

# Navigating Constraints and Building Support for an Interactive Lecture Hall

Bob Henshaw, Center for Faculty Excellence



THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL

How can we make a lecture hall feel more like a seminar room?

[pollev.com/uncccfe](http://pollev.com/uncccfe)

Which of the following best describes your institution's current status with respect to activating active learning classrooms (ALCs)?

My institution hasn't begun creating ALCs.

My institution has begun creating ALCs, but mostly mid-sized or smaller classrooms.

My institution has begun creating ALCs, including at least one lecture hall.

**Start the presentation to activate live content**

If you see this message in presentation mode, install the add-in or get help at [PollEv.com/app](https://PollEv.com/app)

0%

Total Results: 0

# About UNC-Chapel Hill



- Research I Institution
- 18,000 undergraduate students
- 11,000 graduate students
- 350 classrooms

# Classroom Policy Steering Committee

Office of the Provost

Facilities Services

Center for Faculty Excellence

Student Government

University Registrar

College of Arts and Sciences

Student Affairs

Disability Services

ITS-Teaching and Learning

## 28-seat classroom with tablet arm chairs on casters



# 48-seat swivel-seat classroom



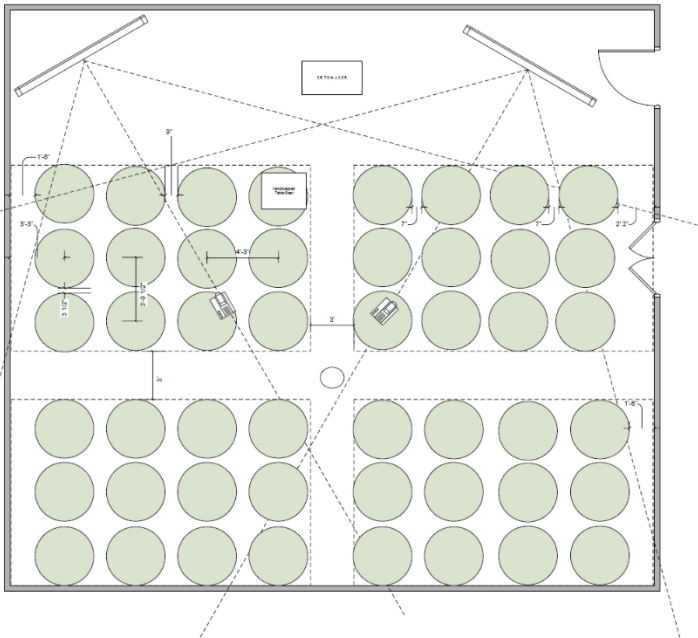
NOTE:

In each quadrant, there is a 17' 10" wide x 11' 11" deep rectangle.

Seats along the left wall are 1' 6" from the wall, or 20" from the center of the first column of seats. Horizontally, they are spaced 2' apart, or 2' 8" from center to center. Vertically, they are 2' 2" apart, or 42" from center to center.

Seats in the right corner quadrant are closer together due to the location of the door. They are only 1' 10" apart, or 20" from center to center, and 2' 1" from the right side wall.

Seats in the lower right quadrant can be the same as the left side quadrant, but the restor fringe.





# 45-seat studio classroom using round tables of nine





## Interactive classroom design using swivel seats (311 Peabody) Spring 2011 Summary of Findings

Prepared by the Center for Faculty Excellence  
August 2011

### **BACKGROUND**

The importance of student interaction and collaboration in the classroom is well-established in the educational research literature and is promoted in the University's own Academic Plan. Yet, most college classroom designs emphasize the presentation of information from instructor to students and use seating configurations that discourage direct eye contact, interaction between students, and ease of movement throughout the classroom. This is especially problematic in mid-sized classrooms (25-49 students), where rearranging furniture during class is often time-consuming and disruptive. Mid-sized classrooms account for almost half of the University's inventory of general purpose classrooms.

In spring 2010, the Center for Faculty Excellence, ITS-Teaching and Learning, and the School of Education (SOE) piloted an experimental classroom design that facilitates movement between lecture, small group activities, and class discussion. The project was undertaken with the cooperation and support of the Provost's Office, ITS, the University Registrar, and the Classroom Policy Steering Committee. The 48-seat room in 311 Peabody uses stationary desks that swivel 360 degrees and are configured in four clusters (Figure 1). Additional information on the design is available at: [http://cfe.unc.edu/clients/311Peabody\\_design\\_summ.pdf](http://cfe.unc.edu/clients/311Peabody_design_summ.pdf)

## FALL 2010 FINDINGS

Students and instructors in two of the SOE courses, a Philosophy recitation section, and the SI sessions agreed to complete brief surveys at the end of the fall semester. The two SOE courses had enrollments of seven and twelve students, the recitation section enrolled 25 students, and the SI sessions saw regular attendance of 30-48 students.

Students were asked open-ended questions about what advantages and disadvantages, if any, that they realized using the swivel desks. Their responses corresponded to seven primary themes. The responses for students in the mid-sized sections are listed along with response frequency in Table 1. Forty-one students completed the survey.

<b>Advantages N=41</b>	<b>Disadvantages N=41</b>
Eye contact: 20	Desk tablet too small: 11
Easy to get in groups: 12	Distracting: 11
Easy to see boards/displays: 11	
Fidgeting helps me stay focused: 7	
Comfort: 2	

**Table 1 – Student responses in mid-sized undergraduate sections**

The following student comments are representative of those collected:

**“It was nice to be able to focus my attention on someone when they were talking instead of looking straight ahead the whole time.”**

**“Easier to interact with classmates - when splitting into groups to discuss you save time by not having to get up and move.”**

**“I like that it allows you to face everyone in the classroom. I think it contributes to a more collaborative atmosphere. It also evokes the sense that there is no particular front of the room and so the focus merely goes to whoever is speaking.....”**



Students facing rear of classroom



Students working in groups

# Classroom Innovation Committee

## Faculty survey on classrooms – Spring 2012

- A total of 489 (**51.3%**) out of 953 **faculty members** invited to participate completed the classroom survey.

# Classrooms Survey Instrument

Q. For the course you teach most often.....

Instructional methods

Mobility in the classroom

Classroom technologies

Policies on student technology use

Professional development preferences

Open-ended prompts

# Faculty Survey on Classrooms



Q. For the course you teach most often, how well would a **classroom with traditional tablet arm chairs** work for your preferred method of teaching?

- Good fit with my preferred method of teaching
- Limits my preferred method of teaching
- Does not work at all for my preferred method of teaching
- I would need more information to make a determination about whether or not this classroom is a good fit with my preferred method of teaching





# Faculty Survey on Classrooms



Q. For the course you teach most often, how well would a **classroom with tablet arm chairs on casters** work for your preferred method of teaching?

