

The Benefits of a User-Centered Approach to the **Selection and Installation** of School Furnishings



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The Environment is Never Neutral



A Brief Introduction: Learning Priorities



In this paper we will examine the process by which Meteor Education supported the identification and application of ‘Priority Learning Outcomes’ and the impact that focusing on those experiences had on the **selection, installation, and utilization of a variety of physical classroom implements**. We conclude that an iterative, user-centered approach to this process provided significant benefits to all stakeholders, and resulted in interactive, engaging spaces comprehensively designed to meet priority learning outcomes.

Each year, school districts use their budgets to update aging buildings by modernizing spaces and installing new furniture and equipment. Between January 2022 and April 2023, over 1,000 K-12 bond initiatives were passed in the United States totaling over \$92 billion dollars.⁵ Based on historical data, it would be reasonable to expect that close to \$2 billion dollars of that will be spent on furniture and equipment for both campus updates and new builds. In addition to bonds, districts are utilizing a combination of annual budgets, private donations, and ESSER funds for the same purposes.

These purchases are an essential part of maintaining each campus, and are typically made through a linear chain of events: a need is identified, an order is placed, and equipment is installed. This approach is straightforward, but it neglects the true potential of these decisions. **What if every purchase of these materials made wide-reaching, positive contributions toward a district's unique learning goals for students?**

Education research increasingly emphasizes the critical role that the physical space plays in student learning outcomes, affecting everything from academic learning to physical safety to social-emotional health. As one study on the topic noted, “thoughtful classroom design demonstrate[s] various ways the physical attributes of a classroom create affordances that promote student engagement.”¹ Although the traditional thinking is that the classroom environment is something teachers teach **in**, new possibilities arise when educators instead view the classroom environments as something teachers use as a tool for learning.





when furniture and equipment are chosen through a deliberate and collaborative process, it leads to improved student outcomes

The design of educational environments, extending from the layout of the classroom to the choice of furniture and storage options, has been empirically linked to improvements in student outcomes. Research from Barrett et al. (2015) demonstrates that a well-designed learning environment can "significantly contribute to student engagement, well-being, and academic performance."² From classroom **design** and arrangement to furniture selection and storage options, the **design** of educational environments can positively impact how students perform, engage, and connect. The installation of that equipment can be most successful if it is accompanied by training and orientation to support its use as a tool for learning.

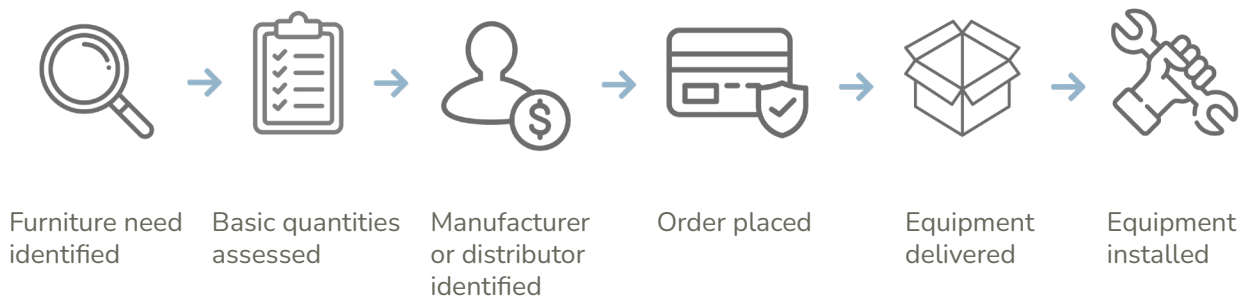
Our observation has shown that when furniture and equipment are chosen through a deliberate and collaborative process, and it leads to improved student outcomes, as well as positively impacting educators. By engaging a multitude of stakeholders in the process of defining Priority Learning Outcomes, furniture testing and evaluation, and the development of long-term furniture and equipment standards, it is possible to avoid some of the most common pitfalls of a traditional approach.

Pitfalls of the Typical Approach



Every dollar spent on furniture and equipment has the potential to contribute directly to improved student outcomes, if those dollars are purposefully aligned with agreed upon Priority Learning Outcomes. Without those common priorities, it is possible for the purchase of new furniture to happen in a vacuum, leading to a process that looks something like this.

A Common Approach to Furniture and Equipment Purchases:



This approach to purchasing can be fast and efficient, but can often overlook the potential impact on teaching and learning experiences either provided (or not) by the new furniture.

Not all districts employ this type of method, but for those that do, the potential results essentially fall into three categories:

NET NEGATIVE:

The furniture purchased actively hinders learning, and teachers respond by changing or removing furniture.



