

# Standardizing K-12 Occupancy Evaluations:

A Proposal by the Coalition for the  
Advanced Understanding of School  
Environments (CAUSE)

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# Our Goal

**Develop standardized, open-source post-occupancy evaluation (POE) tools relevant to K-12 facilities and occupants. This tool will enable systematic data collection to foster innovative school design, improve educational outcomes, and reduce harmful environmental conditions.**

**Today, we are seeking sponsorship and support to create a standardized open-source K-12 POE that has the potential to radically shift the industry towards a more evidence-based future.**

**Key objectives of CAUSE:**



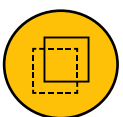
**01.** Conduct research to better understand how school design influences the health and performance of students and teachers and identify metrics that can be easily measured.



**02.** Collaborating with education and design stakeholders to establish consistent data collection protocols tailored specifically for K-12 facilities.



**03.** Advance interdisciplinary collaborations among architecture firms, academic partners, school districts, and research organizations.



**04.** Foster an open-source, open-science, and transparent approach to knowledge sharing within the industry.

**Challenge and Opportunity**

**Our children spend 15,000 hours in K-12 facilities by the time they graduate 12th grade, but our understanding of how new school design influences their health and performance remains limited.** Our existing K-12 building stock reflects the absence of research during design and post-occupancy through the presence of legacy pollutants (lead, PCBs), and classrooms unable to support pedagogical transformations or simply offer natural light. **There is growing academic and industry evidence that the physical environment in schools has direct impacts on children and teacher outcomes.** Yet, much of our building evaluation work is completed in silos with varying degrees of methodological rigor and a narrow focus.

**With the growing adoption of research in the architectural industry, we are at an inflection point that accelerates the integration of data in decision-making.** The federal government is actively investing billions of dollars into modernizing our aging educational facilities without specific guidance on how these investments can also promote health and performance of our students.

Stakeholders in education and design would benefit from consistent, reliable data collection and analysis tailored to K-12 facilities and occupants. A shared approach and framework would allow for broader reach of scholarly research and meaningful data sharing across design teams and school systems. **A collaborative, multidisciplinary, geographically diverse partnership will advance the K-12 design industry by creating a holistic, evidence-based, user-centered and industry-supported tool.**

**The Coalition for the Advanced Understanding of School Environments (CAUSE) has been formed,** inclusive of global and national architecture firms, academic partners, local school districts, and the Center for Advanced Design Research and Evaluation (CADRE) to support the continuous improvement of educational facilities. CAUSE was formed with a foundational commitment to open source, open-science, and transparent understanding. **We are seeking sponsors to join our efforts to launch the entire industry forward, ultimately creating better learning environments in service of teachers, learners, and their communities.**

# Introducing the Coalition

**This is an unprecedented cross-firm, national collaboration, not in the pursuit of profit but for the betterment of our industry and the educator and learner experience. This aligns with the evolving perception of research in the design industry as being collaborative versus competitive.**

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## With a co-leadership model, CAUSE is a coalition organizing around the disciplines of design, policy, and education.

### Policy Advisory Committee:

This committee consists of education professionals that will advise on the policy, planning, and development of school facilities. We are seeking collaborators with diverse backgrounds including academic, federal, state, and school leadership.

### Design Research Advisory:

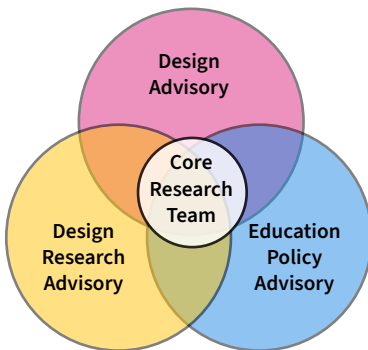
This committee consists of professionals specifically with research training and experience, who will guide and provide strategic feedback on our research methodology.

### Design Advisory:

This committee consists of professionals with design industry training/experience, who will advise on the potential applications of the research and participate in dissemination and interpretation.

*We are actively seeking collaborators and partners. Please reach out if you are interested in joining an advisory council.*

**Contact Us:** [CAUSE@cadresearch.org](mailto:CAUSE@cadresearch.org)



## Core Research Team

### Leadership:

#### Dr. Erika Eitland

Erika is the co-director of the Human Experience Lab at Perkins&Will. Erika received her ScD from the Harvard Chan School of Public Health in Environmental Health where she authored 'Schools for Health: Foundations for Student Success' report that examined the association between school building quality and occupant health and performance. Erika advises on national policy for the U.S. Environmental Protection Agency as a member of the Children's Health Protection Advisory Committee and holds a Master of Public Health in Climate and Health from Columbia University.