- Good fit with my preferred method of teaching
- Limits my preferred method of teaching
- Does not work at all for my preferred method of teaching
- I would need more information to make a determination about whether or not this classroom is a good fit with my preferred method of teaching

October, 2012

## **2012 Classrooms Survey Executive Summary of Findings**



**UNC**  
CENTER FOR  
FACULTY EXCELLENCE

### **Background**

During the Spring 2012 semester the Classroom Policy and Steering Committee (CPSC) solicited the input of faculty members on a variety of issues related to the University's general purpose classrooms. The goals of the faculty outreach effort were to 1) collect faculty suggestions for improving classrooms, 2) identify inconsistencies in access to adequate classroom facilities, 3) increase faculty awareness about classroom constraints and opportunities, and 4) identify potential areas for innovation.

Two online surveys were developed, one for instructors and one for individuals with primary responsibility for scheduling classrooms on behalf of individual academic units.

A total of 489 (51.3%) out of 953 faculty members invited to participate completed the



# Survey Findings

**Most faculty members are open to alternative classroom furniture, designs, and technologies that support their preferred method of teaching.**

- 64% of faculty members said that tablet arm chairs with casters (piloted Spring 2012) would be a good fit with their preferred method of teaching.
- Nearly 50% of faculty members expressed an interest in learning more about classroom technologies such as class response systems and the ability to control podium computers with a smart phone or tablet (e.g. iPad)

*“If I were in rooms in which furniture could be moved, I would be more inclined to try group discussions and other activities that I presently do not do a lot with.”*

(Professor, Biology)

# Survey Findings

**Most faculty members are open to alternative classroom furniture, designs, and technologies that support their preferred method of teaching.**

- 64% of faculty members said that tablet arm chairs with casters (piloted Spring 2012) would be a good fit with their preferred method of teaching.
- Nearly 50% of faculty members expressed an interest in learning more about classroom technologies such as class response systems and the ability to control podium computers with a smart phone or tablet (e.g. iPad)

*“If I were in rooms in which furniture could be moved, I would be more inclined to try group discussions and other activities that I presently do not do a lot with.”*

(Professor, Biology)

# Survey Findings

**Most faculty members are open to alternative classroom furniture, designs, and technologies that support their preferred method of teaching.**

- 64% of faculty members said that tablet arm chairs with casters (piloted Spring 2012) would be a good fit with their preferred method of teaching.
- Nearly 50% of faculty members expressed an interest in learning more about classroom technologies such as class response systems and the ability to control podium computers with a smart phone or tablet (e.g. iPad)

*“If I were in rooms in which furniture could be moved, I would be more inclined to try group discussions and other activities that I presently do not do a lot with.”*

(Professor, Biology)

# Classroom characteristics important to faculty members

Ability to move around the classroom

Ability to move furniture

Access to electrical outlets

Classroom technology

Days of the week it is available

Proximity to office

Time of the day it is available

Type of furniture

Whiteboards vs. blackboards

Wireless access for instructors

Wireless access for students

# Characteristics ranked by importance

## Identified as *Very Important*

1. Classroom technology	90%
2. Ability to move around the classroom	62%
3. Wireless access for instructors	53%
4. Time of the day	49%
5. Days of the week	48%
6. Ability to move furniture	46%
7. Type of furniture	45%
8. Wireless access for students	33%
9. Whiteboards vs. blackboards	29%
10. Proximity to office	28%
11. Access to electrical outlets	20%



# Faculty Committee Recommendations

- **Recommendation #4:** Ensure that faculty members with knowledge about effective teaching practice are involved in the University's building/classroom design process.
- **Recommendation #8:** Develop a renovation plan for an interactive lecture hall.
- **Recommendation #9:** Begin installing tablet arm chairs on casters in smaller classrooms.
- **Recommendation #11:** Outfit remainder of GPCs with standard classroom technology.



# Faculty Committee Recommendations

- **Recommendation #4:** Ensure that faculty members with knowledge about effective teaching practice are involved in the University's building/classroom design process.
- **Recommendation #8:** Develop a renovation plan for an interactive lecture hall.
- **Recommendation #9:** Begin installing tablet arm chairs on casters in smaller classrooms.
- **Recommendation #11:** Outfit remainder of GPCs with standard classroom technology.









Robert H. Bruininks Hall - University of Minnesota

**Greenlaw 101 - Fall 2014**



# Classroom Design Goals

To facilitate:

