

The Mindset Thing: Exploring the Deeper Potential of Integrated Design

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Photo: SHW Group

The Roy Lee Walker elementary school in McKinney, Texas, features daylight classrooms, green technologies, and a strong connection to the outdoors from each classroom wing.

In the late 1990s I was part of a team hired to consult on a model green elementary school for McKinney, Texas. The kickoff workshop for this project included the architects (a firm specializing in school design), our team of consultants, and teachers and other staff from the school district. As the workshop began, participants couched all ideas about the green school in terms of modifications to current school designs. Each idea had to be justified individually. Needless to say, this approach was leading to a design that would be at best a light shade of green.

I was there to provide input on materials choices and water conservation technologies, but when it was my turn to present, I felt compelled to try to shift the group's perspective. We had visited the building site earlier in the day—an attractive field surrounded by hedgerows. I asked the group to imagine themselves as teachers, on the site with a group of students. What pedagogical opportunities were available to them, and what services would they require from the school building to teach effectively? By turning the conversation to the basic need for shelter and the opportunity of a connection to the environment that most buildings lack, I hoped to reframe the conversation about what a green school might be. At the time, I wasn't convinced that my efforts succeeded, but each classroom in the model school provides a direct connection to the outdoors, so maybe that exercise had at least some influence on the

outcome.

In retrospect, my naïve effort at shifting the group's perspective was an attempt to address the collective mindset. Some designers and consultants in the building industry have made the mindset thing a focus of their work, both to increase their chances of success in implementing green measures and to explore the possibilities of creating projects that go beyond green or sustainable design as it is typically defined. This article offers a peek at what those people are doing and why they believe it's important.

What is Mindset?

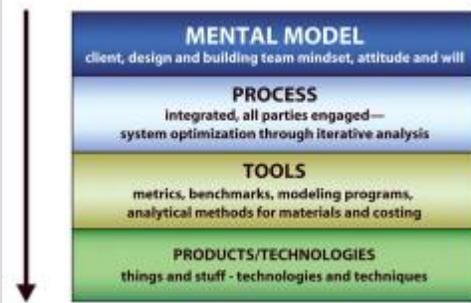
The term "mindset" refers here to the set of assumptions and inclinations—the mental models—that are inherent in our view of the world. These assumptions are usually so entrenched that we are not even aware of them while we're under their influence. Like our eyes (which we can't see unless we look in a mirror), they are the lens through which we see and understand everything. After we've let them go, these assumptions become blatantly obvious in retrospect. In this sense, mindset can be thought of as the implicit worldview that we carry without even realizing that we're carrying it.

For whole societies or cultures, the collective mindset is often described as the prevailing paradigm, which becomes apparent only after a paradigm shift. Until Europe collectively realized around 1500 that the world was round, no one would have thought to describe the previous paradigm in terms of the world being flat.

Addressing Mindset to Increase the Odds of Success

In her essay "Nine Places to Intervene in a System," the late Donella Meadows grabbed people's attention by rating "numbers" lowest. These numbers, according to Meadows—the subsidies, taxes, and standards that policymakers usually focus on to modify behavior—are rarely as effective as people imagine. Number one on Meadows' list—the highest leverage point—is "the mindset or paradigm out of which the system arises."

The inertia of the building industry and the tendency to fall back into doing things the way they've been done in the past makes it challenging to introduce new technologies and design solutions. When a client and design team are operating within their usual set of assumptions and relationships, they frequently abandon green measures in the face of schedule, budgetary constraints, or contrary participants in the project. If the project team has adopted a mindset that casts conventional solutions as unacceptable, however, backsliding is much less likely.



Source: Barbra Batshalom and Bill Reed

Much of the green building world's attention is on products and technologies, but without good design tools those products can easily be wasted. Effective use of tools requires a good process, which depends, in turn, on supportive mental models.

Consultants Barbra Batshalom of The Green Roundtable in Boston and Bill Reed of Integrative Design Collaborative in Arlington, Massachusetts, have adapted Meadows' thinking to their work with design teams by reducing the hierarchy from nine places to four levels (see diagram).

They describe the materials and technologies on which most of us focus as the tip of the iceberg. "We got in trouble in the first place because we got married to our technologies and systems," concurs developer John Knott of Noisette Company in South Carolina.

