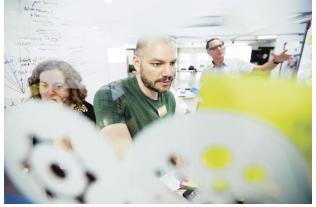# THE CHRONICLE OF HIGHER EDUCATION

ADMINISTRATION

Can Design Thinking Redesign Higher Ed?

By Lee Gardner | SEPTEMBER 10, 2017   ✔ PREMIUM

PALO ALTO, CALIF.

Noah Berger for The Chronicle

Professors from around the world work together in teams during a workshop on design thinking at Stanford's d.school.

We had our assignment: Find ways to encourage lifelong learning. But we weren't going to have a meeting. We weren't going to form a committee. We weren't going to write a grant.

Instead, about 50 college professors and administrators and one reporter ventured out on the main quad at Stanford University to do something that many of us would rather not: talk to strangers. Divided into interview teams, we fanned out to buttonhole passers-by. "If you could learn something new, what would it be?" we asked. "And how would you prefer to learn it?"

It might seem like a rudimentary query, but the obvious nature of the question was part of the point. The professors had come to Stanford to learn about design thinking, an approach to problem solving and innovation that has gained currency in the business world in recent decades, and has gained a foothold in higher education, too. The university's Hasso Plattner Institute of Design, known in all but the most formal instances as the d.school, is the mother church for design thinking in academe. Founded in 2005 by Stanford professors — among them David M. Kelley, a professor of engineering and founder of the design firm IDEO — the d.school has grown into a unit

with more than 100 professors and visiting instructors teaching classes each year, and a widely recognized brand.

At its core, engaging in design thinking means retraining yourself to think differently, to break habits of mind and entertain possibilities you didn't even realize you were shutting off.

The promise of innovation on tap has drawn a growing number of professors and college administrators to design thinking. Some see it as a way to better engage a new generation of students. Some see it as a tool to bring fresh thinking to colleges bound by tradition and inertia but operating in an increasingly volatile landscape. The more skeptical see it as yet another corporate-culture fad infiltrating academe and taking up time and energy that could be spent on the mission.

In the Classroom and Beyond

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Either way, design thinking is an odd fit with academe in some respects. In design thinking, the experts are the end users, not the scholars sitting on decades of research. Emotion can outweigh intellect. A fast, cheap stab may lead to a better outcome than an expensive, fussed-over pilot program. Screwups are to be taken in stride, not minimized in embarrassment.

The interest in design thinking at colleges, and the uncertainty about it, led to my standing with notebook in hand on Stanford's sunny quad. The d.school invited *The Chronicle* to embed a reporter as a participant in a Teaching and Learning Studio, one of a handful of workshops offered throughout the year specifically to teach design thinking to college personnel. Hours into the first day, the workshop's team of instructors shooed us outside to conduct empathy interviews. Establishing empathy with potential users is the critical first of five key steps in the design-thinking process.

My partner was Molly M. Wasko, associate dean for research, innovation, and faculty success in the business school at the University of Alabama at Birmingham. Neither of us looked forward to interrupting strolling strangers, but we did. We spoke to a middle-

aged man who turned out to be a Stanford professor, a woman and her teenage daughter, and an elderly couple. While one of us chatted with the subjects, the other took notes on their responses, especially any involving emotions or interesting bits of body language. We were trying to look past small-talk politeness for how our subjects felt about their learning experiences.

Our subjects wanted to learn math or European history or cooking, but their yearnings were vague and casual. They didn't seem to need our help. Then we met Pauline.

From a distance, I dismissed Pauline Hinton as a potential interview subject. Her cropped hair, Stanford T-shirt, and bouncy stride scanned as a callow undergraduate unlikely to offer much insight. When we approached her, at Ms. Wasko's suggestion, we discovered an ebullient 59-year-old with an Australian accent. She had recently gone back to school to study psychology at the University of Western Australia, and had spotted Stanford's summer program on a list of study-abroad options. She applied, although she told us she assumed she wouldn't get in. She was accepted, but wasn't sure if she could, or should, upend her life at home to come. She seemed to be having a ball. She could only talk for a few minutes as she was already late for a free lecture.

Her story was full of self-doubt, second-guessing, and joy at studying at Stanford for the summer. Here was someone who hadn't yielded to the nagging little voices in her head telling her it would never work. It was easy to imagine there were many older learners like her who might not make that leap.

Back at the d.school, Ms. Wasko and I rejoined our four-person design team and zeroed in on how we might create a product or a service to help older learners

Some see it as a tool to bring fresh thinking to colleges bound by tradition and inertia but operating in an increasingly volatile landscape.

find the resources, and the confidence, to return to school. Because of our empathy interviews, we weren't pondering how to help some generic lifelong learner. We were

designing for Pauline.

There were times during the workshop when dozens of seasoned academics were coaxed by instructors into acting a bit like kids at summer camp. We walked like zombies and flapped our arms like birds. We built things out of cardboard and pipe cleaners. We lip-synced to "I Want It That Way" by the Backstreet Boys.