Student interaction

Instructor movement throughout the room

Transitions between instructional modes

*Flexibility configuring furniture*

*Promote sense of community*





**Steelcase**  
Education Solutions





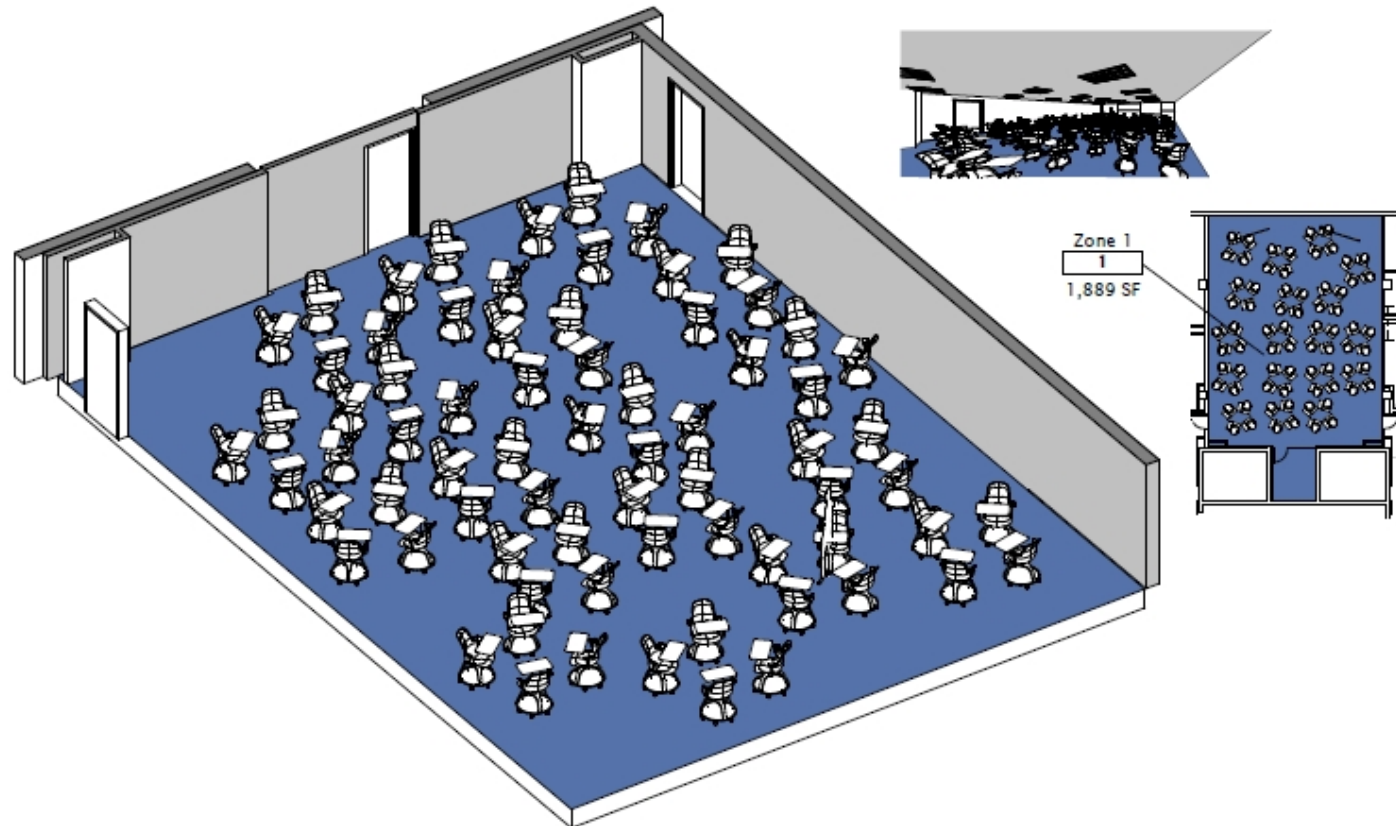


THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL



**STOP** BEHAVIOR COMPLY  
WATCH WAIT Alert





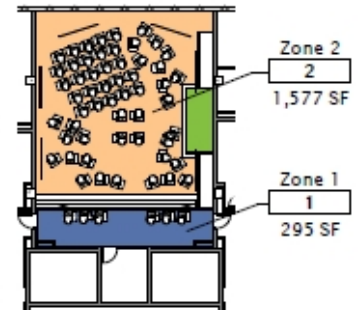
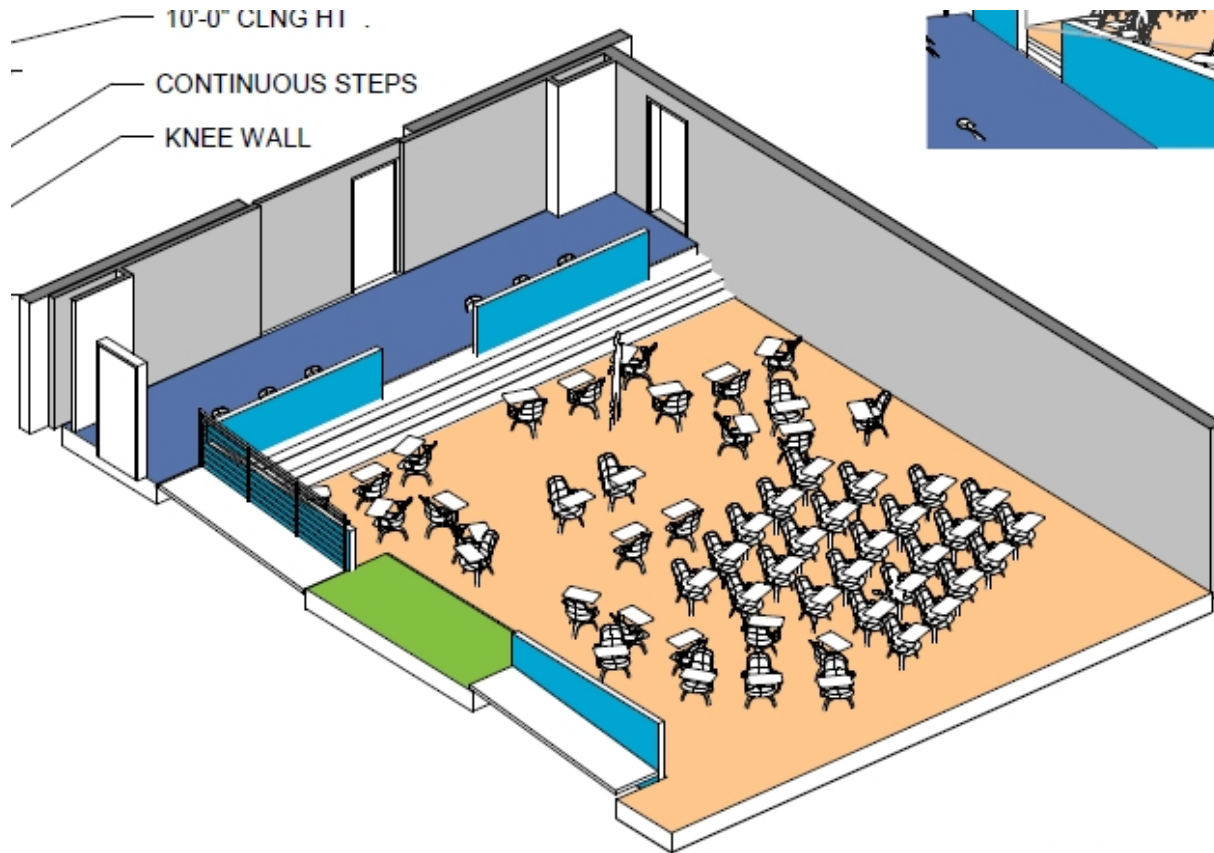
## D.1 "FLATLAND"

**ROUGHTON ■ NICKELSON ■ DE LUCA**  
**Architects, PA**

© 2009 Roughton Nickelson De Luca Architects, PA. These drawings and specifications are instruments of service and do not constitute the contract. Their use is restricted to the original site for which they were prepared and publication thereof is expressly limited to such use. Hence, reproduction, or publication by any method, in whole or in part, is prohibited.

Date 11/20ZF/14

3608 University Drive, Suite 204  
 Durham, NC 27707  
 T 919.490.1266 F 919.490.1396  
 www.RNDpa.com



## C.1 "BLEACHER"

ROUGHTON • NICKELSON • DE LUCA  
Architects, PA

© 2008 Roughton Nickelson De Luca Architects, PA. These drawings and specifications are instruments of service and do not remain the property of the architect. Their use is restricted to the original site for which they were prepared and publication thereof is expressly limited to such use. Hence, reproduction, or publication by any method, in whole or in part, is prohibited.

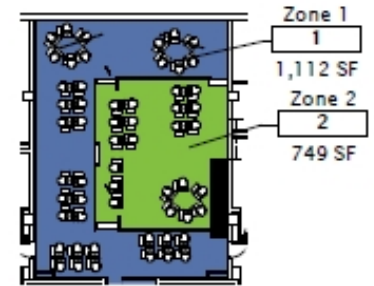
Date 11/20/14

3608 University Drive, Suite 204  
Durham, NC 27707  
T 919.490.1266 F 919.490.1396  
www.RNDpa.com

— RAMP DOWN TYPICAL.

