

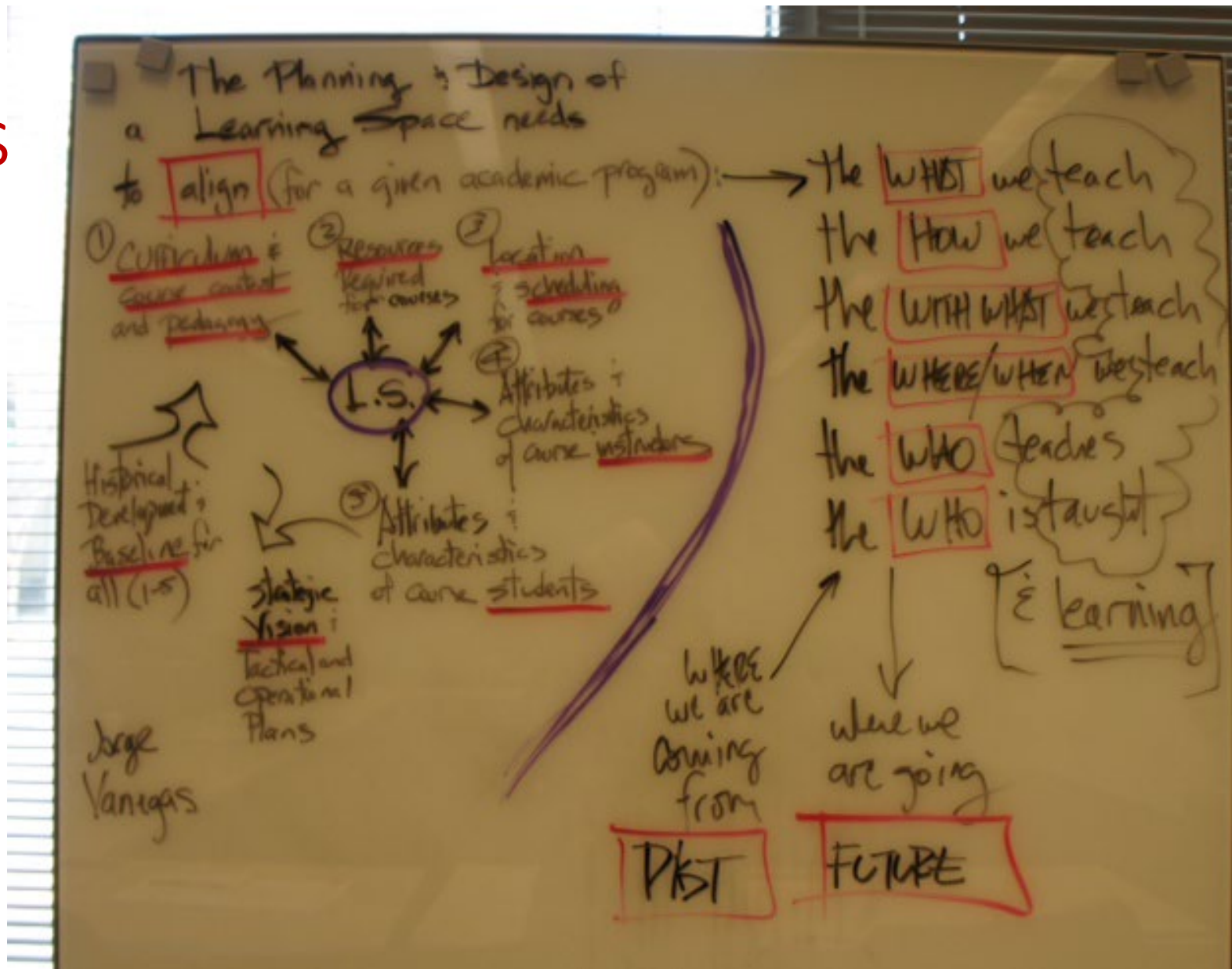
Learning Spaces Collaboratory Webinar

Learning Spaces Matter - Academics and Architects *The Conversation Continues*

April 20, 2017



LSC Roundtables



Learning Outcomes

- Understand how academics and architects work together to shape a project vision that is translated into project strategies— a vision that is grounded in institutional mission and future.
- How these conversations about more than a single project, but, intentionally or not, are transformative over the long-term.
- How conversations between academics and architects are an opportunity to ask and explore different kinds of questions—what if and why not —to push the envelope.



Facilitators: Academics and Architects



- Floyd Cline, Architect - Perkins+Will
- Richard M. Heinz, Vice President/Principal - Research Facilities Design
- Dennis Lester, Associate Director of Science & Technology, Watt Family Innovation Center - Clemson University
- Barbara Speziale, Associate Director of Academics, Watt Family Innovation Center - Clemson University
- Jim Swartz, Dack Professor of Chemistry and Director, Center for Science and the Liberal Arts - Grinnell College
- Jeanne L. Narum, Principal – Learning Spaces Collaboratory



CLEMSON UNIVERSITY

Vision: The Watt Family Innovation Center will be a driving force for change that enables Clemson University and its partners to lead in the development of creative solutions to significant technical and social challenges of the 21st Century.



