feels like high school”

non-class time

faculty mentorship

contested spaces

“feels like home”

student access to faculty

maintenance challenges

soundscapes

peer mentorship

food

proximity to home

acceptable uses of space

security / gatekeeping

faculty privacy

hours on campus

student voices taken seriously

personal and professional mentorship

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“I can eat, sleep, get work done, it’s almost like a second home.”

“Home” Space vs Professional Space

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“[The cafeteria] gives me the high school feeling. When you’re in there, it doesn’t feel like it’s a college. It doesn’t have that impact there, it just looks like a regular cafeteria … We don’t have a productive environment, it was really haphazardly done.”

“Home” Space vs Professional Space

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FACULTY: “You have to be broader in your mindset to be able to teach here because you will encounter all kinds of students here and you should be equipped enough to be able to handle the challenges of teaching a broad range of students if you want to be a successful faculty at Medgar Evers.”

“Home” Space vs Professional Space

High Stakes Student-Mentor Relationships

“feels like high school”

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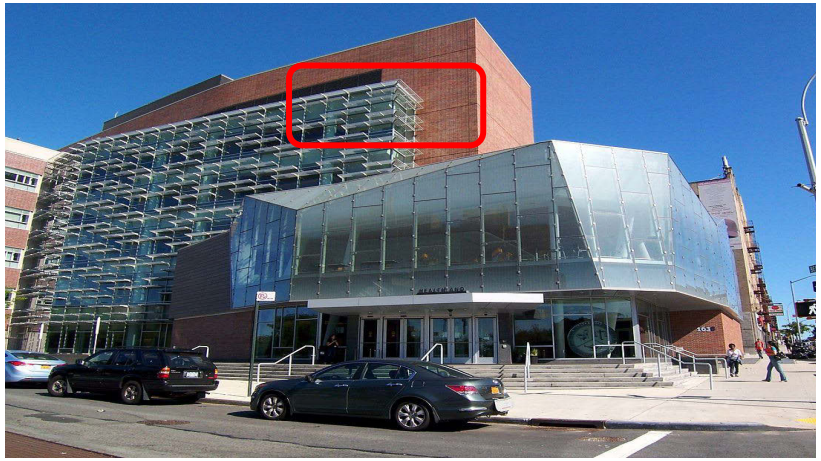
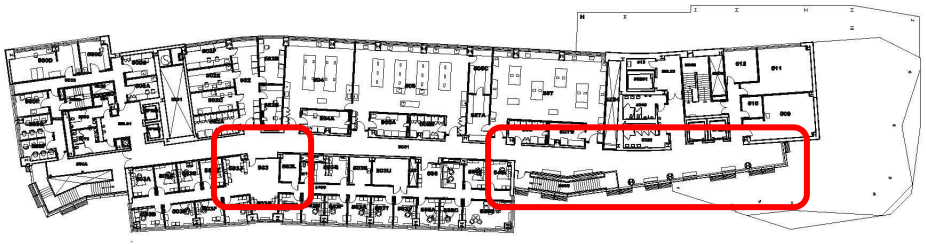
ADMIN: “But the [students] that do stay, they are saying that they have faculty that are good mentors.”

Site Selection for Design

Study Site: Building AB-1 Fifth Floor





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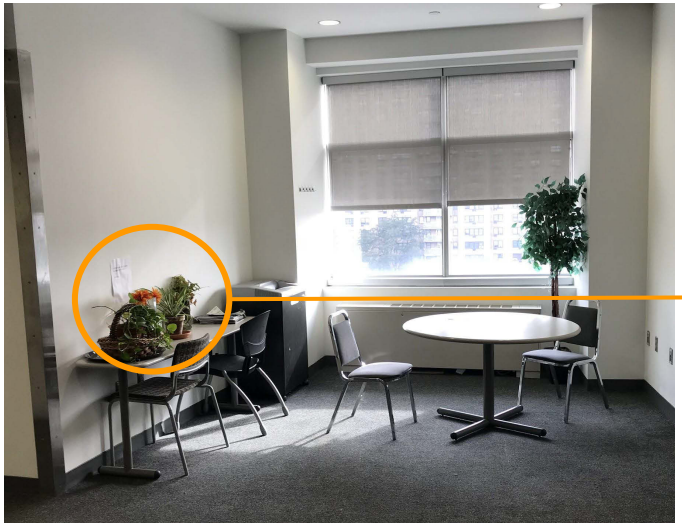

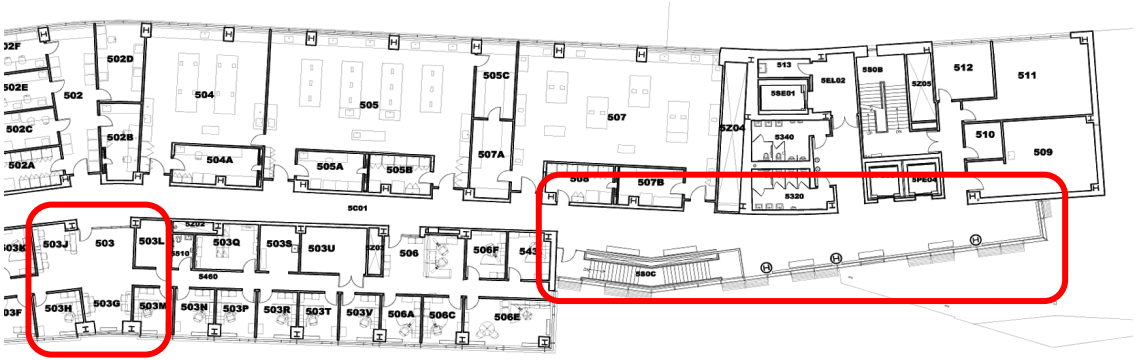

Study Site: Building AB-1 Fifth Floor

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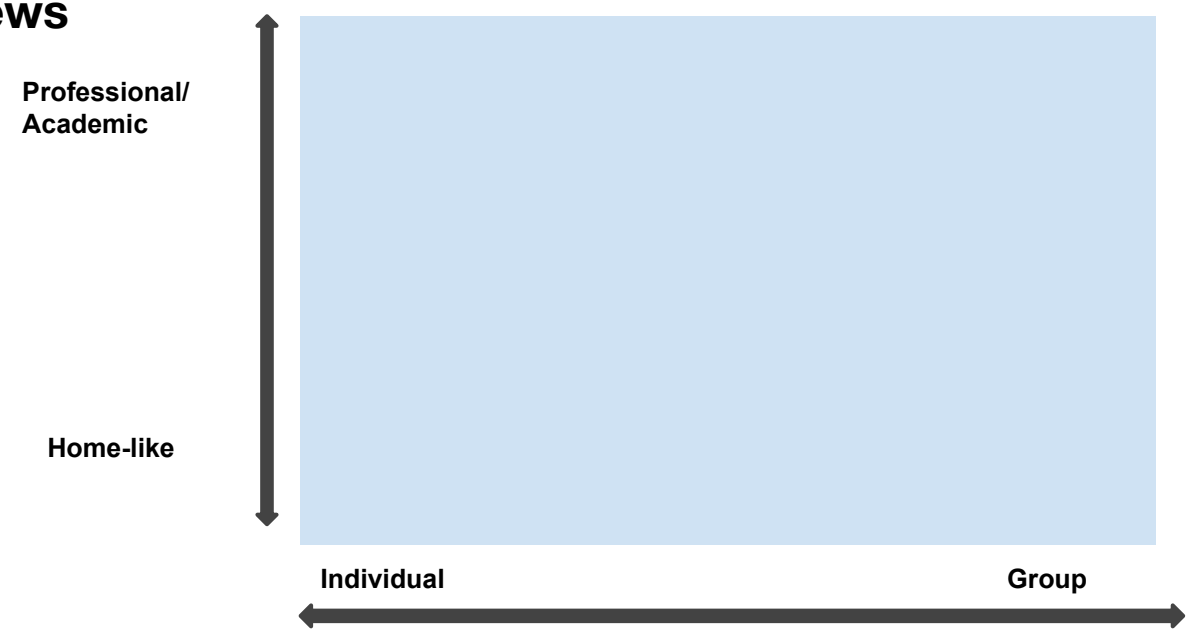
Phase 3: Data Analysis