CONTINUOUS STEP

— KNEE WALL



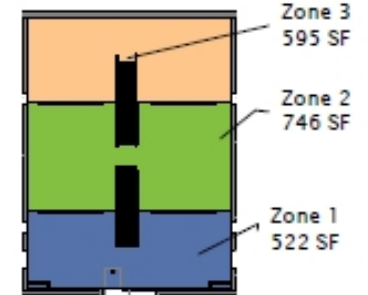
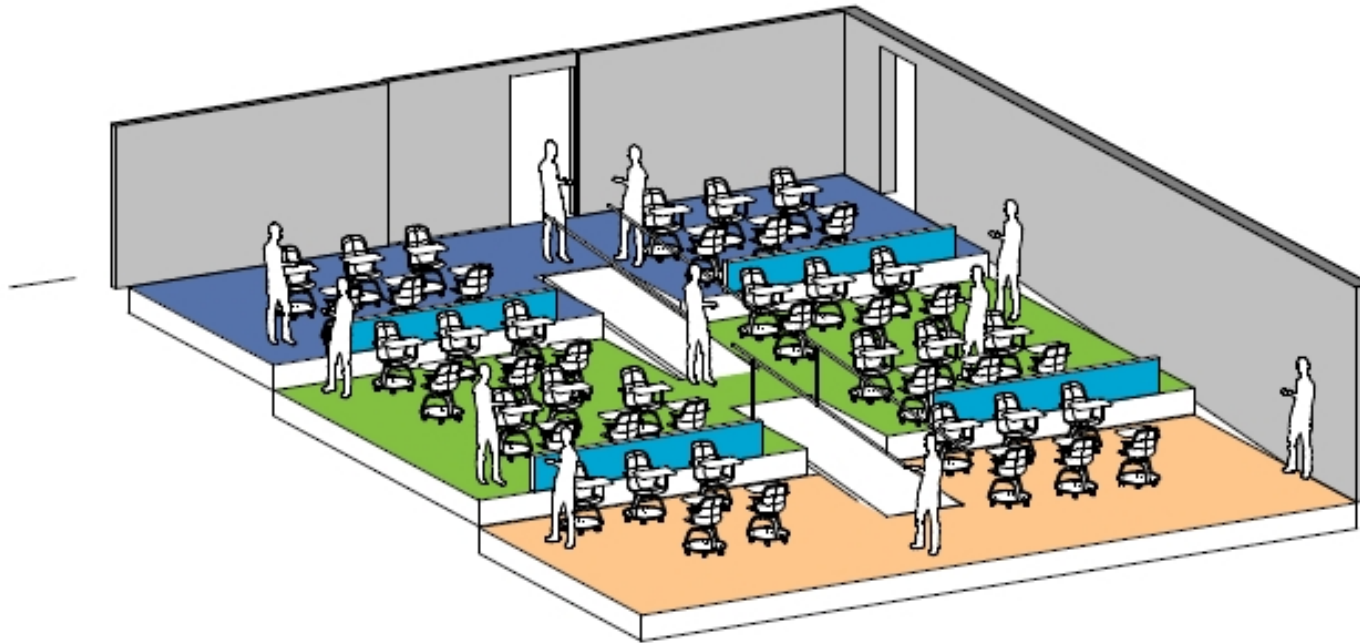
## B.1 "THE PIT"

ROUGHTON • NICKELSON • DE LUCA  
Architects, PA

© 2014 Roughton Nickelson De Luca Architects, PA. These drawings and specifications are instruments of service and as such remain the property of the architect. Their use is restricted to the original site for which they were prepared and publication thereof is expressly limited to such use. Reverse, reproduction, or publication by any method, in whole or in part, is prohibited.

Date 11/20/14

3608 University Drive, Suite 204  
Durham, NC 27707  
T 919.490.1266 F 919.490.1396  
www.RNDpa.com



## "MIDDLE RAMP"

**ROUGHTON ■ NICKELSON ■ DE LUCA**  
Architects, PA

© 2009 Roughton Nickelson De Luca Architects, PA. These drawings and specifications are instruments of service and do not constitute the contract of the architect. Their use is restricted to the original site for which they were prepared and publication thereof is expressly limited to such use. No use, reproduction, or publication by any method, in whole or in part, is permitted.

Date 11/17/14

3608 University Drive, Suite 204  
Durham, NC 27707  
T 919.490.1266 F 919.490.1396  
www.RNDpa.com









Internet Explorer



Acrobat Reader DC



Mozilla Firefox



iTunes



Google Chrome



QuickTime Player



Word 2016



RealTimes (RealPlayer)