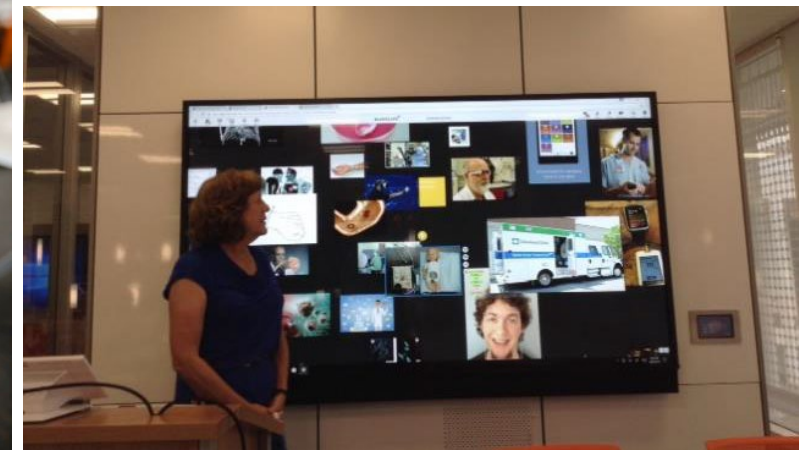
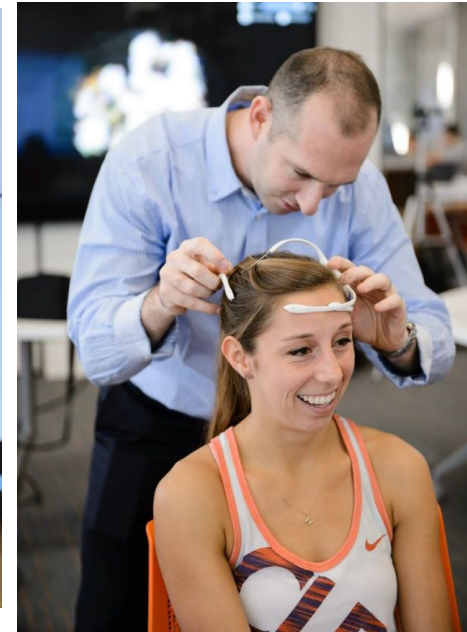
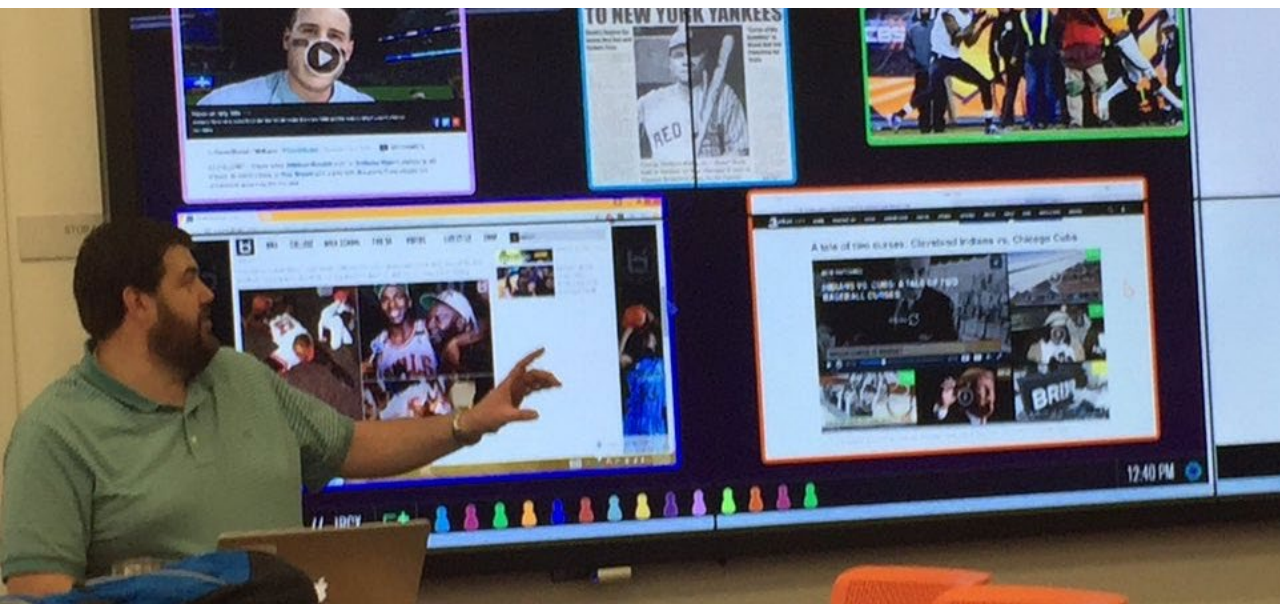
GRINNELL COLLEGE

Vision: Our overarching goal was to support our students achieving excellence in STEM, particularly those who are members traditionally under-represented in STEM. We did that through curricular and pedagogical changes as well as facilities changes, actively engaging students in doing science from the very first courses through undergraduate research. Creating formal learning spaces that facilitated those changes as well as informal spaces that supported community and built a sense of belonging have been critical.



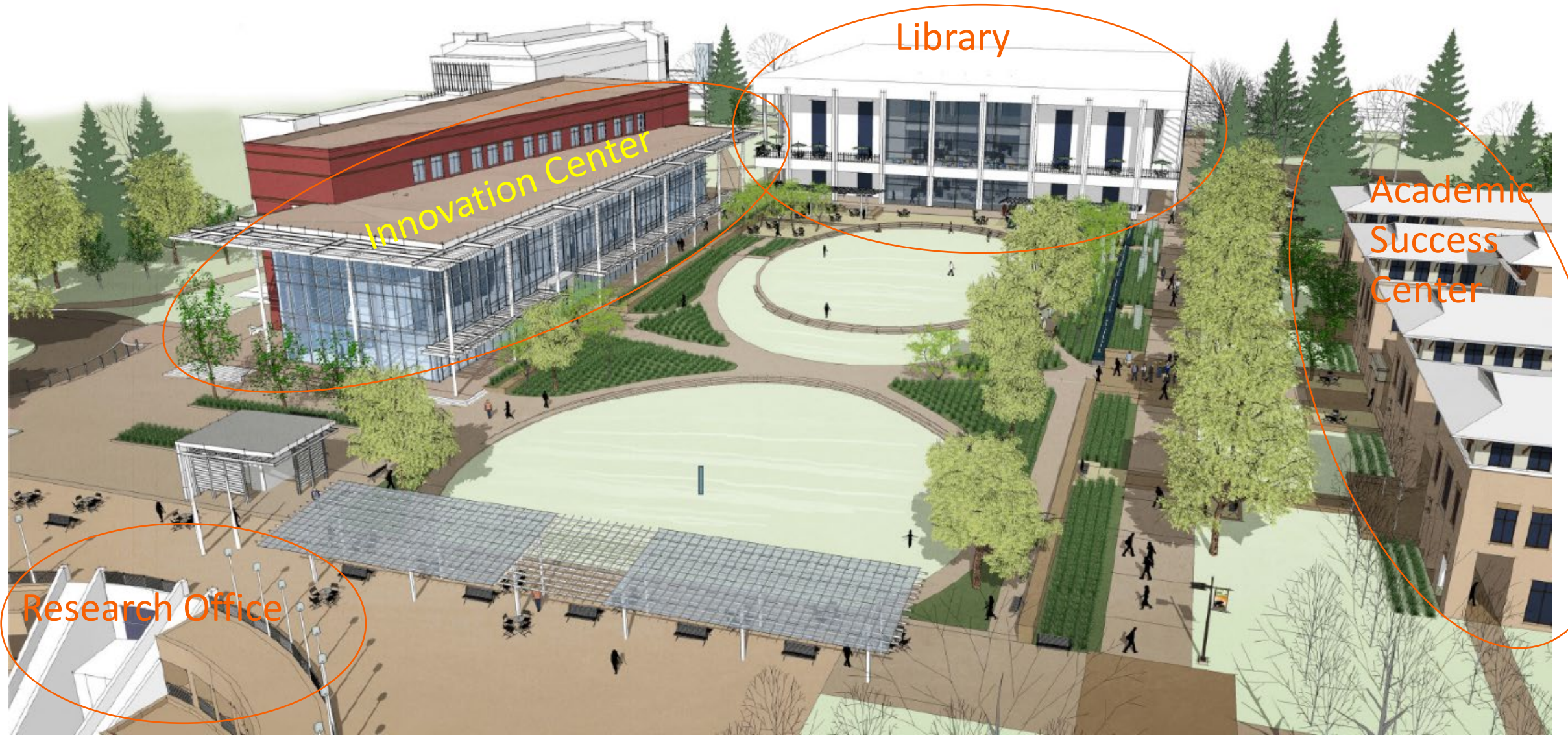
GOALS

- Cross-disciplinary teaching and research
- Collaboration and student engagement
- Interactive, technology-rich learning
- Immersion in critical-thinking scenarios
- Industry, government, and academic partnerships
- Highest caliber faculty and students