#### Dr. Raechel French

Dr. Raechel French is the Director of Planning for Austin ISD. She holds a double degree in Environmental Design and Psychology from Texas A&M University and a Masters of Science in Human-Environment Relations from Cornell University. Following a Fulbright Postgraduate Scholarship, she completed her PhD through the University of Melbourne's Graduate School of Education, focused on better supporting teachers and principals in their transition to more innovative learning environments. In her current role, Raechel interfaces with all design teams and campus leaders, ensuring spaces function from a practical and academic perspective.

#### Dr. Renae Mantooth

Dr. Renae Mantooth leads research efforts for the Education practice at HKS. Her passion for design research and scholarship is centered around people through inclusive practices. Identifying as a "pracademic" her mission is to build a bridge between industry and academia towards a more evidence-based and equity-centered future. She works to expand the breadth of knowledge that explores human behavior, motivation, and well-being in educational settings to inform design solutions. Outside of HKS, Renae is an Assistant Professor of the Practice in the College of Design at North Carolina State University teaching doctoral students and budding researchers.

#### Dr. Michael C. Ralph

Dr. Michael C. Ralph is a Vice President and the Director of Research with Multistudio. He earned a PhD in the Department of Educational Psychology at the University of Kansas, and he uses his background as both a K-12 and higher education instructor to connect research to issues of practice and experience in classrooms, with a focus on equitable application of quantitative methods as a tool for improved teaching and dismantling barriers to success for historically marginalized groups.

### Project Management:

- Aletta van der Walt, Director of Operations CADRE

### Support:

- Open, CADRE Communications Intern
- Open, CADRE Psychometrics Scholar

# Approach

## **Academic rigor with a philosophy of sharing for the advancement of education.**

The intent of this multi-year effort is to respond to the growing body of evidence, learn from existing examples and develop a clear POE protocol to ensure relevancy and replicability. This effort will begin with a pilot study to be completed by the end of 2024. The Core Team will collaborate with Advisory Boards and other stakeholders in a round of engagements to further refine instrumentation.

*Data sharing is our long-term goal: Results need to be comparable, useful, and replicable.*

**For more information about each phase, please contact the CAUSE team:**

[CAUSE@cadresearch.org](mailto:CAUSE@cadresearch.org)

**A Modular Approach:**

The final result of the POE will represent a minimum viable product composed of a kit of parts. This approach will allow specific methods and modules to be combined in different ways to suit the specific needs of the project while giving space for firms or school systems to dive deeper in what matters most to them. We also know individual users of this tool will have different bandwidth and experience with research efforts. A modular approach will allow them to customize their approach to studying their buildings in a practical way.

**Phases**



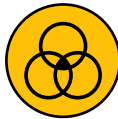
**01. Study Scope and Concept**

Initial work will establish the foundational elements of a POE to ensure specific outcomes for Version 1. Using peer-reviewed literature and existing theoretical frameworks, we will refine our process to reflect precedents and research.



**02. Study Design and Instrument Development**

The team will develop the full research protocol and research methods. We will conduct a pilot to assess the practical application of the instrument and refine the final set of metrics.



**03. Seek Feedback from Advisory Committees**

Engage in the process of actively seeking feedback from advisory committees (highlighted on the previous page) to gather valuable insights, perspectives, and recommendations.