Excel 2016



VLC media player



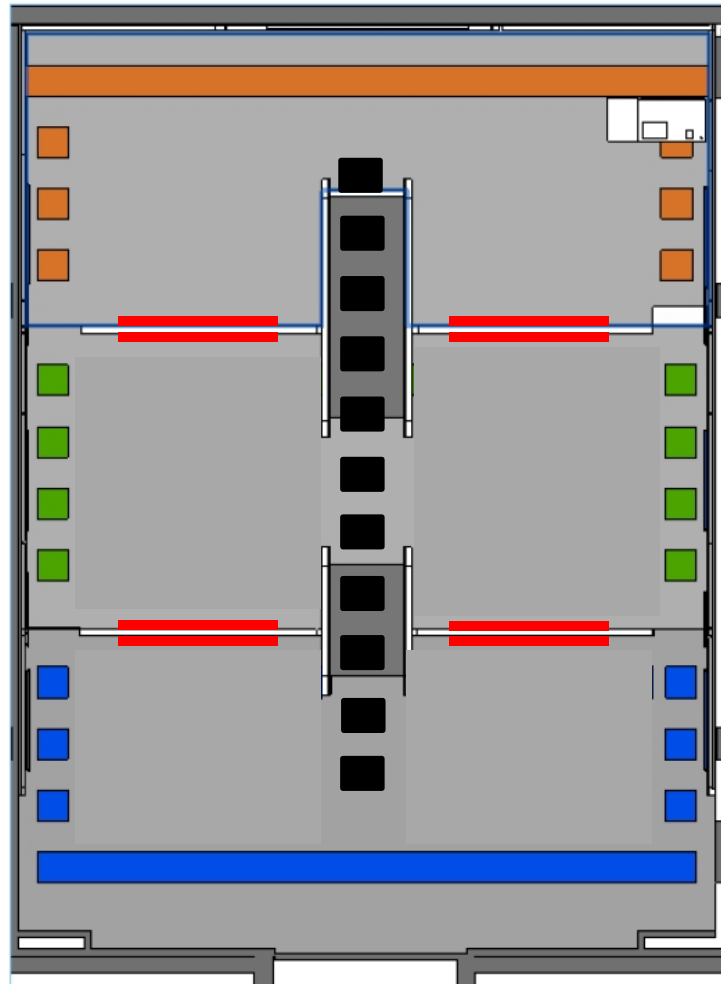
PowerPoint 2016



Google Earth



12:38 PM 1/20/2016

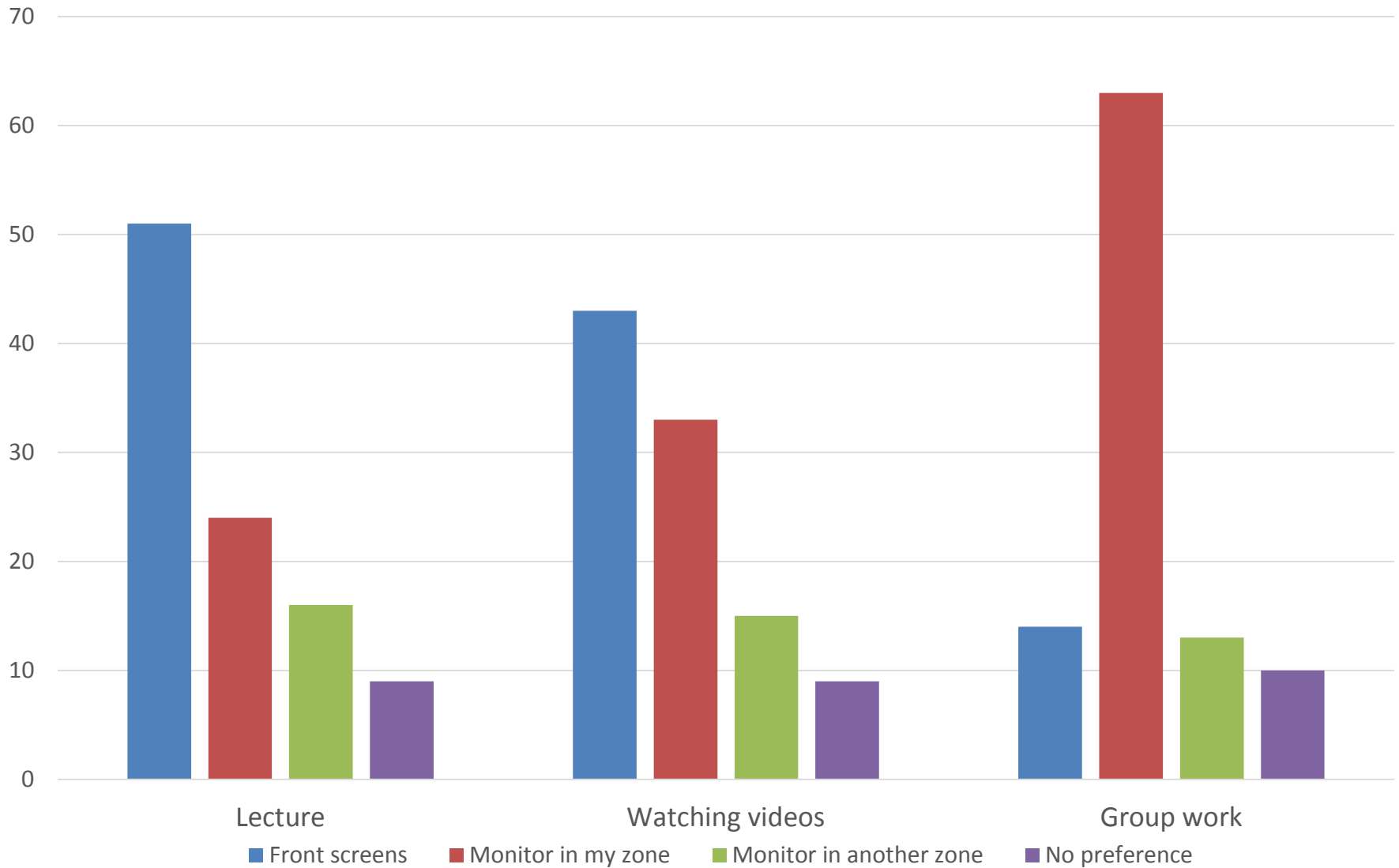


Power  
outlets (48)





# Findings: Monitor preference by activity type



Note: Preliminary data; *unpublished*.