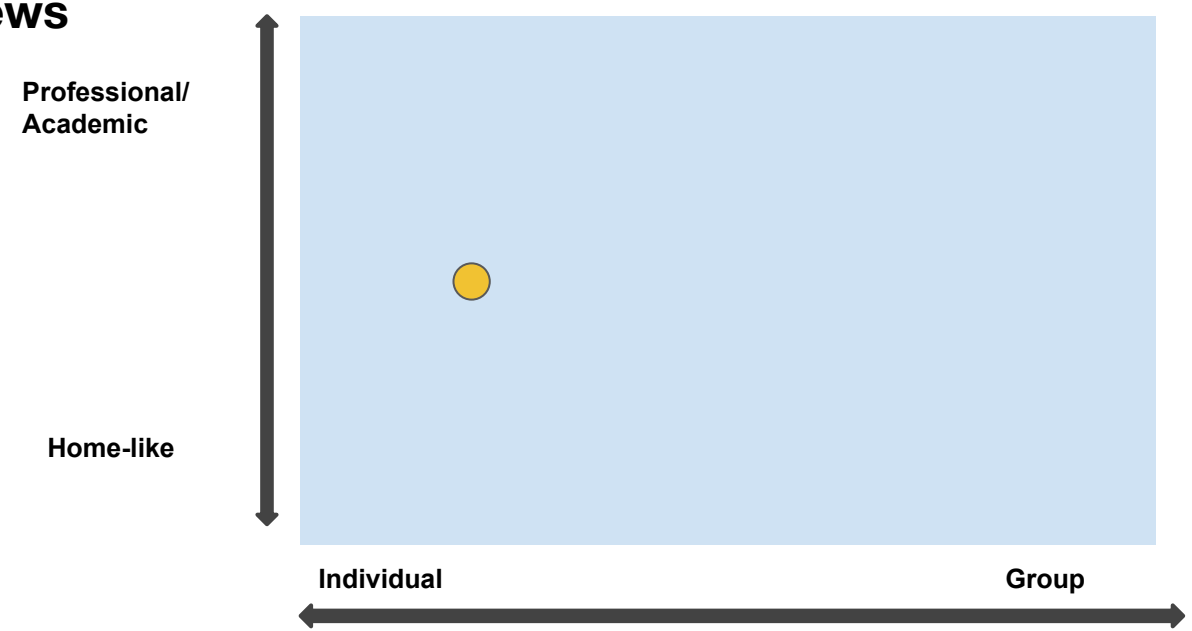
AB-1 Fifth Floor: Interviews

Professional / Home



AB-1 Fifth Floor: Interviews

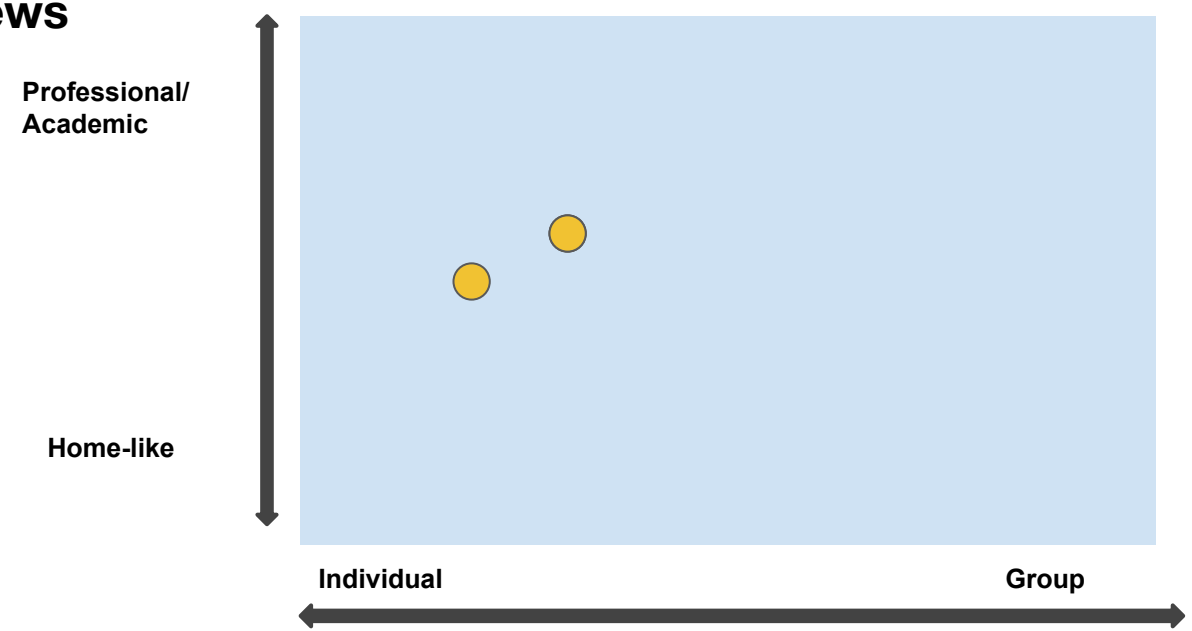
Professional / Home



"So, that's why I'm basically on this floor because this floor is the chemistry floor where most of the labs are. ***Mostly I hang out up here if I have homework and stuff because it's more quiet and the view is amazing.*** *And also, people come up here, like, if they want to get food and they* ***brought food from home you could warm your food up here because there's a microwave.*** *Relaxation."*

AB-1 Fifth Floor: Interviews

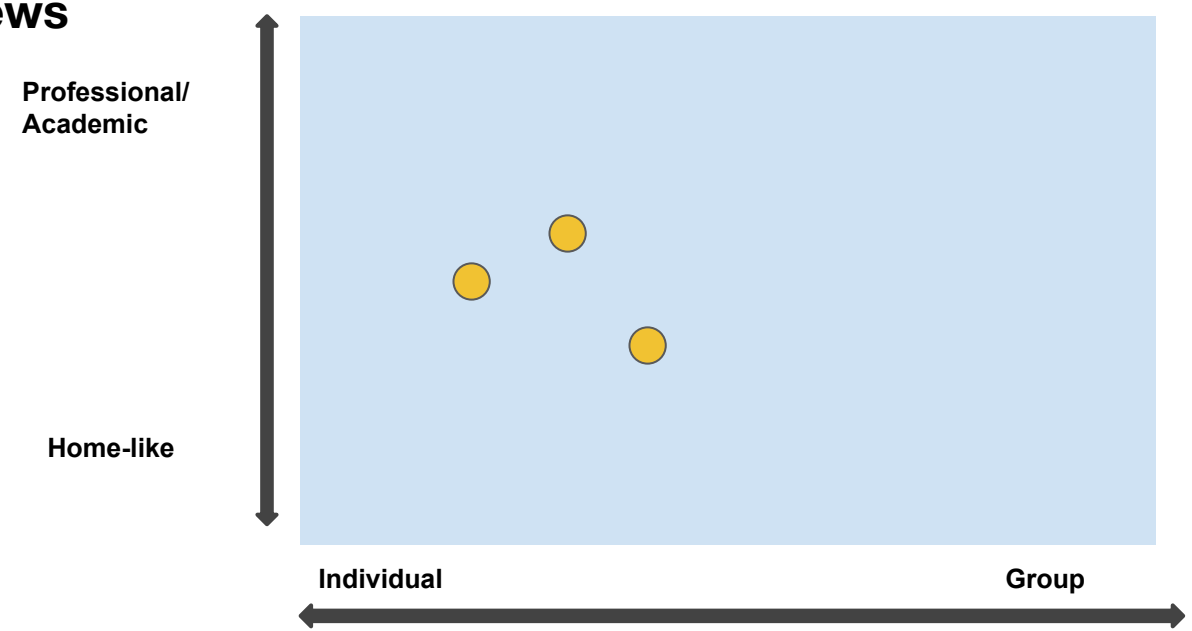
Professional / Home



"I mean, the smells of the food don't really bother me because I'm always so focused on something else. ***And it's not noisy up here because there's not a lot of people up here, so it's perfect, you know?*** *It's a good environment for the studying because you can't study really with noise."*