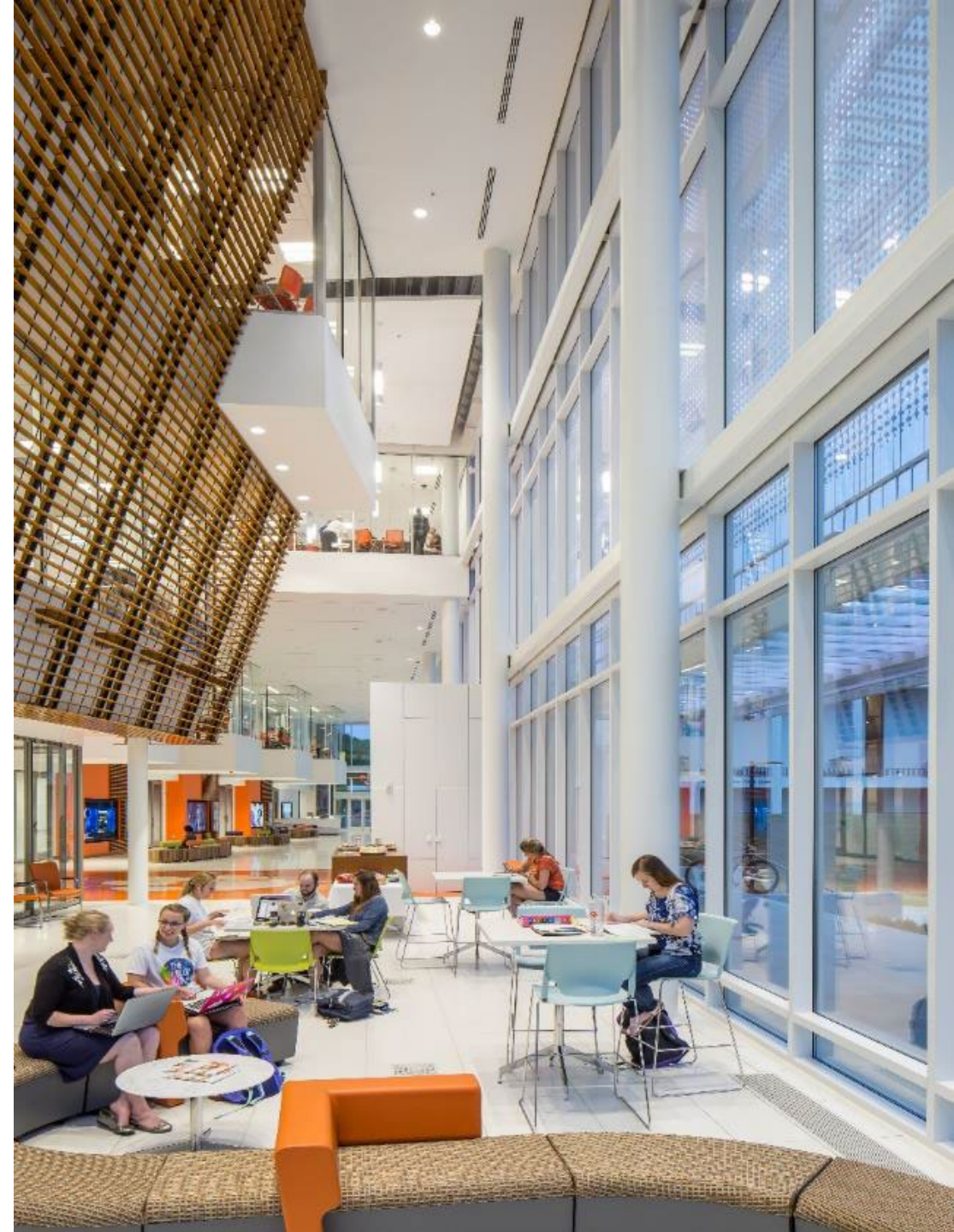
CAMPUS LOCATION

A NEW ACADEMIC HEART OF CAMPUS



BUILD FOR THE FUTURE

- Innovative architecture and furnishings
- State of the art construction systems
- Commitment to leading edge technology in relevant areas
- A 21st Century academic idea



CREATIVE INQUIRY IMMERSES UNDERGRADUATES IN REAL-WORLD PROBLEM-SOLVING

- Student teams
- Long-term projects
- Disciplinary and cross-disciplinary
- Real-world problems
- Industry and community partners

Annually:

> 5,000 students

> 400 projects



2016 Award for Undergraduate Research Accomplishments from the Council on Undergraduate Research

DISTINCTIVE FEATURES

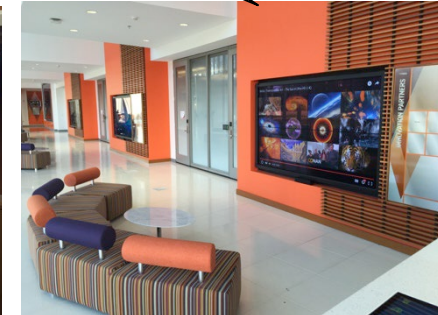
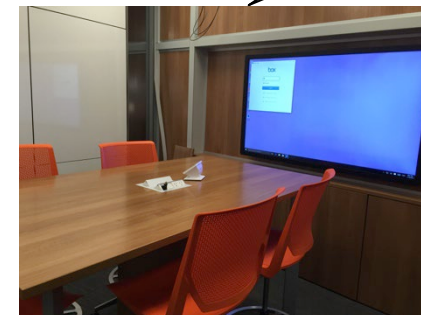
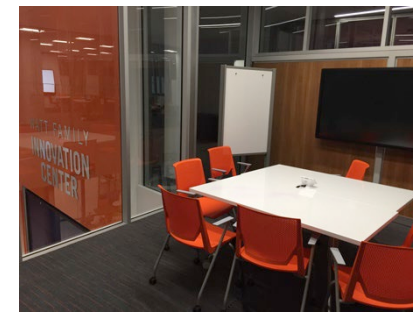
- Connected lighting and media lights display
- Raised flooring with wiring and air flow systems underneath
- Demountable walls and furniture support rapid reconfiguration
- High-capacity fiber and wireless networks
- High definition, touch-enabled visualization systems
- Communication development studios
- Student-led makerspace
- Highly-responsive, centralized technical support
- Virtual connectivity to remote locations