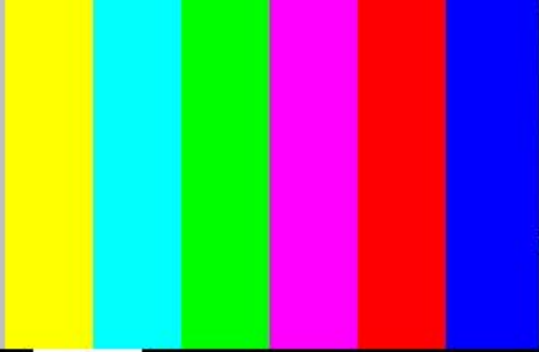
1P1-22











**Podium Sources**

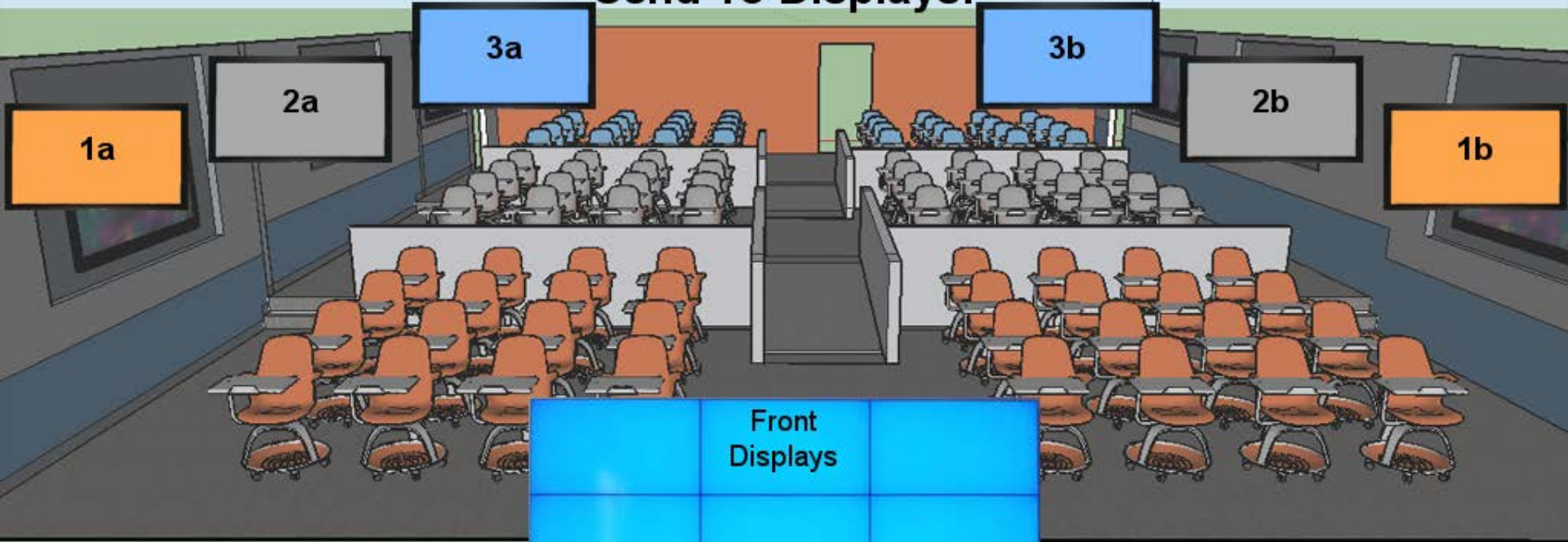


**Student Laptops Left**



**Student Laptops Right**

**Send To Displays:**









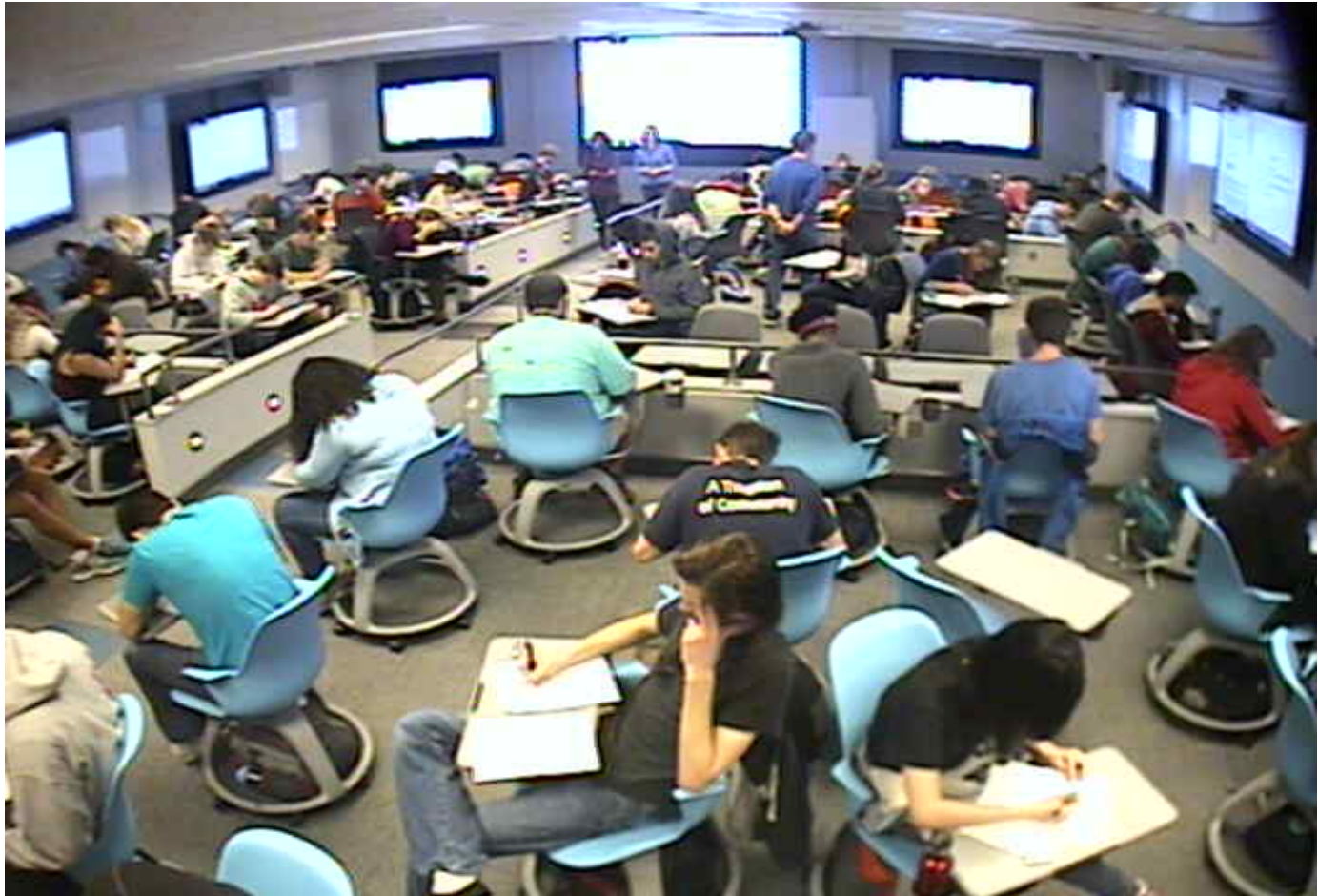












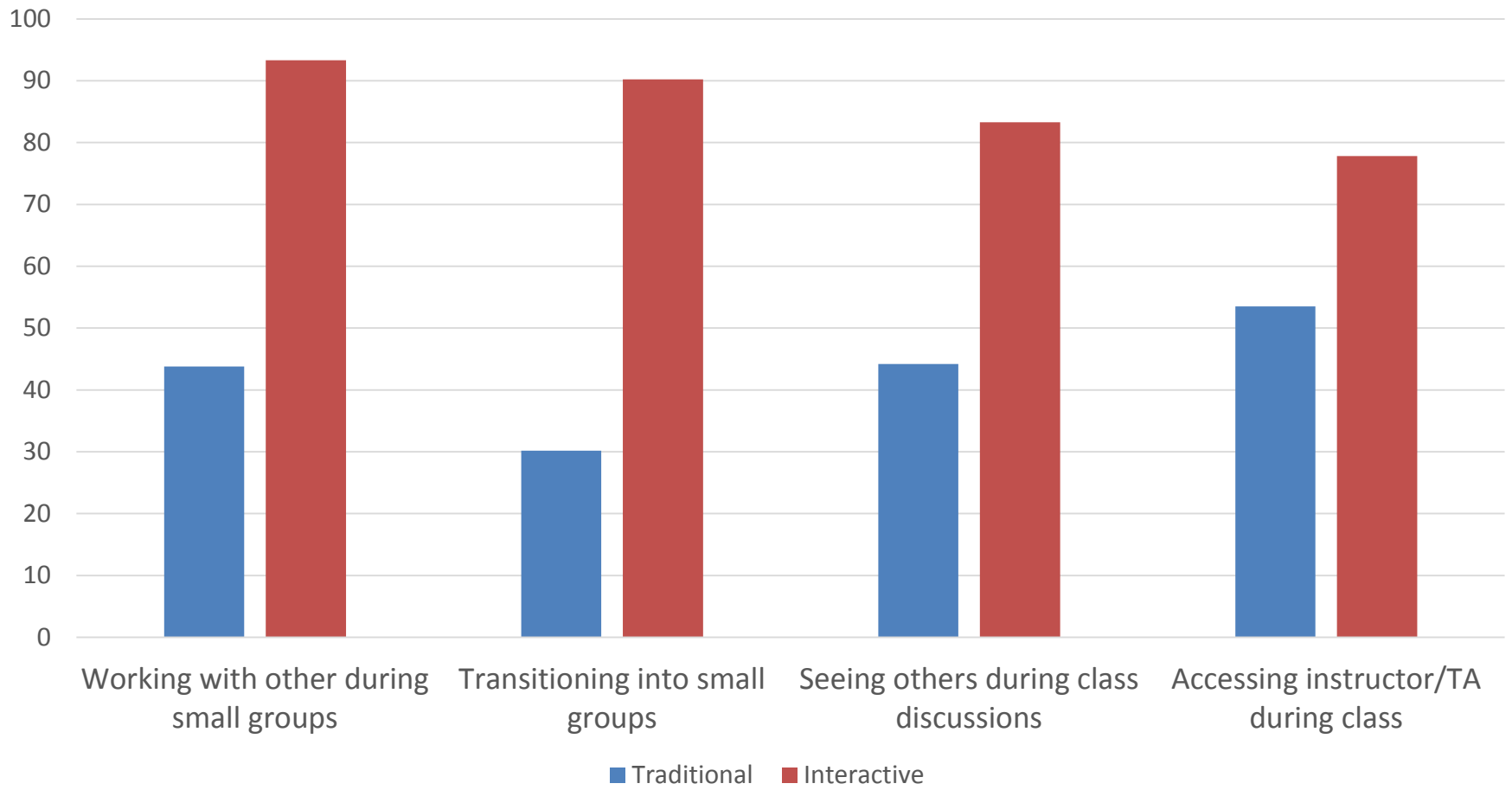
“Greenlaw 101 allowed me to do a simulation, have the students get into their teams. They could move their seats around, move themselves around, make decisions, talk about team strategy.....you just move your seat and everybody’s meeting that way. That couldn’t have happened in the lecture hall.”

Associate Professor, Public Policy



# Comparison: Ease of Classroom Tasks

% Students answering *Very easy* or *Easy*



Note: Preliminary data; *unpublished*.