AB-1 Fifth Floor: Interviews

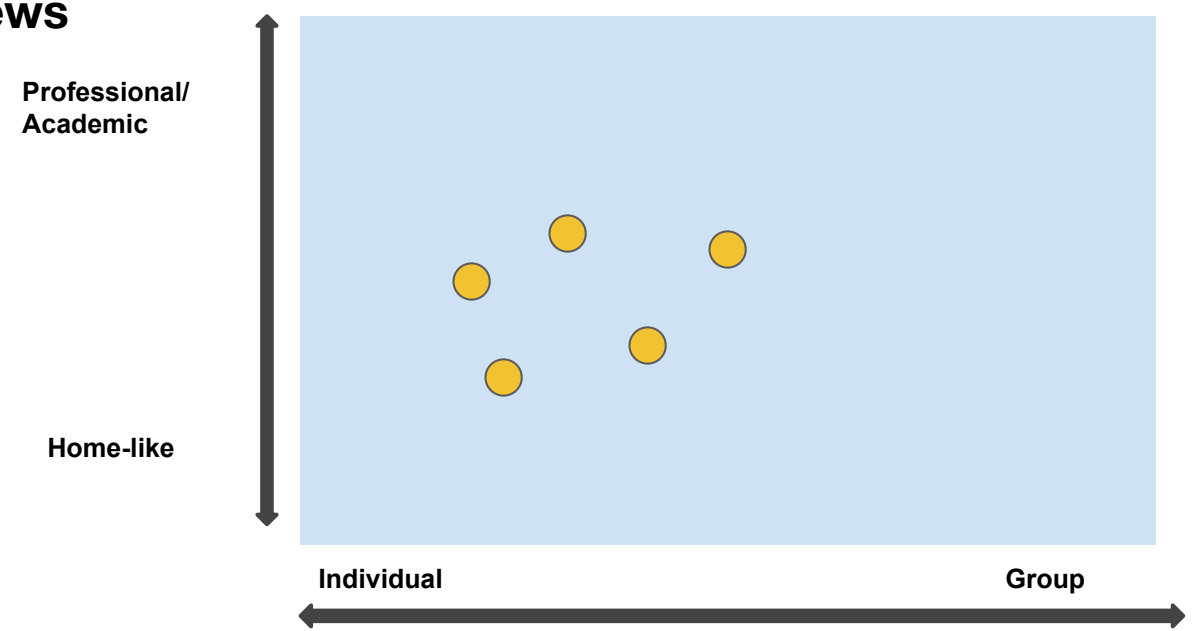
Professional / Home



*“I don’t have anything specific but basically when **I come here and meet with my friends and go to the classroom over there, and just be ourselves.**”*

AB-1 Fifth Floor: Interviews

Professional / Home



*"I don't have anything specific but basically when **I come here and meet with my friends and go to the classroom over there, and just be ourselves.**"*

AB-1 Fifth Floor: Interviews

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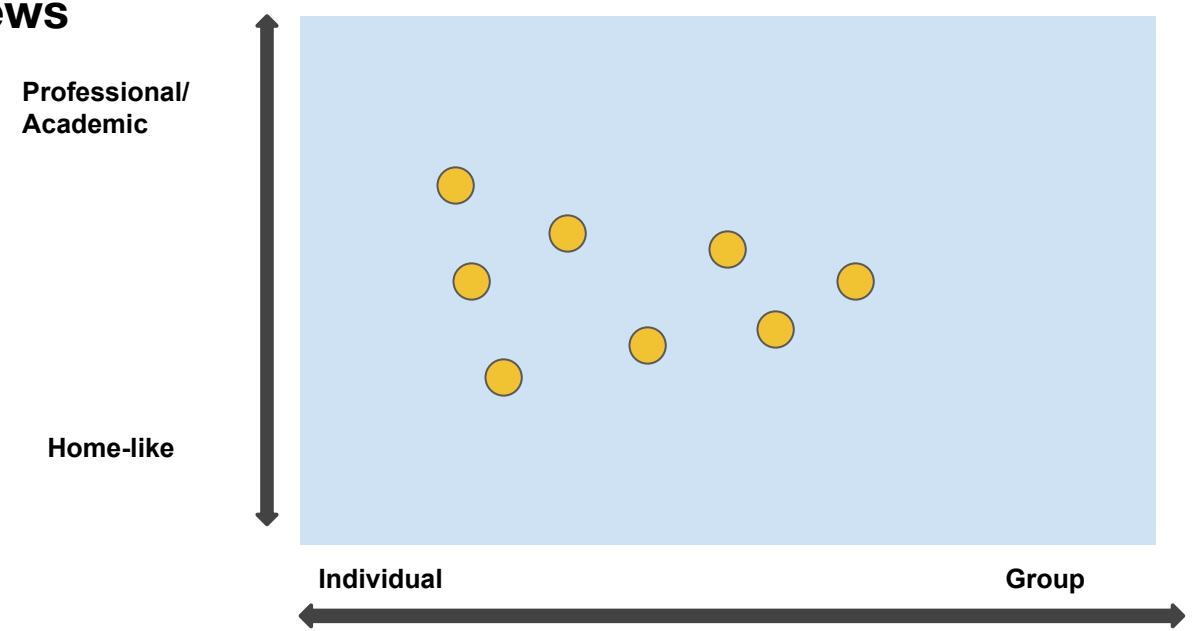

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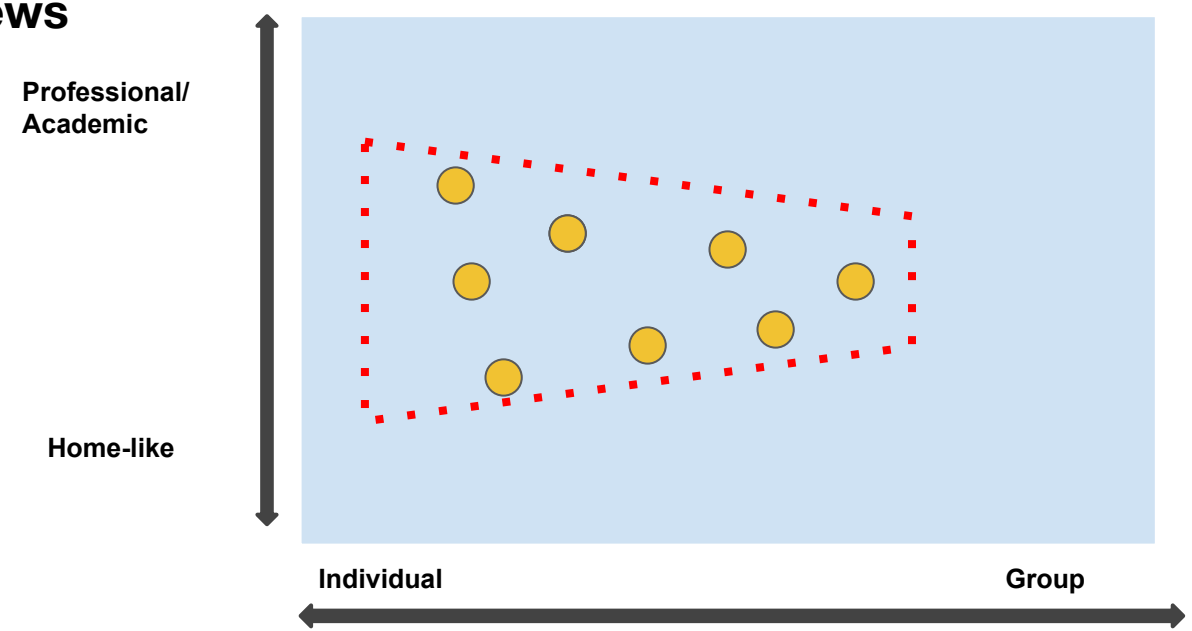


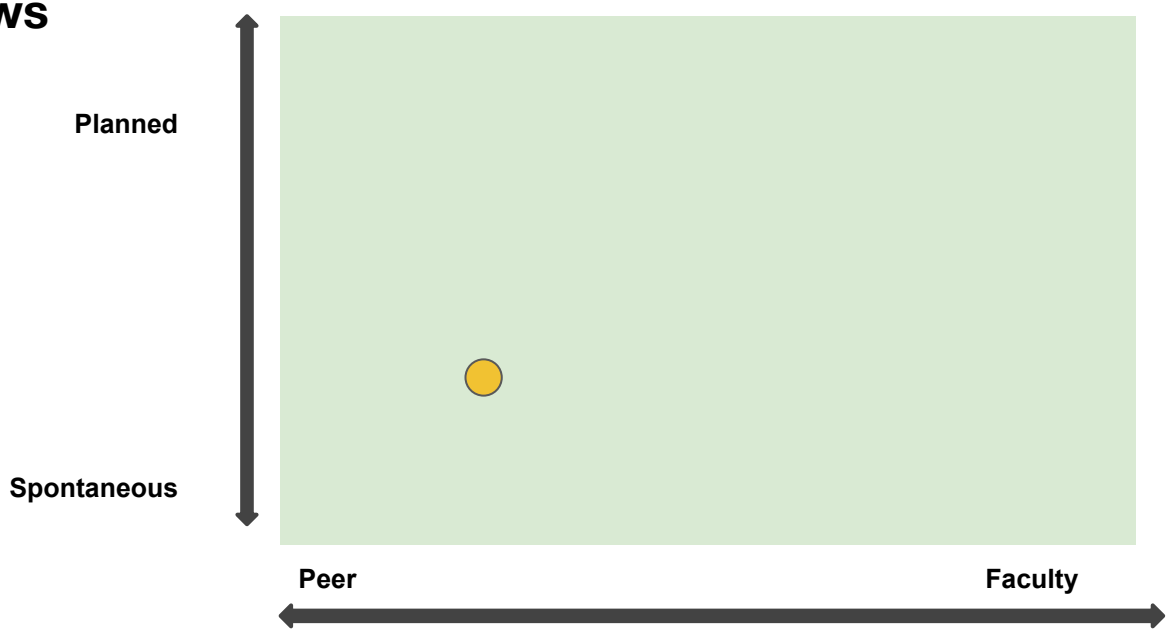
*"I don't have anything specific but basically when **I come here and meet with my friends and go to the classroom over there, and just be ourselves.**"*