“The Intersection of Art & Technology”



AUDIOVISUAL AND INFORMATION TECHNOLOGY

- 73 spaces with AV
- 4372 pieces of hardware
 - 354 types
 - 65 different vendors
- 191 large-screen, high-resolution, touch monitors
- 3D displays
- 12 video walls
 - 8'x 5' to 32' x 9'
- 4 networks
 - 2 x 10G → 2+ x 100G
- 3D laser projection in auditorium
 - 13' x 8' screen
- Videoconferencing
- Lecture capture in classrooms and studios
- Collaboration software
 - Solstice
 - Bluejeans
 - Bluescape



CROSS-DISCIPLINARY EMPHASIS

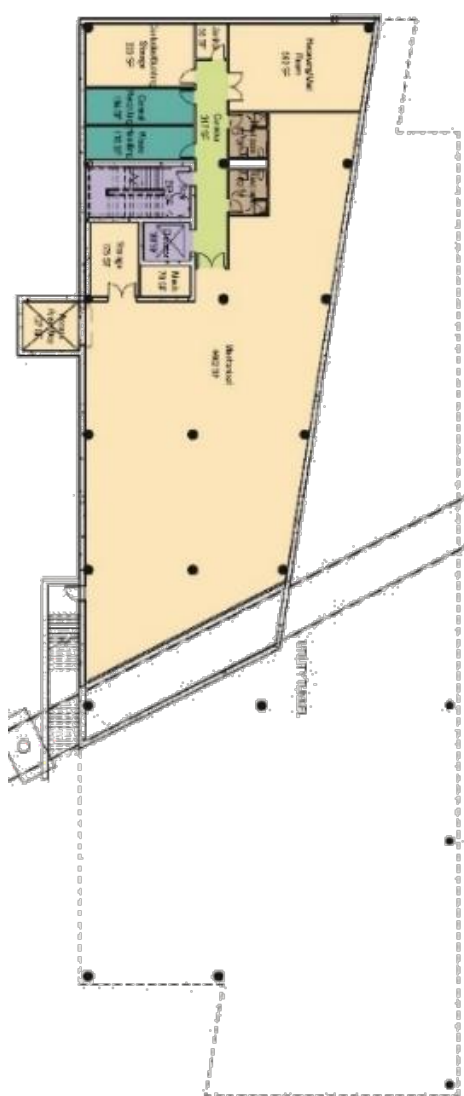
- Not assigned to any one department or college
- Encourages collaborations among all Clemson's academic colleges
- Innovative technology enables focus on market-driven problems
- Promotes research relationships with industry
- Encourages student-centered and problem-based learning
- Dynamic, flexible, interactive learning environment