**04. Cohort 1 Data Collection**

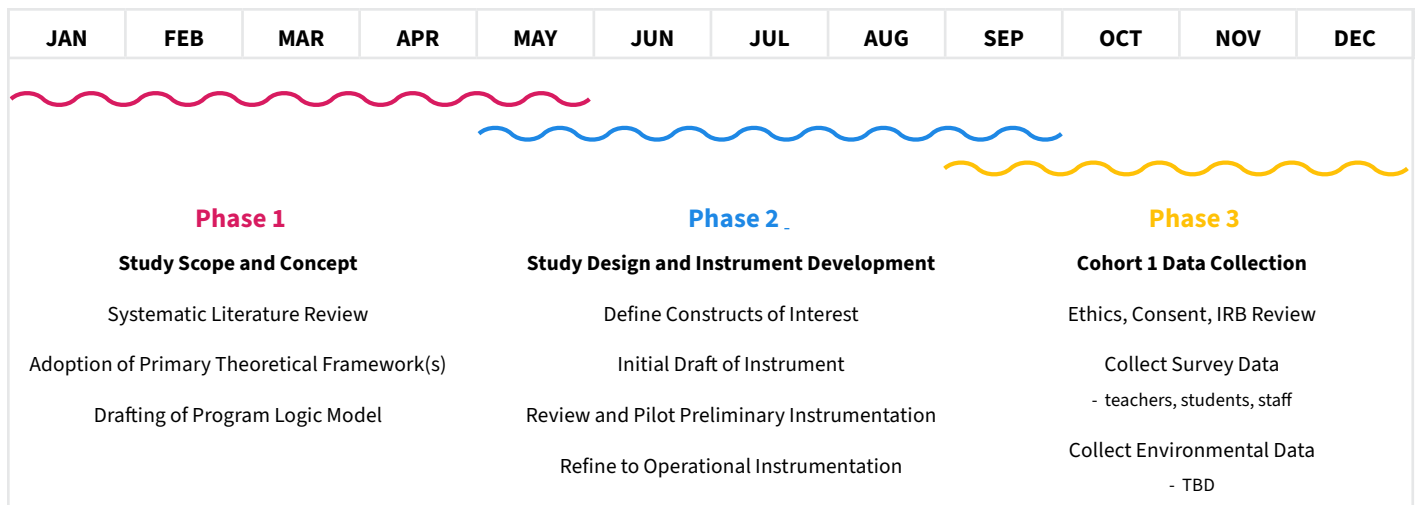
Implementing the tools from Phase 2, the team will conduct principle data collection with the initial cohort of participating schools in Austin ISD. This includes the collection of new data and cooperation with district personnel to engage existing data streams.



**05. Open-Source Tool**

The team will synthesize the initial results from Austin ISD into a portfolio of tools, user guides, and evidence reports to launch as the first publicly available version of an open source POE protocol.

**2024 Timeline**





# Sponsorship Opportunities

**We invite sponsors to join us in a multi-year initiative aimed at creating and sharing a standardized, open-source Post Occupancy Evaluation (POE) tool for use across the industry. This tool is designed to assess the impact of school design on various aspects such as facility function, academic alignment, user experience, well-being, inclusion, and environmental quality.**

Developing a comprehensive and widely accepted POE tool requires multiple rounds of validation and piloting, with the support of external experts and staff. Our long-term goal is to establish an online repository for data-sharing, with founding sponsors recognized indefinitely. This platform will enable members to glean insights from shared information and contribute to the ongoing enhancement of school quality.



**We are seeking multi-year support to ensure the complete development of this tool.**

**Your Support Will Sponsor:**

- The Core Team for Tool Development
- CADRE Staff, Interns, Data Analysts
- Expansion of Pilot Schools
- Dissemination of Findings
- Expert Panels and Engagement
- Thought Leadership and Conference Presentations

**For more information, please contact the CAUSE team:**  
**[CAUSE@cadresearch.org](mailto:CAUSE@cadresearch.org)**



**Sponsorship Tiers**

**Founding Member:** \$15,000 for Three Years

- Logo featured at conferences, presentations, white papers, and on the CAUSE website.
- Description of your organization on the CAUSE website.
- Quote featured in press release of K-12 POE Pilot Report
- Early access to the pilot version of the tool and share with your own clients and partners.
- Workshop presentation to your staff or clients on the significance and use of the developed POE Tool.



**Industry Partner:** \$10,000 for Three Years

- Recognition at conferences, presentations, white papers, and on the CAUSE website.
- Workshop presentation to your staff or clients on the significance and use of the developed POE Tool.



**CAUSE Supporter:** \$5,000 for Three Years

- Recognition at conferences, presentations, white papers, and on the CAUSE website.

**Other Ways to Support the CAUSE:**

- Help us spread the word about the importance of standardized POEs in K-12.
- Share research and resources that aid in development including environmental factors such as acoustics, security, lighting, respite, nature, and ergonomic seating.
- Identify experts for advisory committees.
- Share our information with graduate students in relevant disciplines who need practicums or internships.
- Suggest other school districts willing to pilot a POE in their K-12 schools.

*Now is the time to align our interests, elevate the industry, and ultimately, improve the lives of teachers and students.*

**The Coalition for the Advanced  
Understanding of School  
Environments**

2024

Contact Us: [CAUSE@cadrerresearch.org](mailto:CAUSE@cadrerresearch.org)