AB-1 Fifth Floor: Interviews

Mentorship

AB-1 Fifth Floor: Interviews

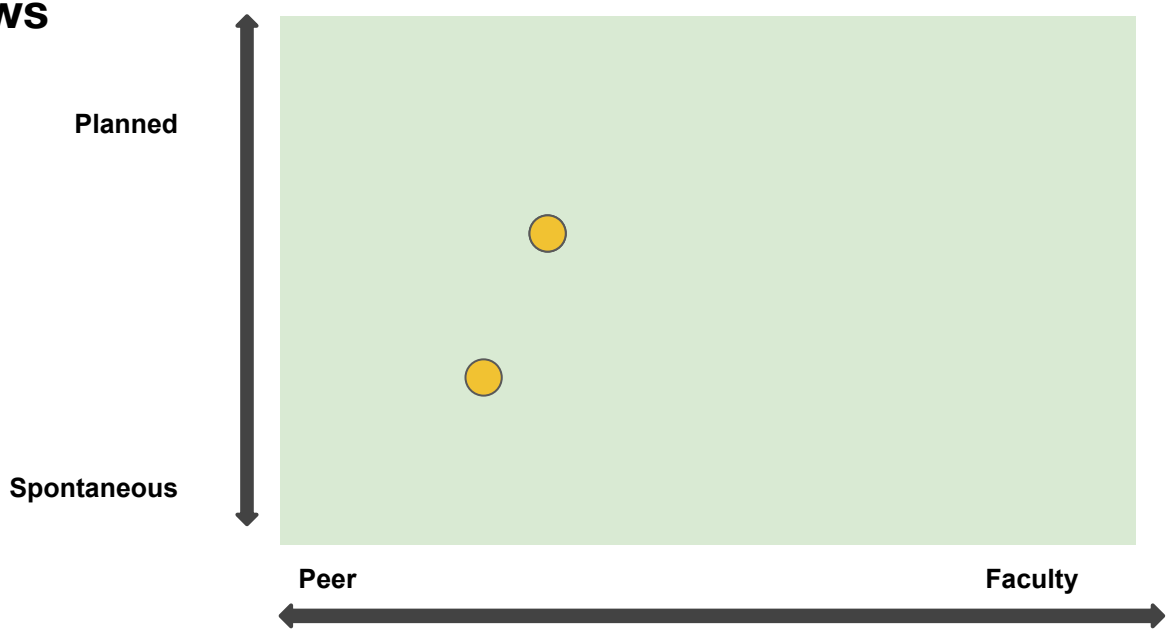
Mentorship



*"**I would say with faculty, I don't really have a relationship. With students, I do.** And the way I've seen is because like we will gather and compare answers, things like that. **This floor is one of those where I run into people. Maybe because I am in this floor, a lot of people are in this floor because of the same reason,** so we've shared classes."*

AB-1 Fifth Floor: Interviews

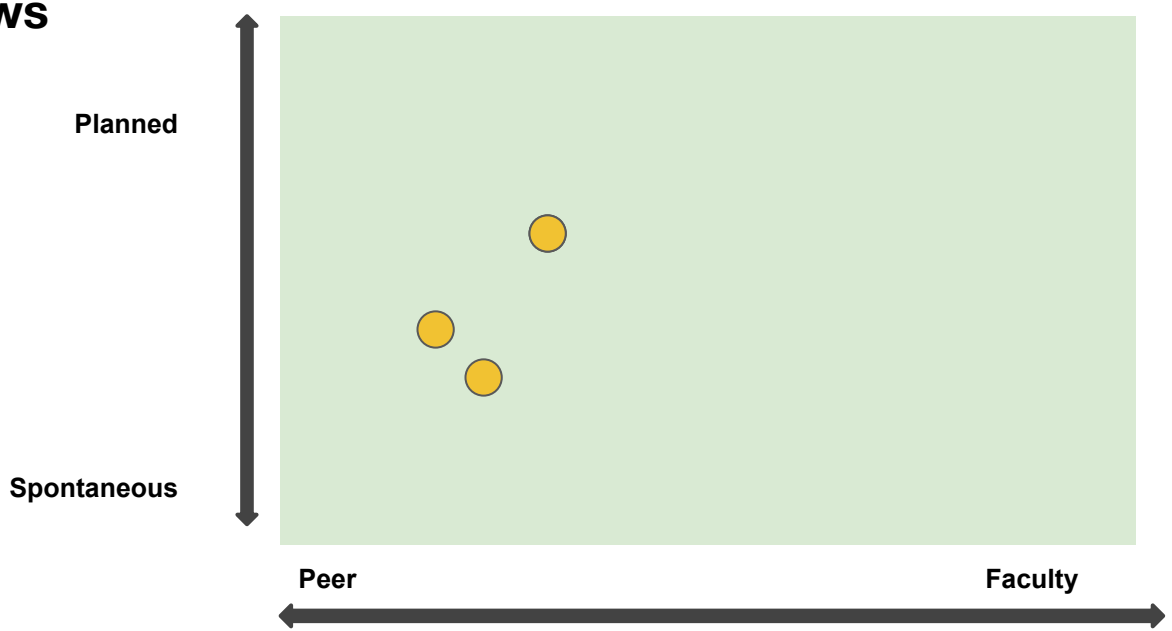
Mentorship



"For example, this semester I am taking language, so I have some students who already speak that language and they've helped me out here and there. ***And it always happens while we're running into each other****."*

AB-1 Fifth Floor: Interviews

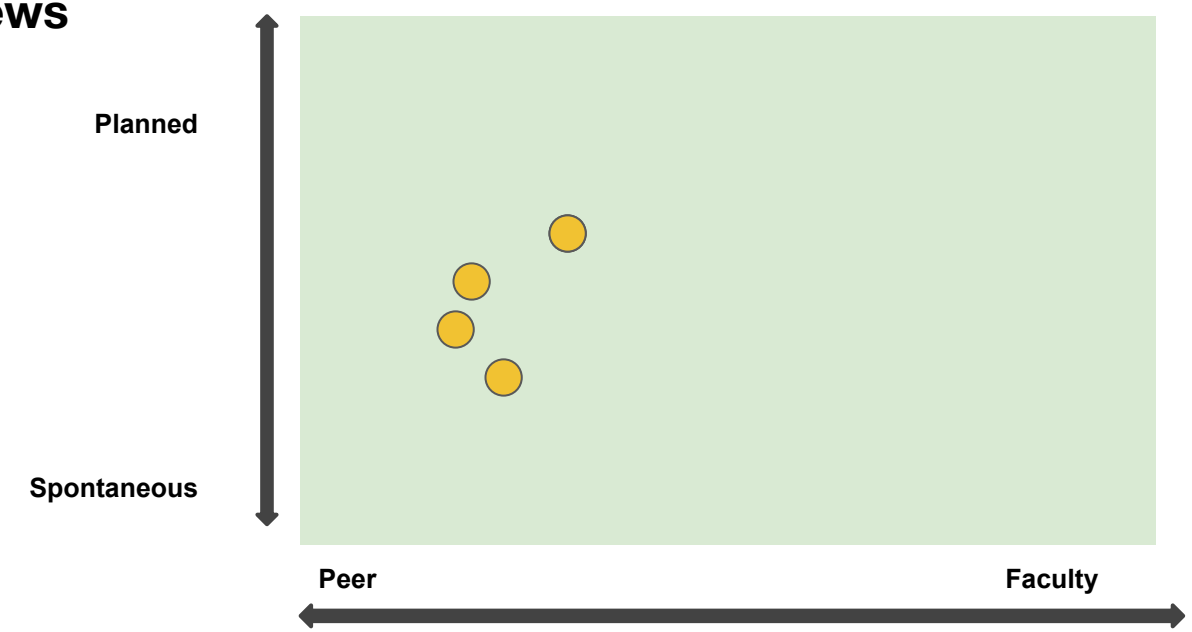
Mentorship



*"I was up here really struggling with pre-cal problems. And there was a student, she came to warm her food and she was like, "Oh, what are you doing? Pre-cal?" I am a really shy and reserved person, but, like, if you approach me, I am approachable...She was able to explain different ways of doing it...**It's a good thing I was up here, she was just warming her food."***