Products and technologies are the things that designers ultimately implement to create a green building, but to use them appropriately, design tools, such as energy simulations and performance benchmarks, are needed. The effectiveness of these tools depends, in turn, on a design process that supports the use of the tools at the appropriate time. "Running an energy simulation after design development to show what you've achieved misses the point," argues Reed. Ultimately, convincing clients and the rest of a project team to change the process by which they design and build requires a shift in mental models. Without such a change, activities at the other levels can easily be undermined or misdirected.

Georgia-based developer Martin Melaver exemplifies the power of a change in mindset. When asked why his company is committed to building green in spite of the many barriers, he describes the alternative as simply unacceptable. If we don't take every opportunity to conserve resources and preserve the health of the planet, according to Melaver, how can we tell the next generation that we were doing the right thing? "That would be like lying to our children," he says. That commitment empowers Melaver's design team to make ecologically sound choices, even when conventional wisdom suggests otherwise.

Sometimes a shift in mindset reveals opportunities that were being missed in a business-as-usual approach. Batshalom describes consulting on a training center for a firefighters academy, which included

dormitories as a large and problematic component of the project. Delving into the need for those dorms, Batshalom discovered that trainees had been housed successfully in local bed-and-breakfast accommodations. By choosing to strengthen its connection with those establishments instead of building dorms, the facility was able to reduce its cost and impact significantly. Perhaps more important, it shifted the project's effect on the local economy from negative to positive and alleviated many of the community's objections to the project.

All these benefits accrued by asking the simple question: Do we really need this building? "The building that doesn't get built is the greenest of all," argues Reed, bemoaning the fact that there is no way to reward that choice in rating systems such as LEED®.

Expanding the Possibilities of Sustainable Design

Whether it is a building that produces more energy than it uses, or one that is constructed entirely of indigenous, biodegradable material, or one that breaks down the barriers between industrial and natural systems, there are many visions of design beyond the LEED scorecard. Common to many of these is the view that minimizing the negative impact of buildings doesn't go far enough. It doesn't go far enough, according to these advocates, for several interconnected reasons: 1) The number and scale of buildings under construction is growing fast enough to overwhelm the benefits of any incremental improvement in the performance of those buildings; 2) The environment has already been degraded and stressed to the point where restoration and regeneration are required; and 3) The creation of a building represents a moment in time when significant attention, energy, and capital are concentrated, making positive interventions and even transformations possible.

Regardless of one's reason for seeking to create a project that goes beyond the scope of typical green buildings today, actually achieving such a goal requires tremendous commitment and dedication from everyone involved. That kind of commitment is unlikely to emerge on projects in which the green goals are justified on strictly financial grounds. In practice, that sort of commitment seems to emerge only when the participants feel a connection between the project goals and their own deeply held values, and when they participate in the development of the goals themselves.



Rendering: UJMN

The renovated Friends Center in Philadelphia is likely to become a model green project for the city, thanks to a comprehensive program of education and engagement that transformed the mindset of the stakeholders.

Developer and green process-facilitator Sandy Wiggins describes an experience with the Friends Center in Philadelphia, which had received a grant from the Kresge Foundation to help create a green building but was struggling to actualize its green intentions. The architect, Mark Ueland, was new to the practice of integrated design with energy modeling and other inputs, and the project was not coming together well. The Center's executive director was considering returning the funds to Kresge. Wiggins was approached for help, but he too was not optimistic, as the project was already through schematic design. Wiggins discovered, however, that the Center's board of directors was committed to the environmental agenda, and they agreed to scrap what had been done and start over. Wiggins led an extensive educational process during which participants learned about energy, water, and material flows through a downtown Philadelphia building. This process was followed by a large, multiday charrette at which stakeholders collectively developed goals and a vision for the project. The architect, the organization's fundraiser, and others who had been skeptical came away inspired. "This process has opened and galvanized our client in a way that is just unbelievable," says Ueland. The project is now on its way to becoming carbon neutral, independent of the city's dysfunctional sewer system, and a candidate for LEED Platinum certification. With the community as the driver, the project went from barely green to a showcase, standing as a model for other projects.

Performance over time

Engaging the vision and energy of the client or community to help create a green project is valuable not only for overcoming obstacles during the design and construction; perhaps its biggest value is in the role this stakeholder group can play in the continuing evolution of the project. Creating a low-impact building or restored ecosystem is only the beginning. If no community is engaged to nurture and sustain those

environments, they are likely to deteriorate, and their performance will suffer.