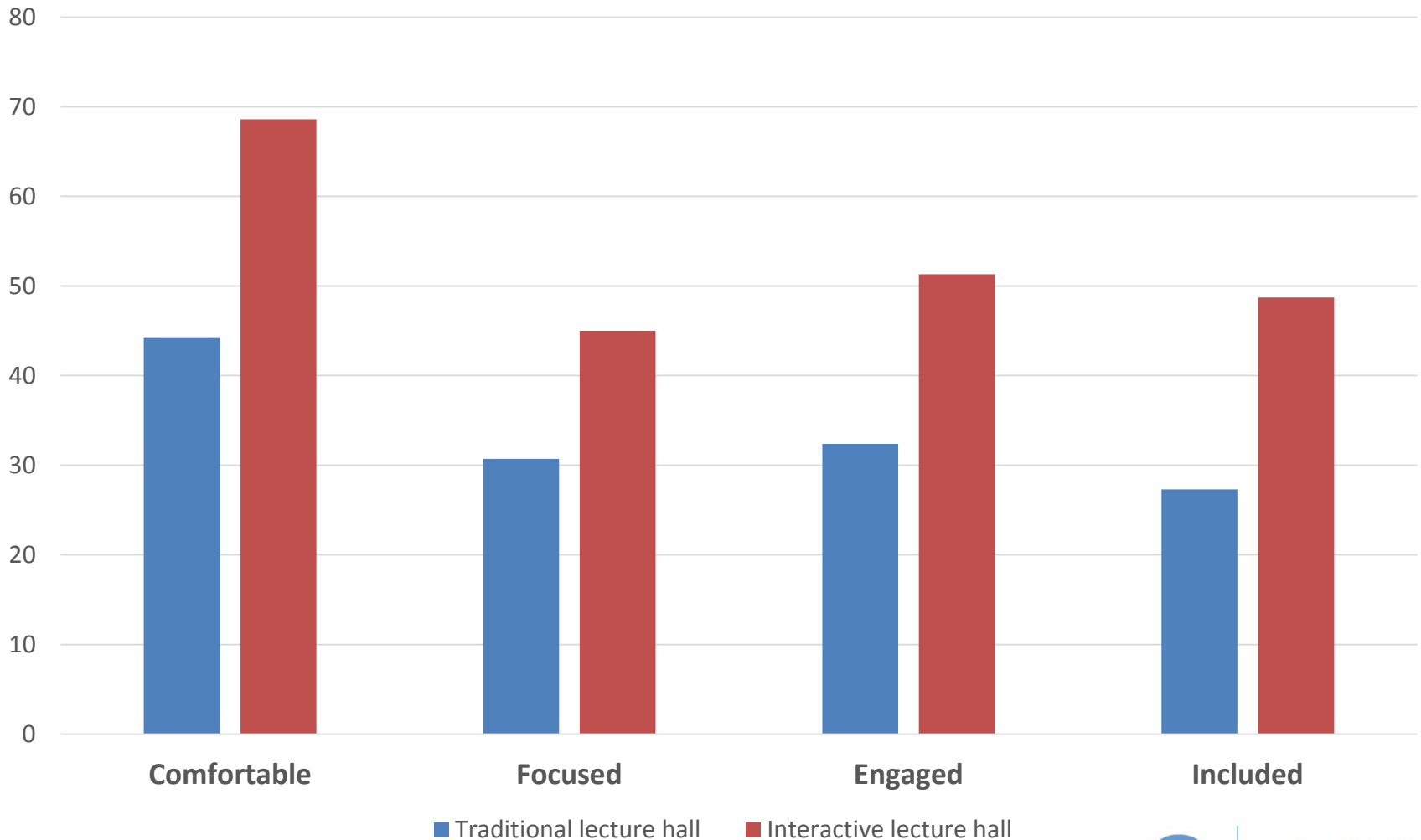
# Student survey question

**In this classroom, how often have you experienced the following feelings?**

**Comfortable/Focused/Engaged/Included**

- Often**
- Some**
- Only a little**
- Not at all**

# Comparison: Students experiencing these feelings *often* in the classroom



Note: Preliminary data; *unpublished*.



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

# Student comments: Sense of community

“It feels more intimate and I feel like I actually know other people in such a big class.”

“I don't feel as distanced from the professor or the students as I would in another lecture hall.”

“Big classes are just not great in general for contributing to learning. The zones are good though because you have some sense of belonging.”