AB-1 Fifth Floor: Interviews

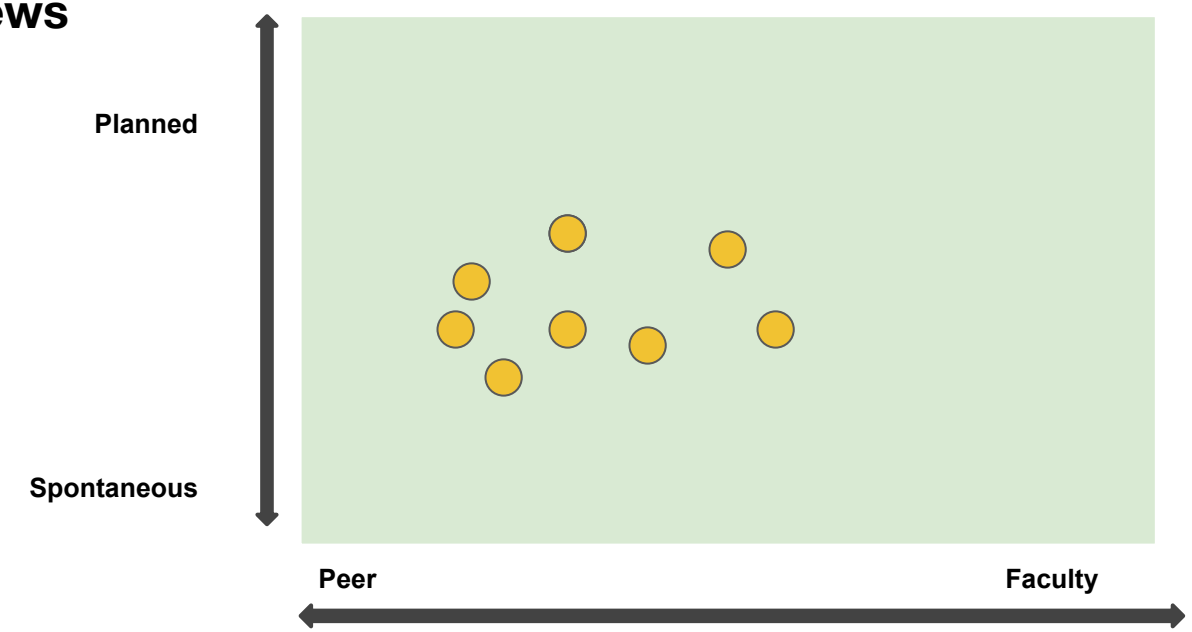
Mentorship



“Um, I think it’s more of a personal thing, but I’ve always just, you know, my mind is like if you’re a higher position, I don’t know, it’s a little. If it’s not a personal thing, I don’t. So unless I have questions, I’ll go. Or if I have a question, ***I’ll try to search another way before I reach out to a professor****…”*

AB-1 Fifth Floor: Interviews

Mentorship



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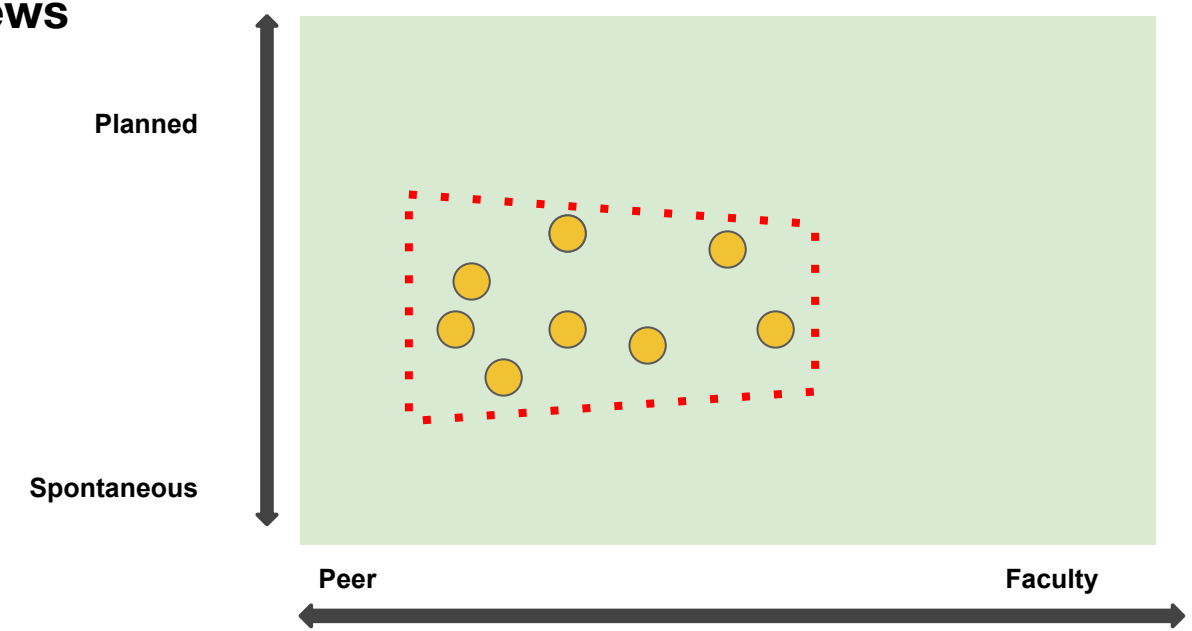

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AB-1 Fifth Floor: User Mobile Survey Results

"What did you do on the 5th floor today? (check all that apply)" (N = 47)

Response Option	Percentage
Go to class	36
Meet with a teacher	11
Study	38
Meet with a friend or classmate	38
Use the microwave	34
Use the vending machines	21
Relax or sleep	32
Visit the chemistry, physics, or other offices	9

AB-1 Fifth Floor: Observed Locations of Users and Activities

(29 observation periods, *N* = 204 observed users)

Socializing

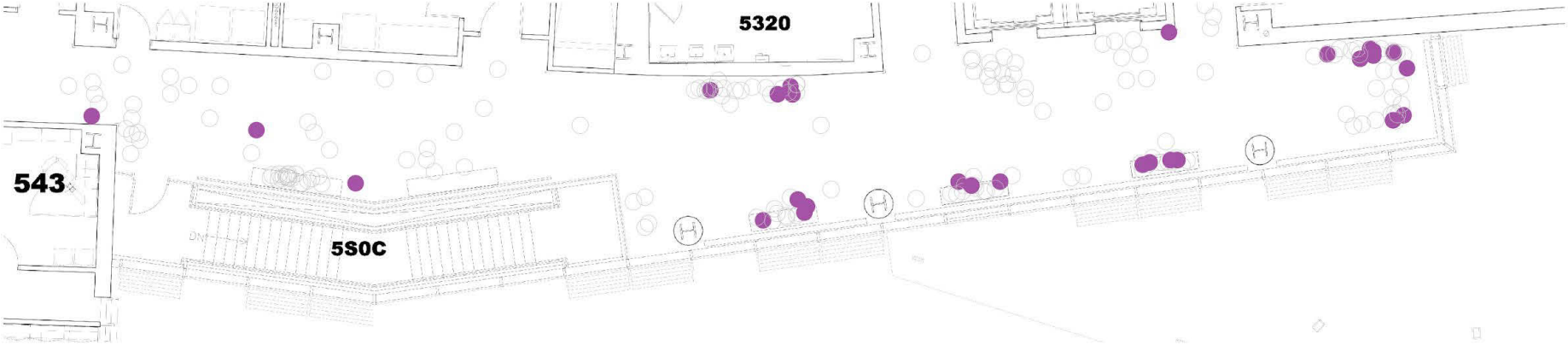
AB-1 Fifth Floor: Observed Locations of Users and Activities

(29 observation periods, *N* = 204 observed users)