NET NEUTRAL:

The status quo is maintained (“We needed more chairs, and we got more just like the ones we had already.”)
The impact is neither positive nor negative.



NET POSITIVE:

Teachers and students collaborate and actively use the furniture to create improved learning experiences.



Net negative outcomes with the typical purchase process:

- Teachers aren't engaged in the process of selecting furniture and what's chosen **doesn't meet their needs.**
- New furniture is put in place, but **students feel uncertain about how to use it.**
- Teachers are given furniture but **do not receive training and/or are not supported through its implementation.**
- Furniture selected actively **makes the learning process more difficult.**
- The materials purchased aren't used to their full potential for any of the reasons above, **resulting in waste.**

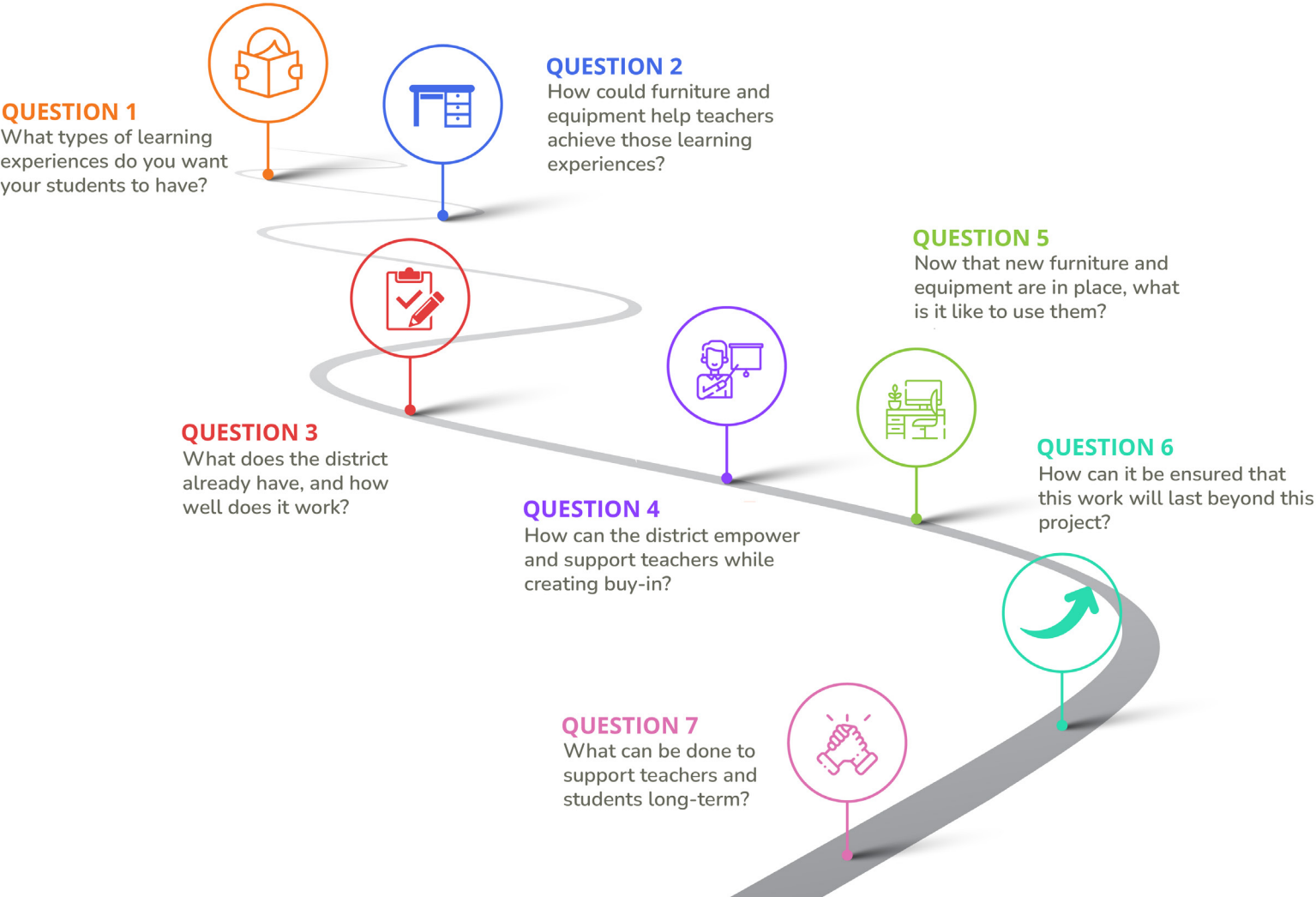
Yuba City USD: A Case Study



Beginning the process of updating her district's classroom furniture and equipment, Superintendent Doreen Osumi of Yuba City USD brought what she'd learned from past experiences and aimed for a successful, effective impact. Osumi wanted her teachers to feel confident and capable of utilizing their new spaces to seek excellent outcomes for students. In order to do that, Yuba City leadership engaged with Meteor Education early on. By acting as a collaborator and employing an intentional process centered on the experience of end users as well as the district's Priority Learning Outcomes, the Meteor Education team was able to help avoid some of the pitfalls of a typical purchasing process.

