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
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.
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”
AUDIOTOVISUAL 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

Collaborative Work Suites

- Watt Family Innovation Center
- Virtual Connectivity Management Center
- Greenville ONE & CU-ICAR
- Duke Energy Innovation Center
- Greenwood Genetic Center
- USC Innovation Center
- SCRA Applied Technologies Center (Summerville Building)
- Graduate Education Center
- MUSC Innovation Center
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
Changes in Classrooms
Understanding the research process in your field

Readiness for more demanding research

Understanding how scientists work on real problems

Learning lab techniques

Tolerance for obstacles

Ability to analyze data

Skill in the interpretation of results

Understanding how knowledge is constructed

Learning to work independently

Ability to integrate theory and practice

Becoming part of a learning community

Understanding that scientific assertions require evidence

Understanding science

Ability to read and understand primary literature

Understanding how scientists think

Self-confidence

Clarification of a career path

Skill in effective oral presentation

Confidence in potential as a science teacher

Learning ethical conduct

Skill in science writing
Original Phase 2 Concept (1994)
Final Phase 2 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)