Studying

AB-1 Fifth Floor: Observed Locations of Users and Activities

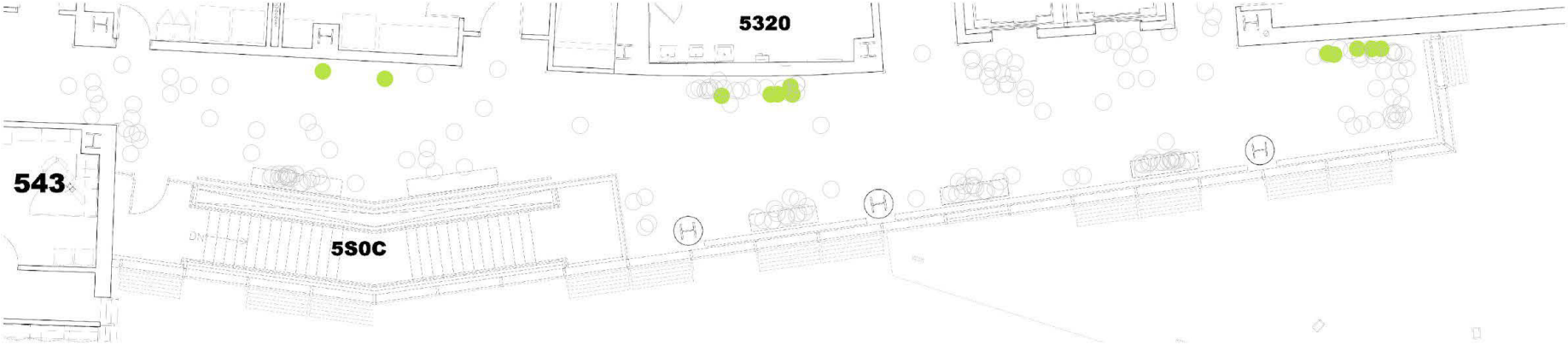
(29 observation periods, *N* = 204 observed users)



Eating

AB-1 Fifth Floor: Observed Locations of Users and Activities

(29 observation periods, *N* = 204 observed users)

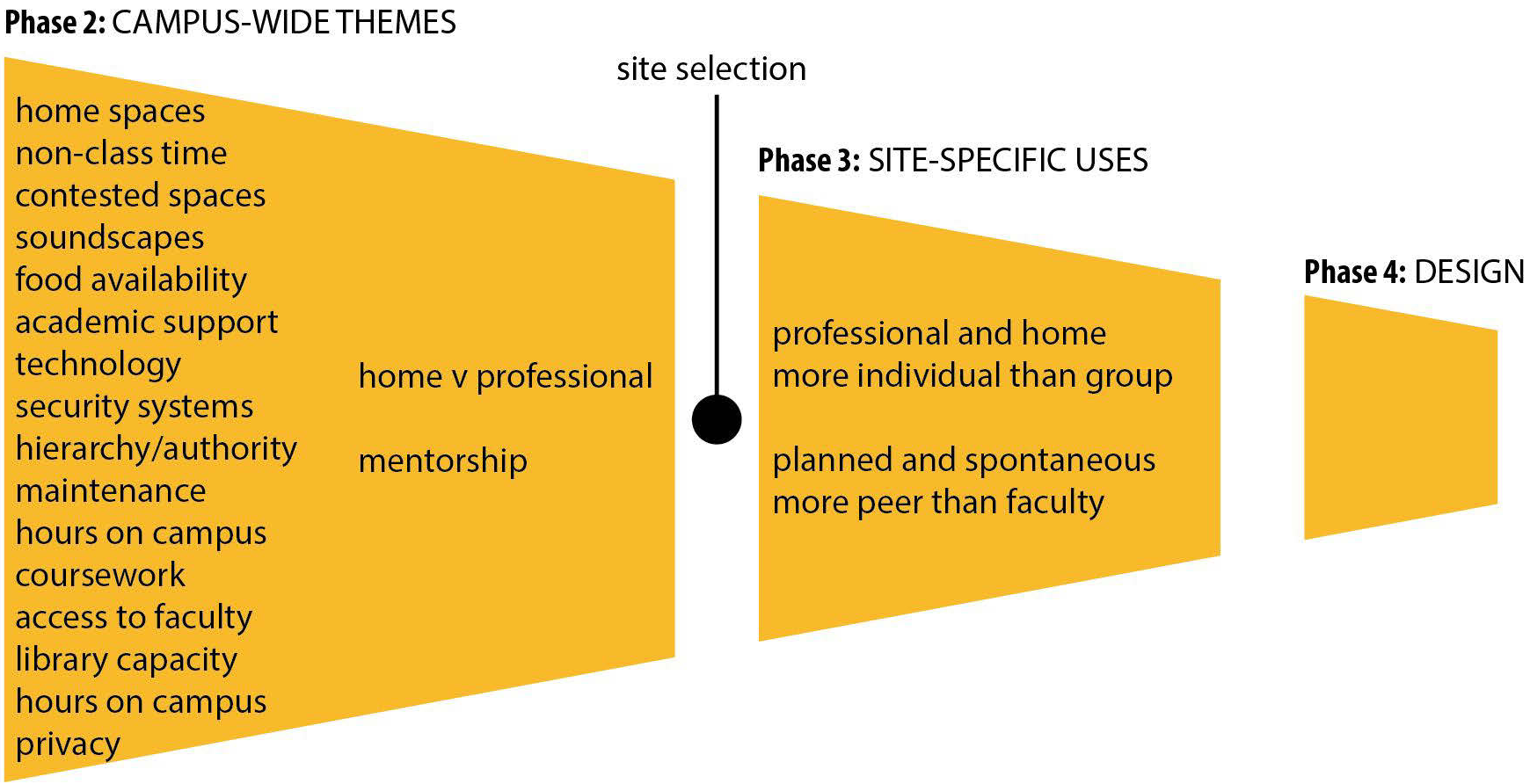


Device Charging

Phase 3: Linking Campus-Wide Dynamics to Site

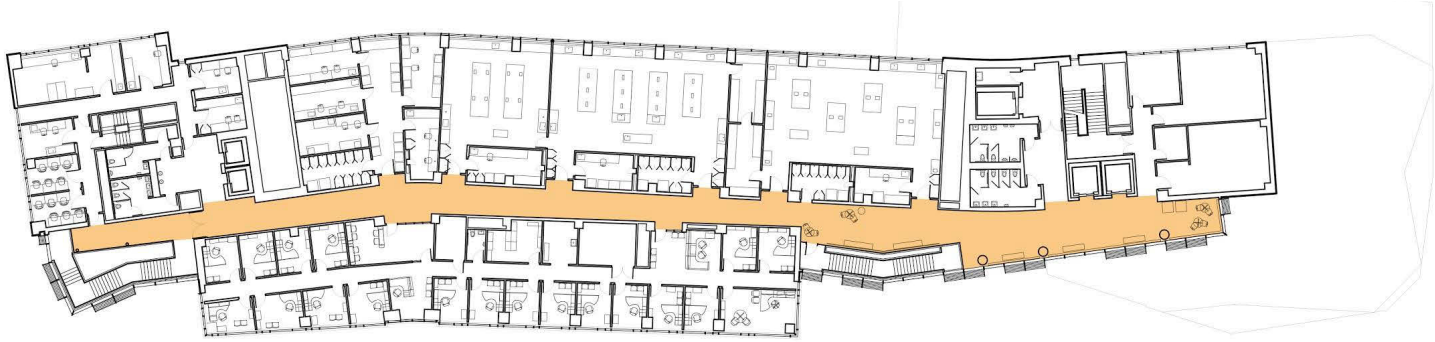
Phase 2: **Campus-wide challenges**	**Phase 3:** **Site specific spatial dynamics**
Home vs. professional setting	● Both academic and home-like qualities ● Not adequate small group study space ● Strong link to classroom and department, in student control
High stakes mentorship	● Student-centered mentoring, planned and spontaneous student-to-student help ● Faculty meeting are not spontaneous/informal
Constraints of campus	● Hybrid space compensates for low resourced campus ● Tension around appropriate use by students in corridor spaces