Without good training and institutional memory, nearly every building starts to decline shortly after the building contractor or commissioning agent departs. Whether the trickle ventilators get sealed up by well-intentioned maintenance staff, lighting controls are overridden rather than adjusted, or lightshelves get appropriated as handy storage space, maintaining a building's intended functions requires knowledge and attention.

An engaged and inspired community, on the other hand, can not only maintain and sustain the facility but co-evolve with it, learning about the possibilities of the place as the building and sitework mature. "It's about honoring the invisible connections," says Reed, referring to the connections within the community of people as well as those between the people and the place. Lightshelves might actually be adjusted for improved performance as the movement of the sun through the seasons and growing vegetation shed new light (literally and figuratively) on their possibilities. Gardens are a constant opportunity for innovation and experimentation, and wildlife habitat must be both protected and sometimes modified to serve its inhabitants.

Some Methods for Working with Mindset

Consultants and designers who have pursued projects in this way tend to be skilled at facilitating groups in creative processes and good at listening to everyone involved. In addition to these general skills, however, they have usually identified some useful strategies for helping clients, project teams, and even broader stakeholder groups experience a positive shift in their mindset. At an April 2005 workshop in Tarrytown, New York, sponsored by the U.S. General Services Administration with support from the Rockefeller Brothers Fund, a group of visionaries gathered to explore ideas for "Expanding Our Approach" beyond sustainable design as it is generally understood. Among the ideas shared during this workshop were strategies for supporting these mental shifts.

Primary among these strategies was the need to elicit vision, values, and solutions rather than imposing them. "You have to deal with people where they are, not where you want them to be," suggests Knott. "It's about respect," he adds. "Start with listening and observation, as opposed to assumptions."

Listening and observation are central to good facilitation practice in general, but they are given short shrift when the consultant serves as an expert with the answers as well as a catalyst for change. Separating the roles of facilitator and expert can also help educate participants, because while the facilitator remains neutral in relation to the subject matter, the

expert is free to share knowledge about building systems, ecological systems, and how they interrelate.

Some principles from the practice of sustainability education in general were deemed by the workshop participants to be relevant to project situations as well. These principles, from the Cloud Institute for Sustainability Education, suggest that the teaching:

- center on learners as opposed to content;
- focus on uncovering and shifting mental models;
- be interdisciplinary (and cross-disciplinary and multidisciplinary);
- emphasize critical thinking and the questioning of authority;
- demonstrate upstream thinking, or thinking about where things come from;
- create learning organizations and learning communities (no experts, only co-learners); and
- commit to constant improvement.

“Education is a big part of it,” says architect and consultant Bob Berkebile, FAIA. He typically shares information along with stories and examples that illustrate the power inherent in a shift in perspective. Once the stakeholders in a project have some understanding of how their project relates to its local, regional, and global environment, they may begin to make connections based on their personal environmental values. In that situation, the green goals for a project come from the stakeholders themselves, and thus automatically have the support of those stakeholders. “At the root it is building a sense of community,” says Berkebile. “It involves moving beyond the awareness you came with, to a larger sense of community and vision. If that can happen, the potential increases at a geometric rate,” he adds.

Some consultants explicitly encourage participants to connect with their deeper, underlying values. Not everyone agrees that that’s a good place to start, however. “I’m more timid about connecting to people’s core values,” notes Batshalom. “I’ll push on the issue of values, but only if I already have an established trust with the client,” she adds. The main point, according to Batshalom, is to find a point of entry with a client and then help the members of the project team see where they are unnecessarily limiting their options.

Final Thoughts

Even with the best intentions, success is never guaranteed. All the consultants we spoke with have at least as many stories about projects that got away as they do about projects that came together in a new way. These failures are often associated with a lack of adequate preparation with the client and stakeholder group before pivotal meetings, with new players (who are not on board with the group’s direction) joining the process midstream, or simply with outside forces beyond anyone’s

control. The best practitioners share a strong commitment to learning from those disappointments, however, and finding out where their own mental models may be in the way.

– *Nadav Malin*

For more information:

Expanding Our Approach workshop documentation is available at gyre.buildinggreen.com.

Donella Meadows' essay "Nine Places to Intervene in a System" is also available on that site, at gyre.buildinggreen.com/follow/reading/meadows.html.



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