STATE-WIDE TECHNOLOGY ECOSYSTEM



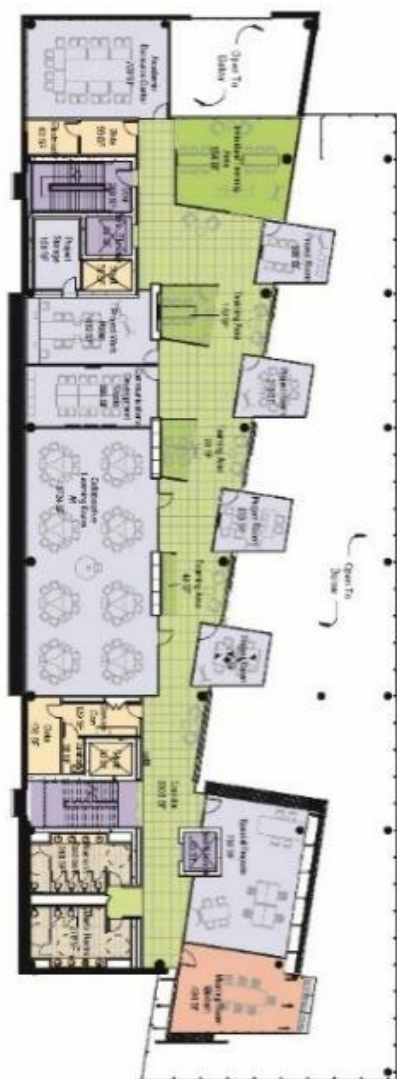
Level B



Level 1



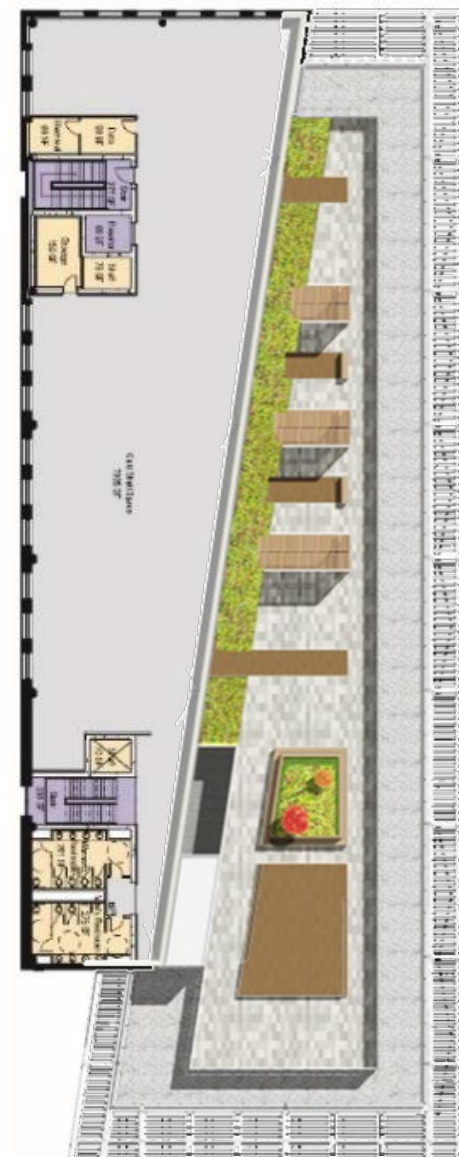
Level 2



Level 3



Level 4





WATT FAMILY INNOVATION CENTER

SOUTHWEST VIEW



EAST ELEVATION – PHILIPS COLOR KINETICS



NORTH ATRIUM VIEW



SOUTH ATRIUM VIEW



ATRIUM VIEWS



SUSTAINING INNOVATION PARTNERS



COLLABORATIVE LEARNING ROOM



4 ways the song relates to the book

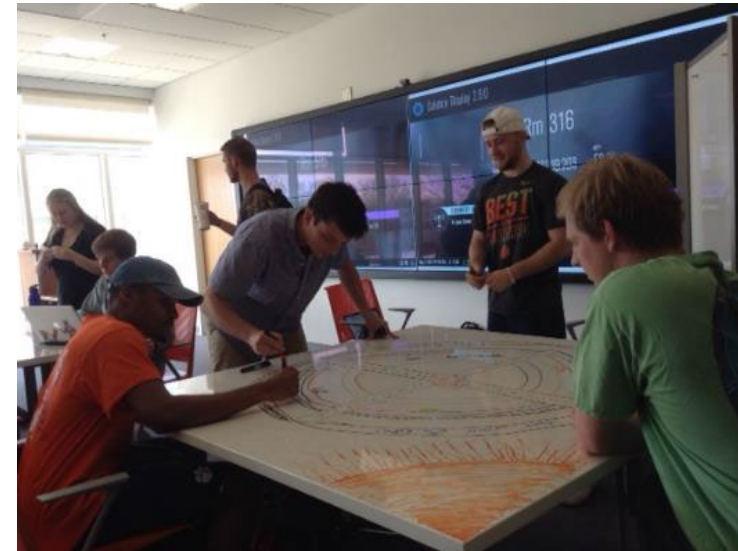
1. gender perspective / have work
2. women are in the informal sector
3. women having babies / sex workers
4. The pay gap between men and women

* Men drink, girls rue, boys dream #true





PROJECT LAB



Whiteboard
tables and
walls





A Tale of 3 Projects at Grinnell College





Starting Place

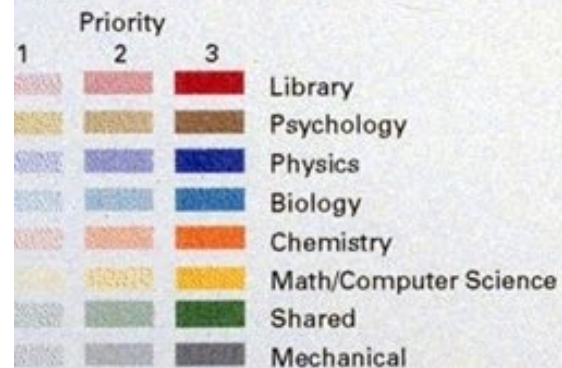
4 Wings

Biology, Chemistry, Physics, Science Library

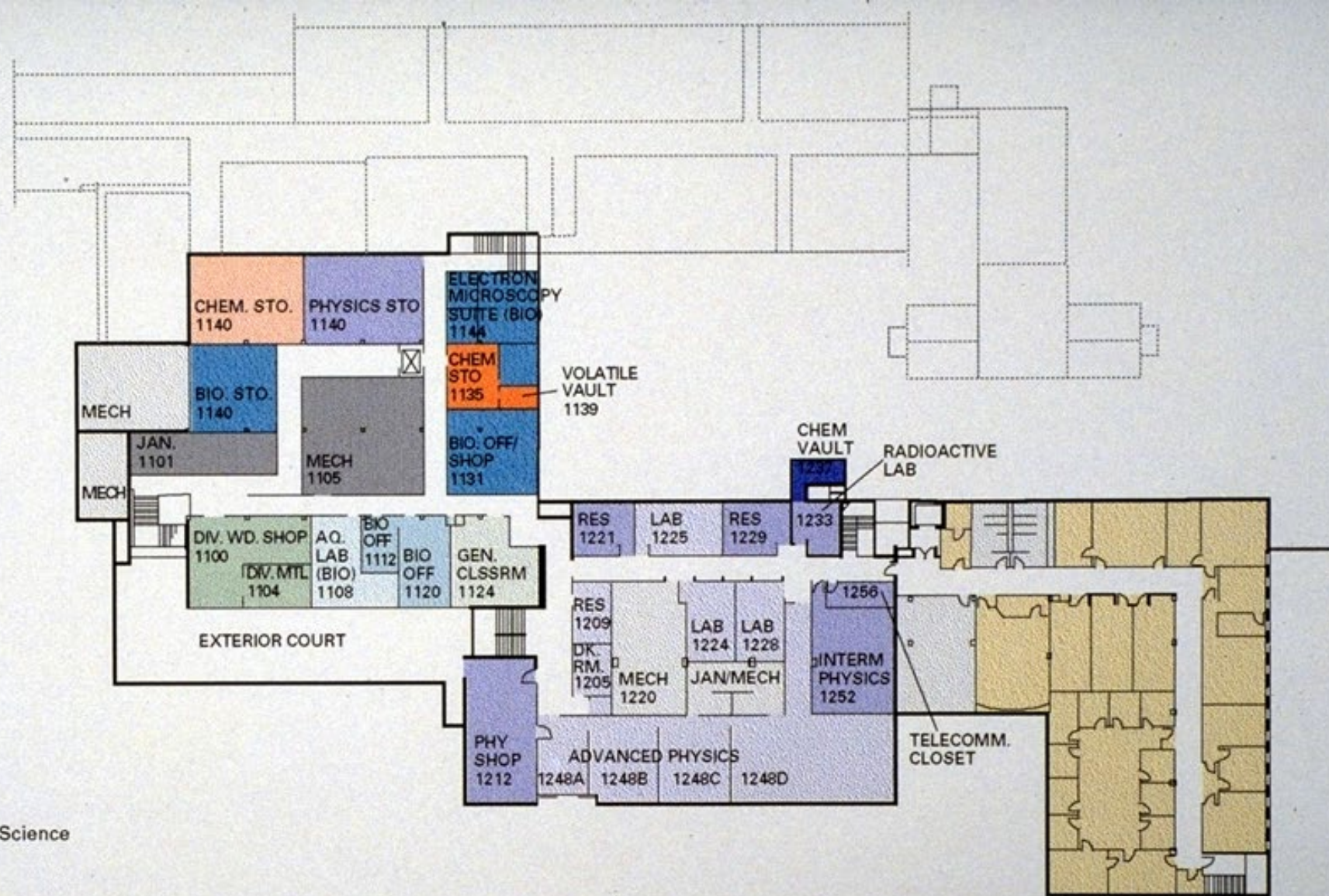
- 1 from 1951 and 1 temporary wing from 1951
- 1 from 1964