The approach employed in Yuba City used a series of strategic questions to lead to better purchases. By taking this deliberate method for purchasing, the district was able to assess options that aligned directly with their Priority Learning Outcomes. This process used a series of strategic questions to drive decision making and created a much more wholistic set of shared goals and common language. It relied on user feedback before any purchases were made, pilot testing across grade bands and subject areas, concentrated feedback gathering from pilot participants, larger-scale furniture roll out, and ongoing training and support for educators as those resources were put into place and utilized on a broader scale.

Yuba City's Question-Driven Process





Question 1: What types of learning experiences do you want your students to have?

Meteor Education facilitated a 'Reimagine Workshop' for Yuba City USD leaders and community stakeholders that asked participants to develop common language around what they wanted students to experience in their new spaces.



Yuba City USD Mission and Vision



Yuba City Priority Learning Outcomes

Critical Thinking and Problem Solving
Wellness and Safety (Intellectual, Social, Emotional, and Physical)
Authentic Learner Engagement
Collaboration



Question 2: How could furniture and equipment help teachers achieve those learning outcomes?

By applying the Priority Learning Outcomes identified during the Reimagine Workshop, the team collaborated to develop a set of Environmental Implications that helped provide direction for the form and function required of any furniture to be installed and tested. Workshop participants identified that furniture and equipment would work best if they had the following characteristics:

Yuba City Mission/Vision
+
Priority Learning Outcomes



Environment Implications

Flexible
Mobile
Writable
Dynamic
Student-centered storage



Yuba City leadership knew it was critical to connect their goals to the equipment. "Before we just launched into purchasing furniture, we wanted to be really selective in making sure the furniture was going to meet the needs of our students and the teaching that could go on in the classrooms," says Doreen Osumi, Yuba City USD Superintendent



Question 3: What does the district already have, and how does it work?

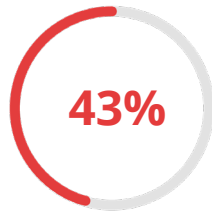
A district-wide inventory of current furniture and equipment was then conducted. The team also captured baseline data of ProSocial Indicators such as the frequency of student collaboration, the quality of conversations observed and learning zones students were currently engaging in, and the wellness and safety in campus spaces.

“Student components such as seating and combination desks were not height adjustable. This likely presented a problem for a variety of student heights, learning styles, and preferred modes of engagement. We noticed a lack of overall flexibility in the spaces.”

– Meteor Education Team Member



of classrooms observed showed students 'knee to knee' or 'eye to eye'



of classrooms observed **didn't show evidence of 'learning zones'** outside of student desks



of Yuba City site's furniture rated 'below average' on a utility scale measuring priority outcome alignment and remaining years of usability



Question 4: How can the district empower and support teachers while creating buy-in?

Meteor Education staff facilitated Collaborative Design sessions, bringing together a wide variety of stakeholders to collaborate on the identification and selection of resources that would be tested in select classrooms across the district. To ensure teacher involvement and buy-in, Meteor Education facilitated an application process to identify pilot teachers who would receive training, implement new techniques and strategies with the equipment, and provide frequent feedback on how well their new environments led toward desired learning experiences.



“With this new environment teachers see hundreds of opportunities to rethink what they do on a daily basis and how they use the actual foundational pieces of the classroom— their furniture—to improve the way they offer instruction to students.” —Pamela Aurangzeb, Assistant Superintendent of Educational Services



Question 5: Now that new furniture and equipment are in place, what is it like to use them?

Meteor Education staff collected feedback about the experiences of teachers and students in the pilot classrooms, which was then disaggregated by grade band. Feedback surveys asked questions about how well the experience of being a pilot teacher went, and teachers were asked to rate furniture and equipment on a scale from “I don’t like it” to “love it.”

Feedback During the Pilot Process



of teachers provided critical and constructive feedback during the pilot process



Across 18 classrooms grade 6-8, students submitted close to **800** feedback forms related to specific furniture experiences at the close of the 6 week period



Meteor staff conducted **three touchpoints** with each pilot teacher over the course of the 6-week pilot

Question 6: How can it be ensured that this work will last beyond this project?

