



# ANFA 2014 CONFERENCE

**PRESENTER ABSTRACTS**  
ACADEMY OF NEUROSCIENCE FOR ARCHITECTURE

# Bridging Architecture & Psychology in the Learning Environment

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Environments can affect mood, productivity, or focus, impacting both the individual and the community. This project examined the impact of spatial and other environmental features on emotion and cognition. There were two components to the project: an installation on the CMU campus and a survey of 36 students. The goal for the installation was to create a momentary experience that instilled an awareness of one's self in the space, both physically and mentally. The survey focused on the role of communal spaces and lounges in the learning experience: how the aesthetics of the space have the potential to increase relaxation and productivity and minimize stress and anxiety.

## 1. ABSTRACT

### 1.1. INSTALLATION & QUESTIONNAIRE

The installation was an interactive exploration of the relationship between simple spatial and environmental cues and how they may be internalized on an emotional and cognitive level. This was a full sensory experience, from touch to sound to sight, used eclectic materials including tinfoil, bubble, wrap, lights, tissue paper, string, and chicken wire, and manipulated the shape and size/scale to arouse the individual's sense of presence in the space. Visitors completed brief questionnaires which measured their reactions to the installation and assessed the effects that even a temporary and unconventional space can have on emotions and experiences.

### 1.2. SURVEY & RESEARCH PAPER

The research paper focused on the role of communal spaces and lounges in education facilities and the impact of their designs on focus, stress, and collaboration. It appeared that "successful" collaborative student spaces at several higher education institutions integrated three domains: learning and teaching, space and environment, and social and community. 36 students on the CMU campus completed the survey, which was adapted from a standard architectural Post-Occupancy survey. The purpose was to learn about their use of and experience in existing student spaces on campus that were intended to be collaborative and relaxing.

### 1.3. DISCUSSION

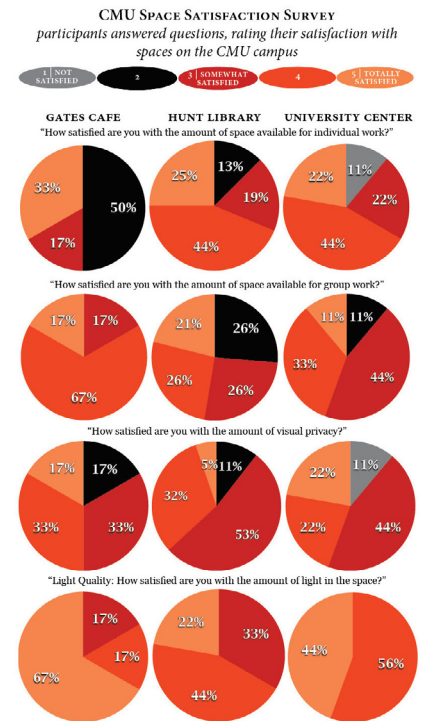
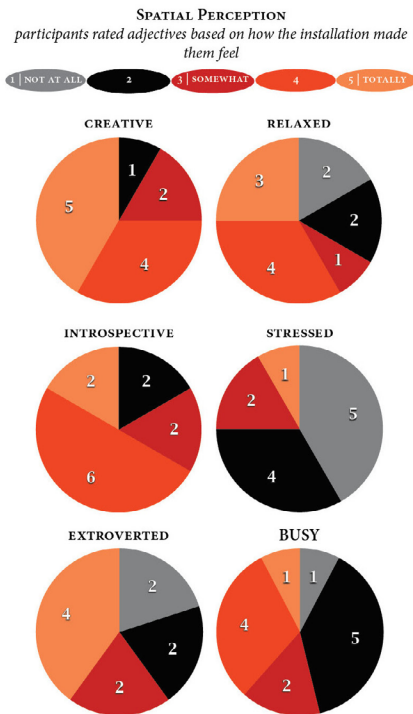
Though the installation and survey were quite different, the findings were surprisingly similar. People often associated the same architectural features with the emotions evoked by the space regardless of the function of the respective space. For instance, many students reported that the lighting, colors, and size of the installation were some of the architectural features that accounted for their feelings of warmth, calmness, and security. These qualities were emotions that other students, both at CMU and elsewhere, wanted to experience in student spaces. The relationship between subjective experience and architecture is important for the implementation of successful and satisfactory design of communal and collaborative spaces in the learning environment.

### 1.4. IMAGES & FIGURES:

A selection of images of the installation and figures of results from the surveys:







## 2. REFERENCES

### A SELECTION OF RELEVANT CITATIONS FROM THE RESEARCH PAPER:

- Brooks, Christopher D. (2010). Space Matters: The Impact of Formal Learning Environments on Student Learning. *British Journal of Educational Technology*. n. pag. Web: <[http://www.oit.umn.edu/prod/groups/oit/@pub/@oit/@web/@evaluationresearch/documents/article/\\_oit\\_article\\_248303.pdf](http://www.oit.umn.edu/prod/groups/oit/@pub/@oit/@web/@evaluationresearch/documents/article/_oit_article_248303.pdf)>.
- "Center for the Built Environment: Occupant IEQ Survey." (2014) Center for the Built Environment: Occupant IEQ Survey. N.p., n.d. Web: <<http://www.cbe.berkeley.edu/research/briefs-survey.htm>>
- "Designing Spaces for Effective Learning." (2006). JISC. Web. 28 Feb. 2014. <[http://www.jisc.ac.uk/uploaded\\_documents/JISClearningspaces.pdf](http://www.jisc.ac.uk/uploaded_documents/JISClearningspaces.pdf)>.
- Lang, Jon. "Chapter 14: Privacy, Territoriality, and Personal Space—Proxemic Theory; Chapter 15: Social Interaction and the Built Environment." *Positive Architectural Theory*. Print.
- Lippman, Peter C. "THE Journal." *Designing Collaborative Spaces for Schools* --. THE Journal, (2013). Web. 05 Mar. 2014. <<http://thejournal.com/articles/2013/02/13/designing-collaborative-spaces-for-schools.aspx?=THE21>>.
- Vanessa, Quirck. "Community-Oriented Architecture in Schools: How 'Extroverted' Design Can Impact Learning and Change the World." *ArchDaily*. N.p., n.d. Web. 05 Mar. 2014. <<http://www.archdaily.com/213438/community-oriented-architecture-in-schools-how-extroverted-design-can-impact-learning-and-change-the-world/>>.

## 3. AUTHOR BIO

**Eliana Weiner** graduated in May of 2014 from Carnegie Mellon University with a Bachelor of Humanities and Arts in Psychology and Architecture. She spent much of her academic career exploring the relationship between the individual and the environment; how the design of a space has a positive or negative impact on how people think, feel, and behave.