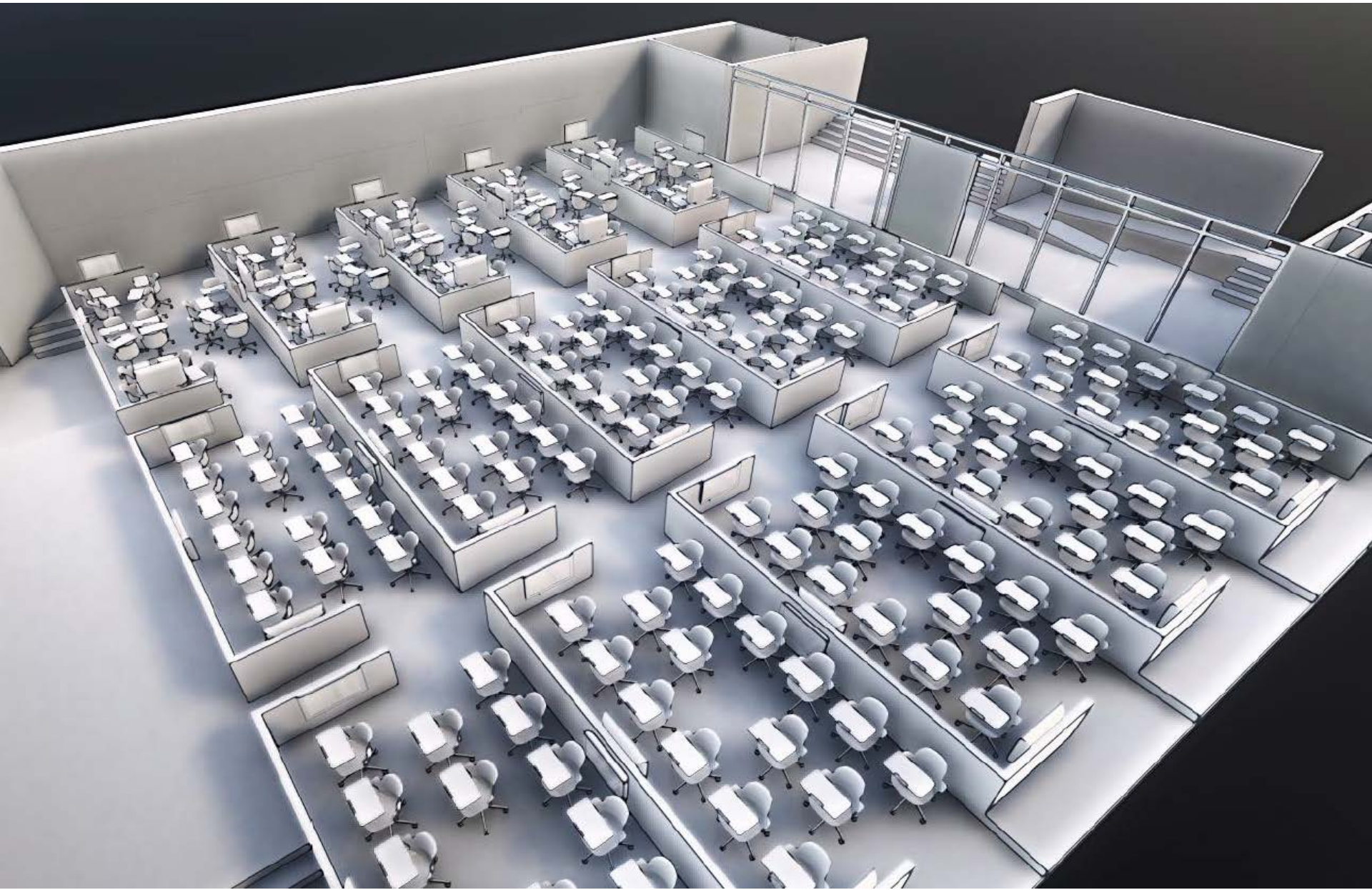
Fall 2017 Semester Schedule		Course
	<i>MWF: 8-8:50am</i>	
<b>Emily Baraganwath, Classics</b>	<b>MWF: 9:05-9:55am</b>	<b>CLAS 121</b>
<b>J.D. DeFreese, Exercise and Sports Science</b>	<b>MWF: 10:10-11am</b>	<b>EXSS</b>
<b>Karl Castillo, Marine Sciences</b>	<b>MWF: 11:15-12:05pm</b>	<b>MASC 101.001</b>
<b>Sharon Holland, American Studies</b>	<i>MWF: 12:20-1:10pm</i>	<i>AMST 101</i>
<b>Diego Riveros-Iregui, Geography</b>	<b>MWF: 1:25-2:15pm</b>	<b>GEOG 110.001</b>
<b>Elizabeth Havice, Geography</b>	<b>MWF: 2:30-3:20pm</b>	<b>GEOG 130.001</b>
<b>Devin Hubbard, Biomedical Engineering</b>	<b>M: 3:35-4:25pm</b>	<b>BMME 101.001</b>
<b>Robin Cunningham, STOR</b>	<i>MWF: 4:40-5:30pm</i>	
	<i>MWF: 5:45-6:35pm</i>	
<b>Jane Thrakill, English and Comp Lit</b>	<b>TTH: 8:00-9:15am</b>	<b>ENGL 268</b>
<b>Andy Perrin, Sociology</b>	<b>TTh: 9:30-10:45am</b>	<b>SOCI 101.001</b>
<b>Dennis Mumby, Communication</b>	<b>TTh: 11am-12:15pm</b>	<b>COMM 325.001</b>
<b>John Sweet, History</b>	<b>TTh: 12:30-1:45pm</b>	<b>HIST 236.001</b>
<b>Lois Boynton, Journalism</b>	<b>TTh: 2-3:15pm</b>	<b>JOMC 141.001</b>
<b>Chris Jones, Math</b>	<b>T: 3:30-4:45pm</b>	<b>MATH 296.001</b>
	<i>TTh: 5-6:15pm</i>	

“Students aren't just staring at the front screen. They're looking at the individual speaking, they're speaking with each other, they're collaborating. All these are essential for them to learn what they need to function post-graduation.”

Associate Professor, Journalism and Media







Courtesy of Ayers Saint Gross

**Bob Henshaw, ITS Liaison To The Center For Faculty Excellence**  
**University Of North Carolina At Chapel Hill**  
[bob\\_henshaw@unc.edu](mailto:bob_henshaw@unc.edu) / 919 962-9969

More information interactive classrooms at UNC-Chapel Hill:  
<http://cfe.unc.edu/>

**PHOTOS COURTESY OF:**

Kristen Chavez, College of Arts and Sciences  
Viji Sathy, Psychology and Neuroscience  
ITS-Teaching and Learning  
Center for Faculty Excellence



THE UNIVERSITY  
*of* NORTH CAROLINA  
*at* CHAPEL HILL