Based on the results of pilot testing, Yuba City USD developed district standards, fine-tuning the list of options for furniture and equipment that would be distributed on a wider scale throughout the district. By centering the feedback of students and teachers, Yuba City was able to make purchases that fit long-range Priority Learning Outcomes.

“I wanted [this process] to be sustainable. I wanted it to outlive my time in education. I wanted it to really be about our students and about our staff and about providing the best teaching and learning environments that we could to our community and our district.” —Doreen Osumi, Superintendent

Question 7: What actions should be taken to support teachers and students long-term?

After pilot testing was complete, the team began the process of rolling out new furniture and equipment to grade bands across the district. Training and support was provided to all teachers, offering opportunities to learn about the equipment selected, how it connects with the targeted Priority Learning Outcomes, and how it could be used in multiple ways in the learning environment. Learning Services and Leadership Support are also available for continued support.

Ongoing support offered to Yuba City teachers

50 visits from Meteor Education during the first year across **13** school sites including formal training and teacher check-ins. Training offered to **200** total teachers/classrooms. **Each teacher** to receive **four hours** of training over the next year.





Outcomes and Learnings

The iterative assessment and purchase process at Yuba City resulted primarily in improved student outcomes. As seen below in a sample of preliminary observation data, and even considering a brief period of implementation, the incidence of ProSocial learning indicators increased significantly. **Additionally, teachers participating in the pilot process reported a high level of satisfaction with the process, suggesting a positive approach to this particular type of change management at a district level.**

Scope and Experience

9492 total students impacted, from Pre-K through 8th grade

200 teachers empowered

4.35/5 average experience rating for pilot teachers

ProSocial Indicators

2x increase in evidence of learning zones being utilized in classrooms

3x increase in number of students-to-student conversations observed

4x increase in spaces with fluid mobility and open walkways

The Yuba City experience suggests that there are significant benefits for all stakeholders if critical elements are included in the process for environment updates or modernization.

Key Takeaways

An Effective, Collaborative Process Should...

Prioritize Human Relationships with All Stakeholders

- Treat all stakeholders as humans first AND as customers second. These things are not mutually exclusive.
- Assume positive intent from all people participating in the process.
- Maintain high levels of clear, consistent communication including what steps are being taken, the rationale behind them, and that person's role in the project's success.

Honor Authentic Stakeholder Voice

- Teachers are professionals, so seek and acknowledge their expertise where appropriate.
- Ask questions about their experience with curiosity, and respond to challenges earnestly and swiftly.
- Include and synthesize a wide variety of stakeholder feedback in the process.
- Weight both student and teacher experience highly when finalizing designs

Keep Student Outcomes Central

- Ask questions early in the process to identify priority learning experiences. Learning experiences should include academic, social, communication, safety, and other goals.
- Evaluate each purchasing decision on its impact on reaching desired learning outcomes.

Engage in Consistent, Data-Driven Support and Training

- Prioritize training of all stakeholders, including all staff receiving new resources.
- Provide multiple venues for training, including formal in-person training and online support.
- When training is provided, it leads to increased stakeholder satisfaction and project buy-in.
- When users are trained on the furniture and equipment, it ensures effective implementation strategies and technique.



Conclusion



Outside forces such as the COVID-19 pandemic, changing political discourse around public education, and the growing industry around Artificial Intelligence have together only exacerbated challenges that have been present in K-12 education for many years. Increased professional demands have left educators in many states struggling to stay in the profession, even if they are passionate about and committed to students. Students have struggled both academically and emotionally, and many districts are still regaining their footing and identifying how to best support students and staff now and into the future.

Furniture and equipment purchasing has the potential to make a major impact on how buildings are used, environments come together, and connections are built. This knowledge drove the decision making in Yuba City, and is why they chose to invest so deeply in this process. “I wanted it to be sustainable,” says Superintendent Doreen Osumi. “I wanted it to outlive my time in education. I wanted it to really be about our students and about our staff and about providing the best teaching and learning environments that we could to our community and our district.”

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- 2 Barrett, Peter, et al. "The Impact of Classroom Design on Pupils' Learning: Final Results of a Holistic, Multi-Level Analysis." Building and Environment, vol. 89, 2015, pp. 118-133.
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“When you do design for the average, you’re really not designing for anybody. So having these options for seating, giving the kids more agency in where they sit and how they arrange their classroom and what their learning environment is, that helps them out a lot in just wanting to be there.”

— Becca Robertson, 7th and 8th grade science teacher

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