Computer Science, Mathematics, Psychology

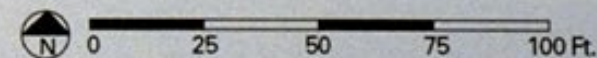
- 1 from 1987



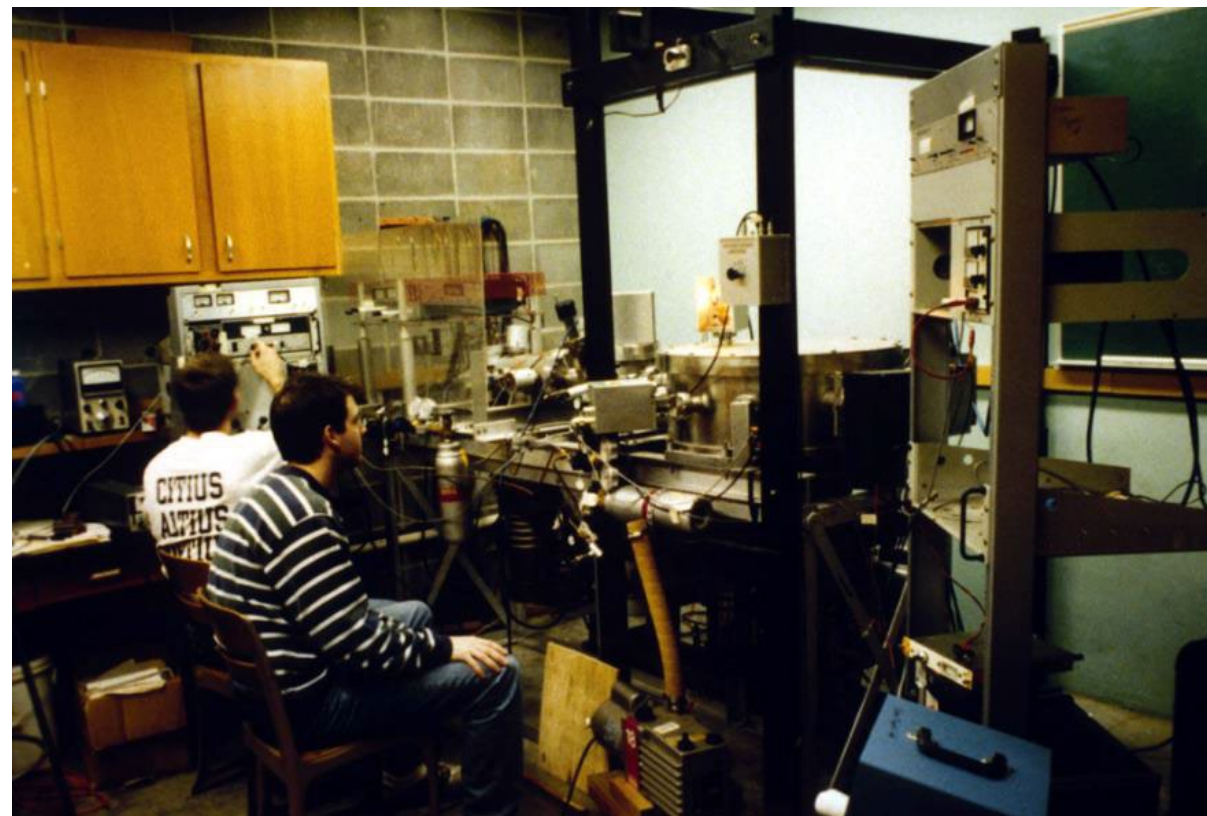
Priority 1: Renovation Required
 Priority 2: Renovation Preferred
 Priority 3: No Renovation



