UCLA School of Education & Information Studies
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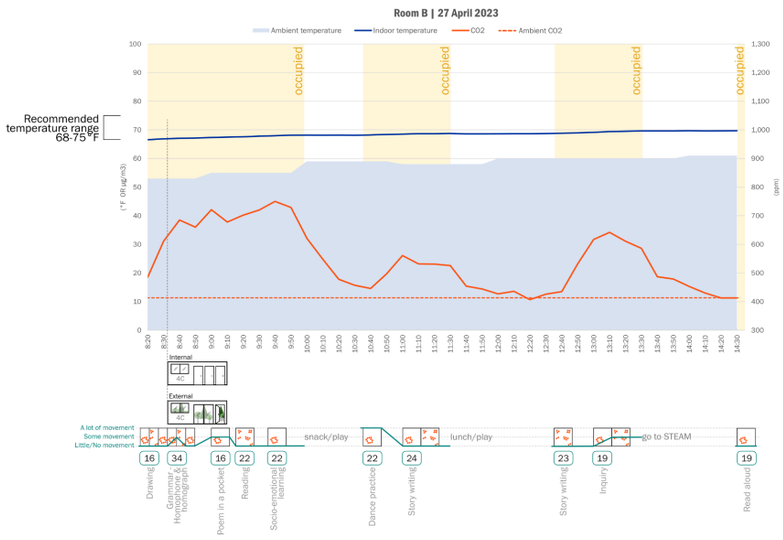
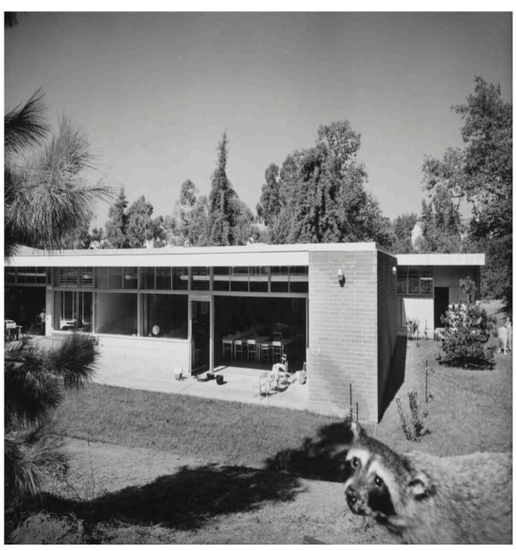
Environmental Qualities of Lab School Classrooms: Reflecting on Sustainable Design

Dr. Christine Lee, Dr. Megan Franke, global design firm Perkins Eastman, and the Neutra Institute for Survival Through Design have collaborated on a multi-year research project investigating the building performance and comfort of Richard Neutra's Biorealistic design of the Lab School. The team investigated the original buildings, including the Early Childhood and Primary classrooms. Specifically, we aimed to understand the air quality, thermal comfort/temperature, acoustics, and lighting of our classrooms throughout the school day. The team used surveys, observations, and sensors to assess classrooms' air quality, daylight, acoustics, and temperature.



The CO_2 levels at the Lab School are much lower than mechanically ventilated schools. While we know that natural ventilation contributes to this, equally as important is what we call "fresh air breaks." We found that the decrease in CO_2 aligns with break periods when students are out of the classroom, such as recess, lunch, or outdoor learning, which allow time for the classroom's CO_2 levels to reset to optimal conditions before they are reoccupied for learning. This research shows how building design and pedagogy can be used in tandem to create optimum conditions for learning.



Our collaborators include the Neutra Institute for Survival Through Design, and Perkins Eastman research team members Emily Chmielewski, Heather Jauregui, Widya A. Ramadhani, Sean O'Donnell, and Rebecca Milne.