Phase 3: Linking Campus-Wide Dynamics to Site

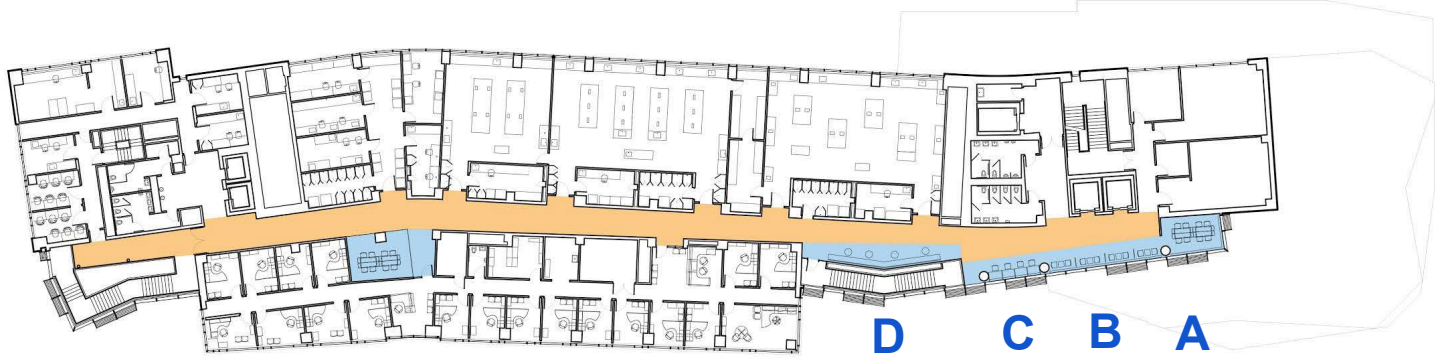


Phase 4: Design

Floor Plans



01 Existing Plan



02 Proposed Plan

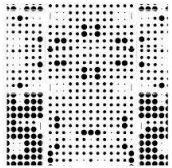
A. Small Group Work

B. One-on-One

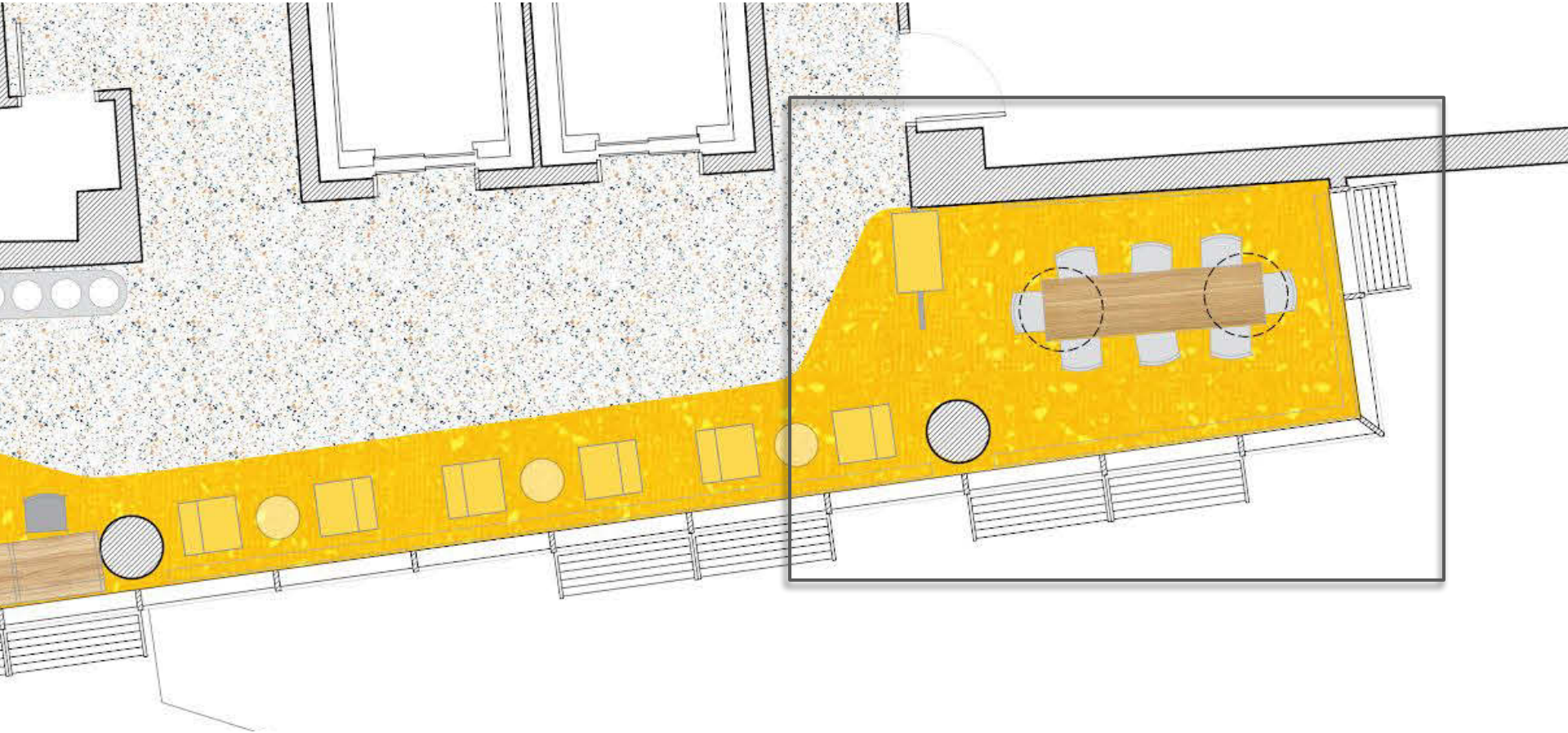
C. Individual Study

D. Informal Gathering

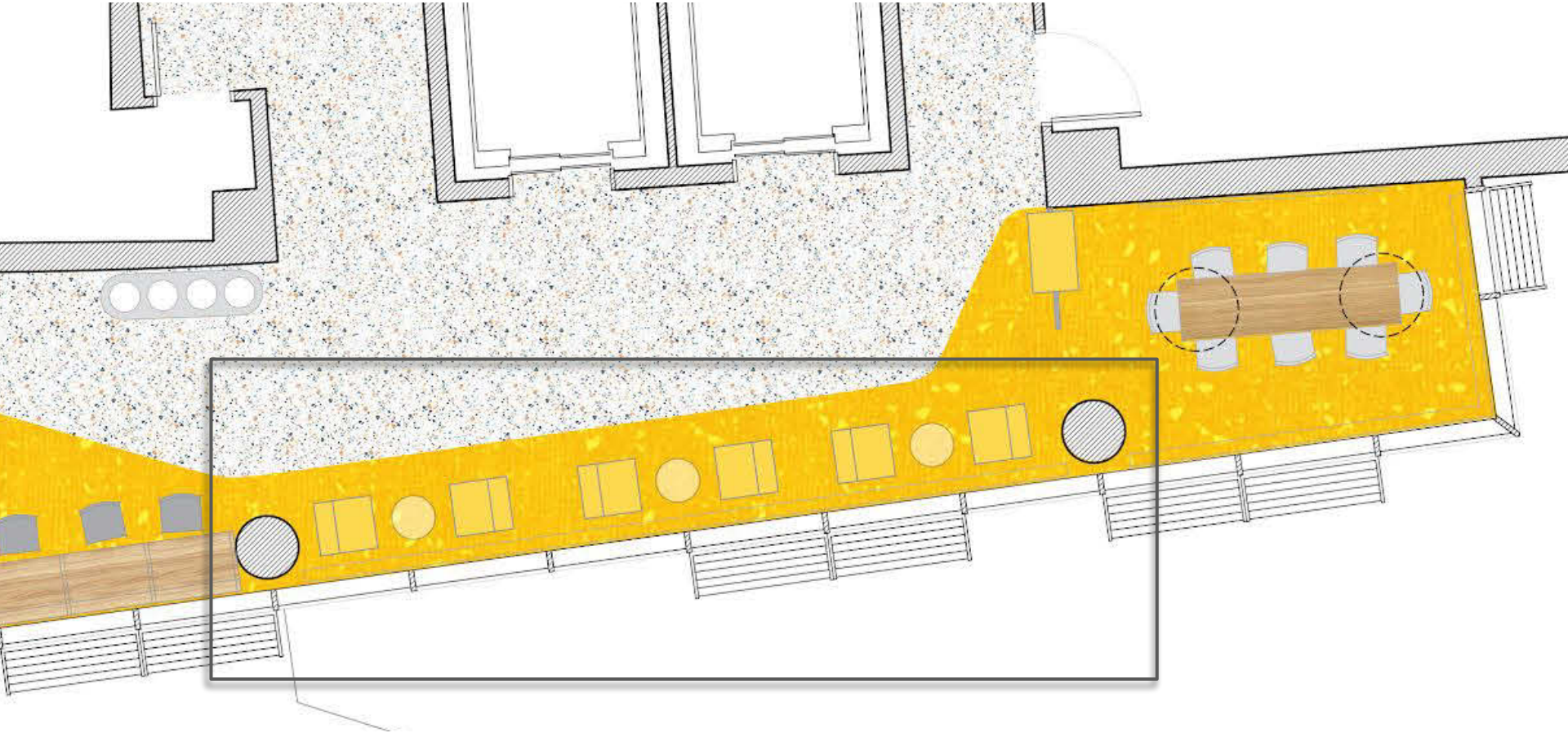
Materiality



Type A: Small Group Work

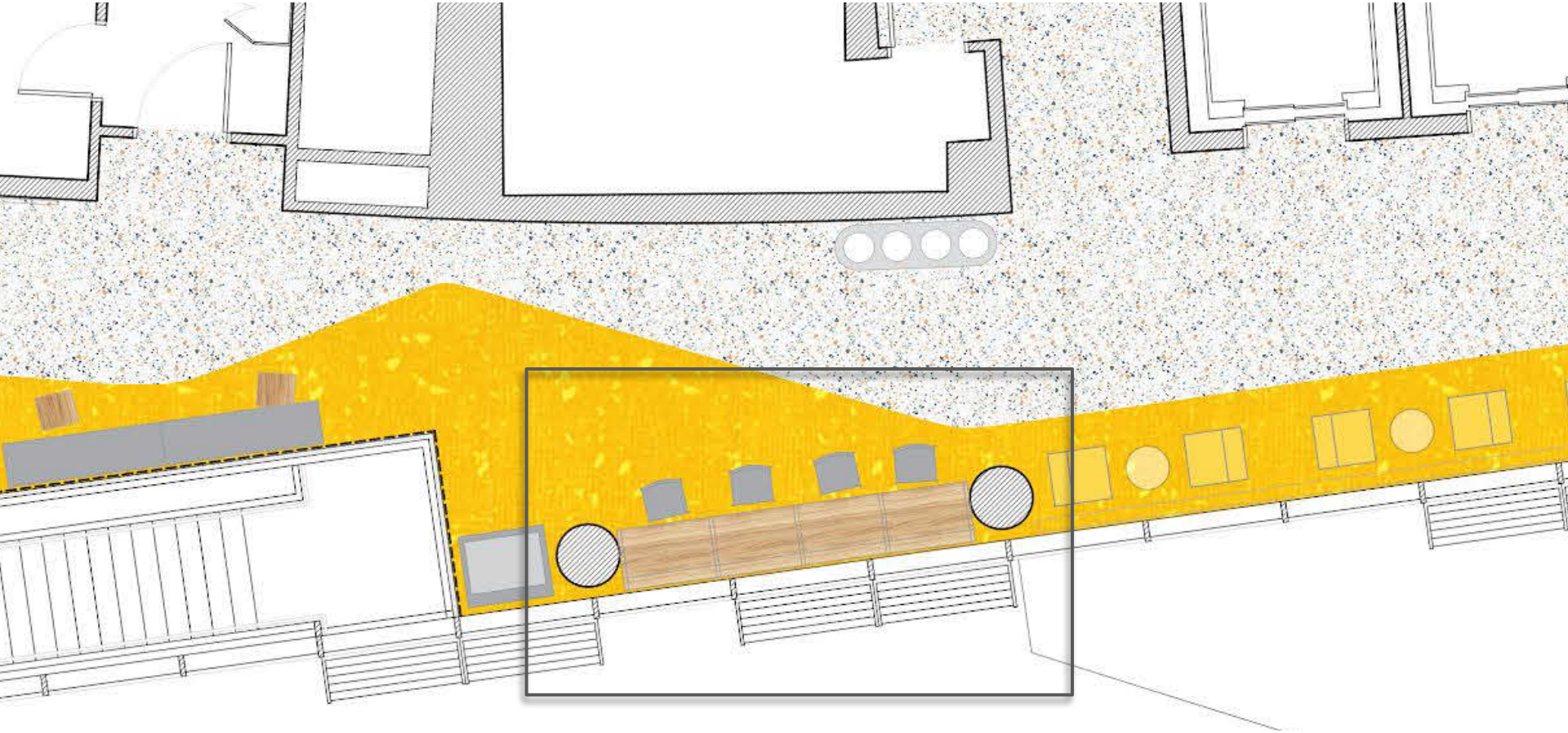


Type B: One-on-One Meetings



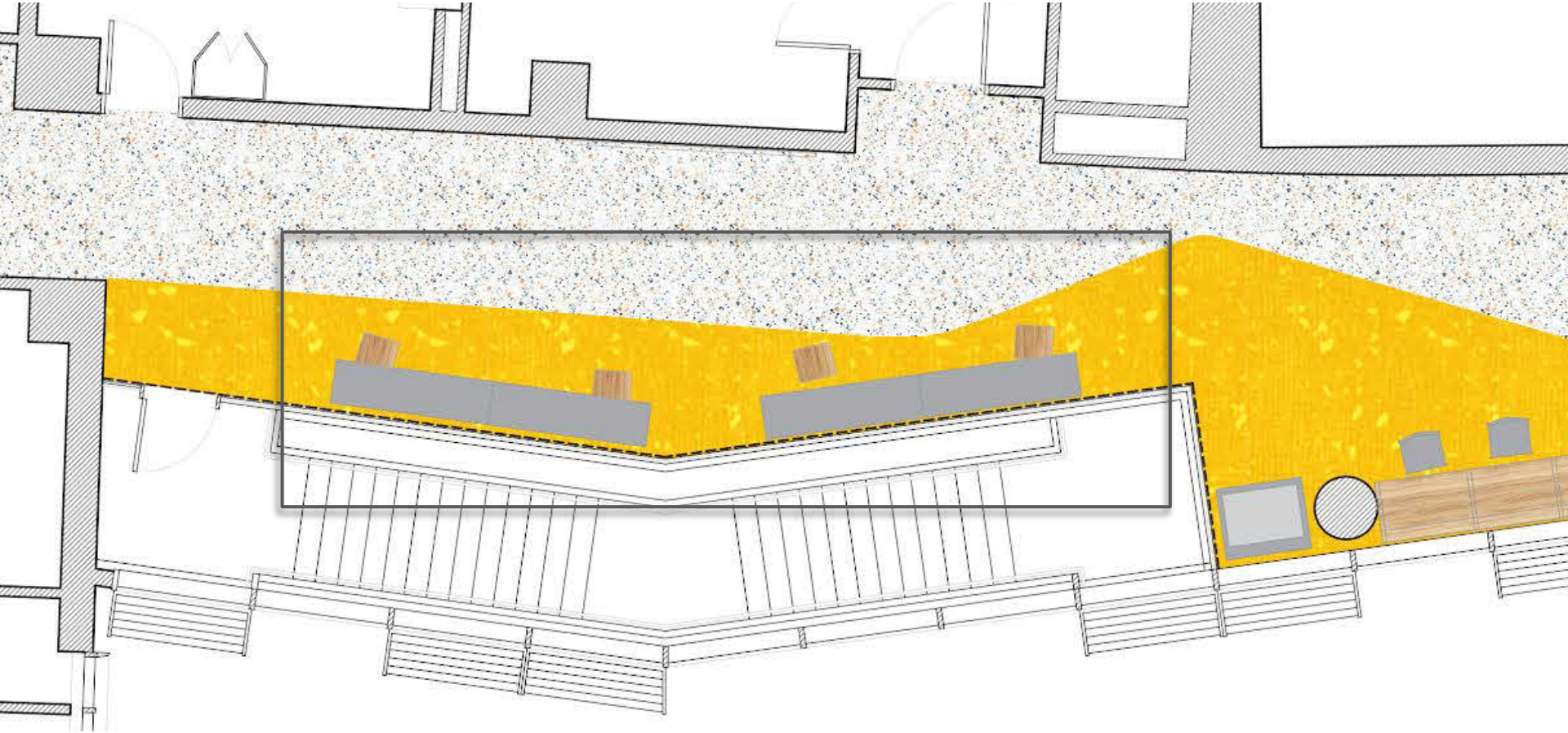
Physical, Environmental
and computer Sciences

Type C: Individual Study



4 43

Type D: Informal Gathering



Conclusions + Recommendations

Recommended Process

Discovery Phase: Campus-wide

- Form team of experts, including **student informants** and researchers
- Seek campus-wide themes through **cross-stakeholder data collection and analysis**

Spatialize Themes @ Site

- Connect campus-wide themes to **sited microculture** through interviews and surveys
- Create a **design brief**
  - This is a companion to the program document

Design

- Hold **focus groups** for design review
  - Schematic Design through 30% Design Development
  - Conduct FGs with each stakeholder group separately

Discussion and Q & A

- How can this research/approach inform your work, as practitioners, researchers, and educators?

- How do you currently account for informal spaces like this one (that might not be formally categorized) in the program for a new project? Is there a formula or are there other means for justifying? Are there some departments receiving more of this type of spaces than others?

- What ways can this approach be included in an ongoing process or set of design guidelines?

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