First Floor (Lower Level) Existing Building

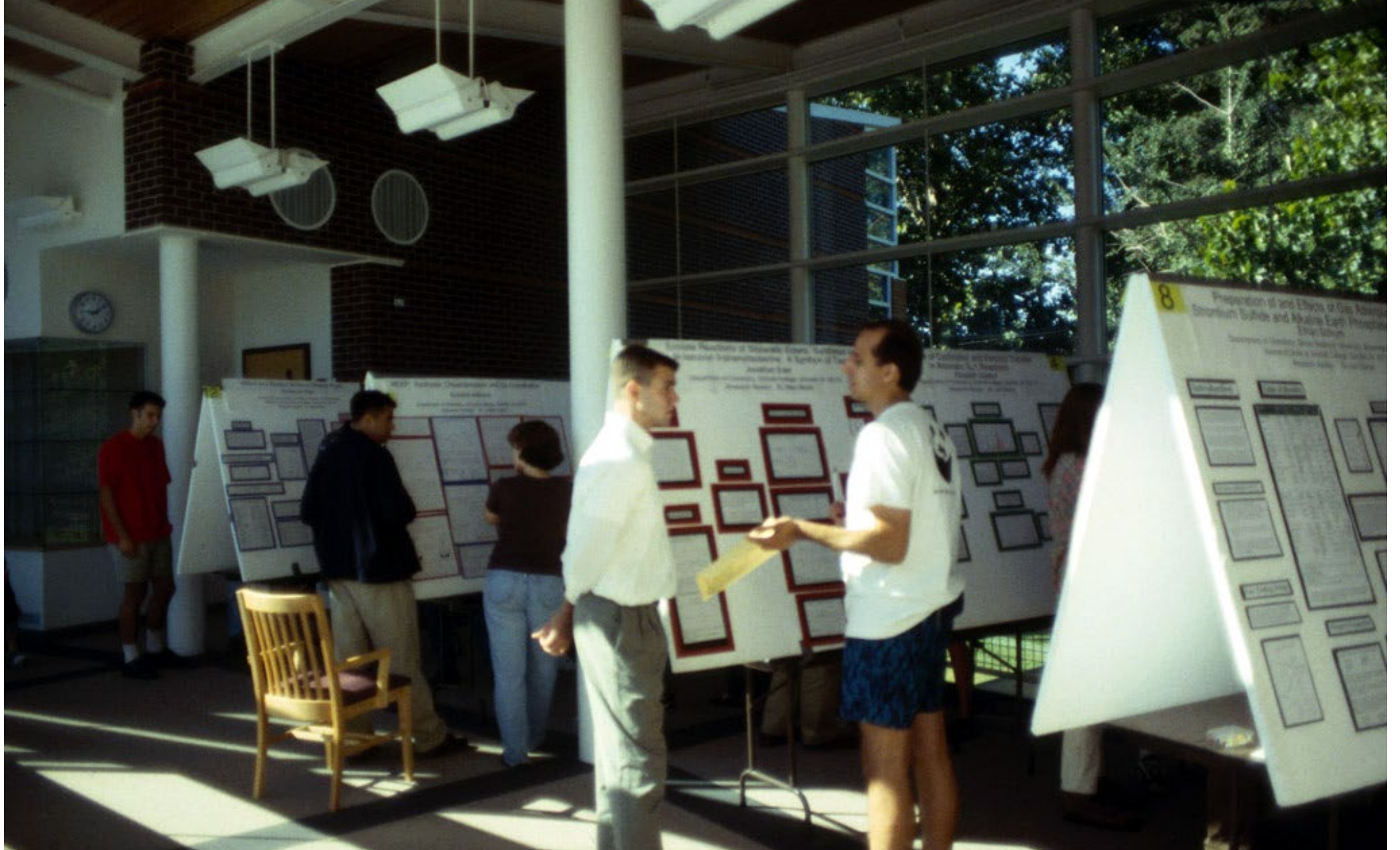






Changes in Classrooms







Original Intro Chemistry Lab



Renovated Intro Chemistry Lab



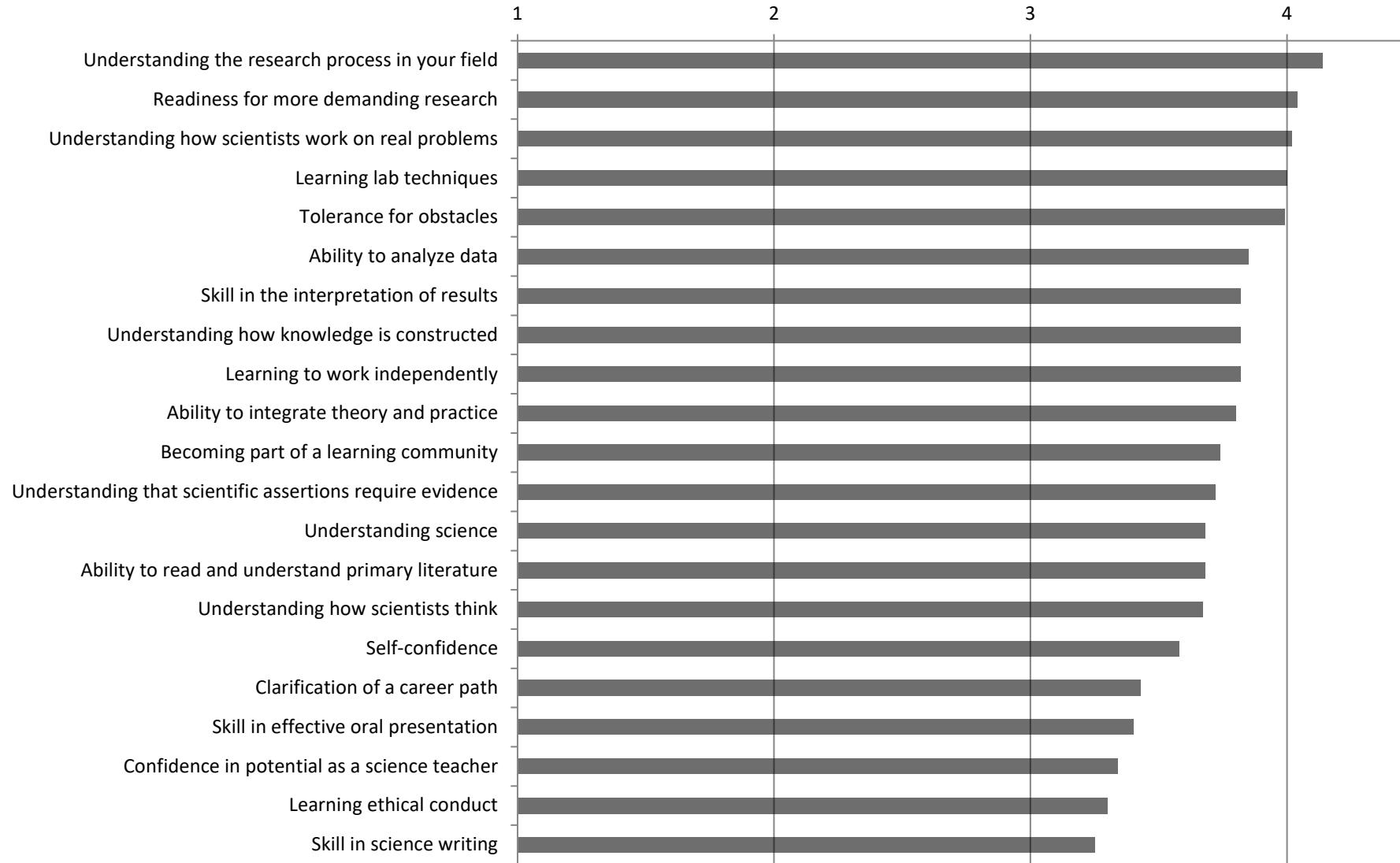
Original Organic Chemistry Lab



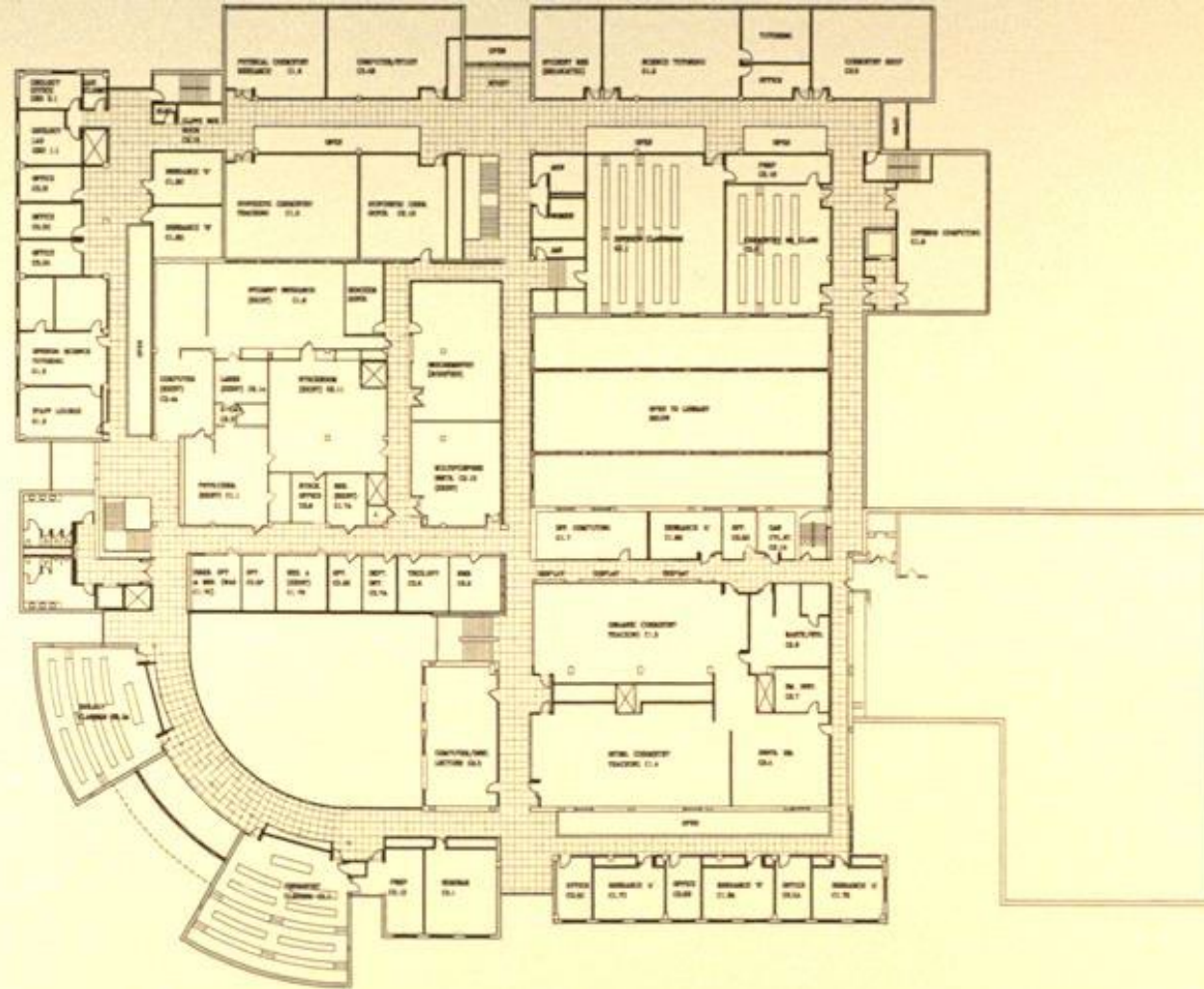
Renovated Organic Chemistry Lab







Original Phase 2 Concept (1994)



Stage II - Third Floor

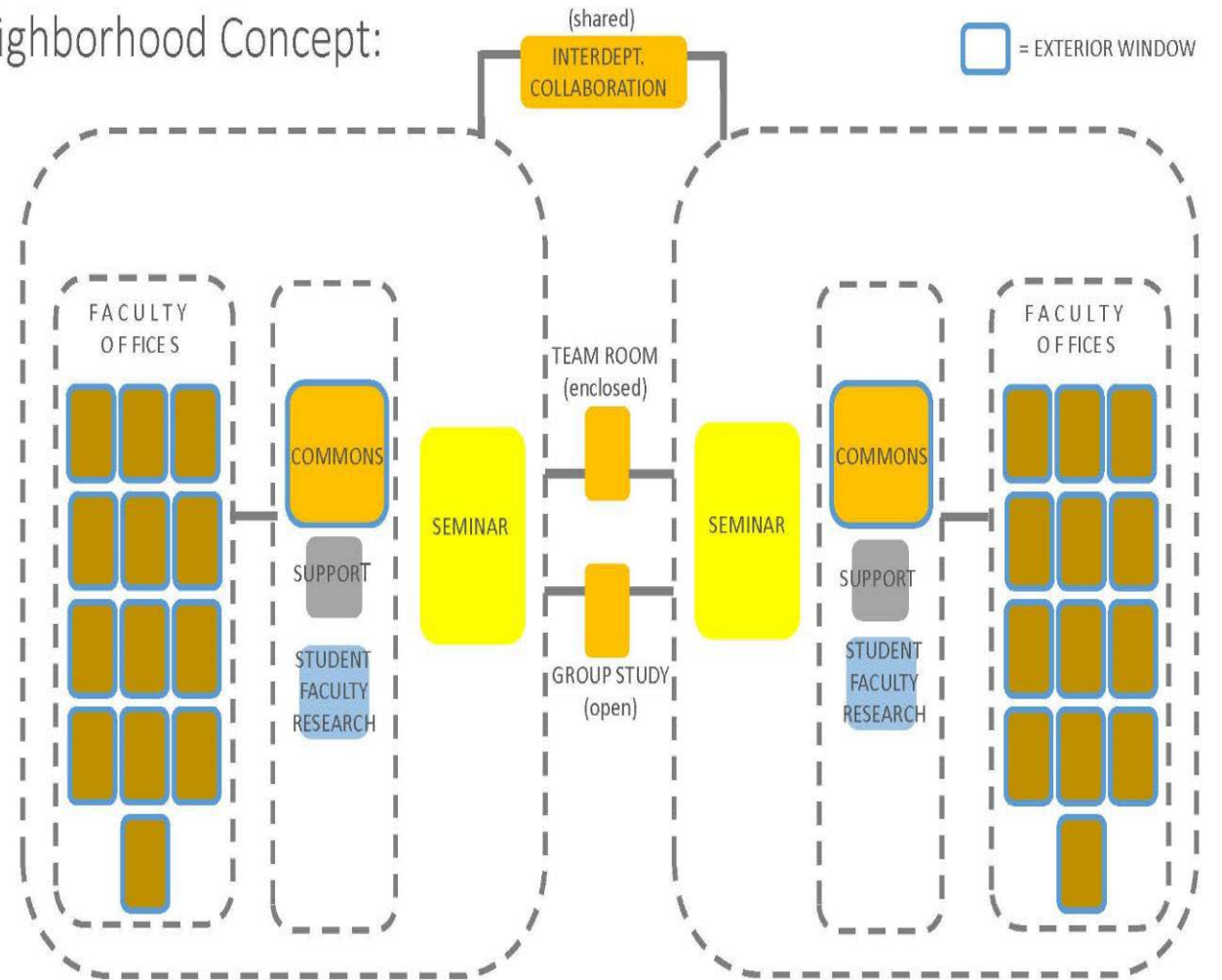
Final Phase 2 Concept





Humanities and Social Studies Complex

Neighborhood Concept:





Learning Spaces Collaboratory

Join the conversation – send us
your ideas about questions to ask
in shaping learning spaces

pkallsc@pkallsc.org



<http://www.pkallsc.org/>

Upcoming Spring 2017 LSC Activities

*Focusing on the Future
of Learning Spaces –
The LSC Perspective: A
Brown Bag Lunch at
NSF*

May 4, 2017

*LSC Spring
Conversation I:
Focusing on the User*

May 10, 2017

LSC Roundtables

- Indiana University
May 18, 2017
- University of
Minnesota
June 7, 2017
- Colorado State
University
June 22, 2017
- University of the
District of Columbia
(to be announced)