

particular core competency or personal passion of an employee and encourage the employee to take on roles and responsibilities that apply that expertise or passion. Rather than pigeonholing their staff into narrow, prescribed roles, they encourage staff to cross traditional role boundaries or pursue a skill or area that expands their practice and breathes new life into their work. Designers nurtured in this way evidence the difference in their lives, their work, and their ability to address their clients' challenges.

In some cases, particular management practices will emphasize that employees should gain personal mastery of skills beyond the process of design—skills critical to being an active participant in business and society. One management style, precipitated by the trend toward flattened organization structures (and practiced by at least one major firm), drives a great deal of responsibility to the lowest possible level. As a result, inexperienced staff members are accountable for client interactions and project delivery. To make this work, the recruiting process seeks to identify general communication skills, the ability to think in common-sense terms, and recognition of when experienced assistance is required. And with this experience, staff members are expected to hone these social and business skills.

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## MENTAL MODELS

Design relies heavily on mental models—the images, pictures, assumptions, or stories we carry around to describe or explain the way the world works. The way designers treat volume, arrangement, materials, or lighting is highly dependent on the response these things engender in the occupants of the space. A designer will try to use mental models to create a particular reaction or evoke a particular feeling.

Senge explains that mental models affect what we do because they affect what we see. He points out that the challenges we face because we all operate from our own mental models “lie not in whether they are right or wrong—by definition all models are simplifications. The problems with mental models arise when the models are tacit—when they exist below the level of awareness. When [we] remain unaware of our mental models, they remain

unexamined. Because they remain unexamined, they remain unchanged.”<sup>2</sup> In other words, in order to think outside the box, you have to recognize what box you are in. Senge describes the Detroit automakers as an example of this phenomenon, saying, “As the world changed, a gap widened between Detroit’s mental models and reality, leading to increasingly counterproductive actions.”<sup>2</sup> He goes on to point out that “entire industries can develop chronic misfits between mental models and reality. *In some ways, close-knit industries are especially vulnerable because all the member companies look to each other for standards of best practice.*”

How can the design profession prevent this counterproductive myopia? How can designers improve their awareness of their own mental models and that of their clients and become more open to change? Senge advocates two “learning skills”: skills of reflection and skills of inquiry. He says, “Skills of reflection concern slowing down our own thinking processes so that we can become more aware of how we form our mental models and the ways they influence our actions. Inquiry skills concern how we operate in face-to-face interactions with others, especially in dealing with complex and [conflicting] issues.” Senge refers to the work of David Schon of MIT in showing the “importance of reflection on learning in professions including medicine, architecture and management. While many professionals seem to stop learning as soon as they leave graduate school, those who become lifelong learners practice what he calls ‘reflection in action.’” For Schon, this ability distinguishes the truly outstanding professionals: Phrases like “thinking on your feet,” “keeping your wits about you,” and “learning by doing” suggest not only that we can think about *doing* but that we can think about doing something *while doing it*.<sup>4</sup>

So much of what designers do is match cues in the environment with the meanings that designers or their clients attribute to those cues. For instance, *wood connotes richness and prestige; the generosity of space is directly correlated to one’s status; and asking people what they want should make them more accepting of the outcome even if they don’t get what they asked for.* Continuing education courses on the way people respond to color, or what distance from our bodies we consider our personal space, for example, are great ways to challenge assumptions and add to an understanding of the mental models people share. Through such courses, designers will learn that some models are universally applicable, while others depend on culture, geography, societal norms, religious beliefs, or other manifestations of our diversity.