In one of the d.school's many flexible spaces — much of the building's furniture is mounted on wheels — we played an improv game, responding en masse to suggestions to writhe on the floor like beetles or dance like characters from the Peanuts comic strip. We participated in a sudden-death rock/paper/scissors tournament that turned the room into a mass of yelling fans cheering on the finalists.

The games, known among the d.school instructors as "stokes," served several purposes. They got a room of strangers energized, and laughing and talking with each other, but they also helped illustrate, and establish, the tenets of design thinking. There are no bad ideas. Surrender your ego. Celebrate failure.

Noah Berger for The Chronicle

One workshop session was meant to help faculty members come up with ways to encourage busy students to focus on innovation.

At one point, I was paired off with Bryan T. Stinchfield, an associate professor of organizational studies at Franklin & Marshall College, to alternate counting out loud through a short sequence of numbers as rapidly as possible. Within a round or two, we had each screwed up. But that was the point. We were supposed to notice our emotional and physical reactions to our gaffes: the embarrassment and defensive body language that we tried to disguise with smiles. Embarrassment and shame, even in such small doses, have an inhibiting effect.

To do design thinking properly, we would need to embrace failure, even celebrate it, because trying and failing and trying again is key to the process. We were told that the

next time we failed, we should throw our hands in the air as if we'd just completed an acrobatic feat and shout, "Ta-dah!" It soon became a habit.

These exercises can serve other purposes, says Madlen Simon, associate dean for academic affairs and outreach in the School of Architecture, Planning, and Preservation at the University of Maryland at College Park, who uses design thinking in her teaching. At the root of stokes, she says, "You're connecting with other human beings."

Not all participants were completely sold. Dirk W. Eitzen, a professor of film and media studies at Franklin & Marshall, was right there in the thick of the stokes, but remained somewhat skeptical. "I'm only interested in what works," he said in an interview after hours. "I'm leaning in, I'll do what they tell me. But at the end of the day, I have to be satisfied that it's not just some cool fad."

One of the first things you learn at the Teaching and Learning Studio is that you will never feel like you have enough time. One of the precepts of design thinking is encouraging "a bias to action." It's better to do, and learn something through doing, than to mull and futz until you think you're ready. The instructors assign tasks in a relentless march of 15-, 20-, or 25-minute blocks.

Our team spent one of those blocks pondering Pauline's story, and the challenge she represented. How might we enable older students like her to overcome doubts about access and their ability? We had conducted empathy interviews, which is Step 1, and defined the problem we wanted to solve, which is Step 2. Time for Step 3: thinking up ways to solve it.

In design thinking, brainstorming is physical. We saw no long conference tables at the d.school. You are meant to be on your feet, active, engaged, not sitting back or detached. Almost every space is lined with whiteboards and stocked with heaps of colorful Post-it notes and markers, and you're supposed to use a lot of them during what's known as ideation, because the volume of ideas — any ideas — matters more than the perceived quality. A wild, seemingly impractical idea spit out in the heat of the moment may carry more promise than it first appears. At the d.school, using the words "Yes, but …" to start a sentence is a cardinal sin.

Our brainstorming produced few completely crazy notions. But being encouraged to think outside the bounds of affordability or perceived practicality unleashed all kinds of ideas. These phrases are from our sticky notes:

> *Airplane miles for learning*
>
> *How do we make it like a weekly pedicure?*
>
> *Clear and low barriers*
>
> *Tech "Sherpa"*
>
> *Free ice cream*

The design-thinking style of brainstorming also helps amplify quieter voices in a creative conversation, and prevents one voice from dominating. Scribbling our ideas on colorful squares of paper helped get all of our notions on the board, and gave them all equal weight. Having all of our ideas in front of us also allowed us to notice relationships across the board — literally — and to cluster notes together and find common threads.

Pauline's clear pleasure in her exotic adventure had made an impression. How might we make going back to college seem like a vacation — "an allowable luxury," as Ms. Wasko put it?

An idea started to emerge, accumulating from bits we'd all put forward. What if we could create something like TripAdvisor, the travel website, but for older learners? What if we could combine information about academic programs with links to resources and support, testimonials from students who had gone back, user reviews, and social-media components?

I n design thinking, it's important to have something tangible to help you work out your ideas, and to gain feedback on it from potential users. What you need is a prototype. Roll out something cheaply, quickly, and probably before it's ready, and use the feedback to make the next prototype better — or to scrap it and start over.

How do you mock up a website in minutes from materials you would find in an elementary-school art closet? In this case, we built a monitor and keyboard out of bits of

cardboard and tape. One of us would stick our head inside the cut-out screen and answer questions as if we were the website.

Team Pauline improvised a few scenarios with one team member playing a potential user to figure out how introducing the prototype might work. (Role-playing and improvising are key parts of working out bugs in the design-thinking process.) Too soon, we headed back to the quad.

Approaching strangers while you're wearing a cardboard frame around your face looks exactly as dignified as it sounds. I would like to say that we persevered, but the prototype soon wound up tucked under a team member's arm. In talking through our concept with a new set of random interviewees, however, we learned a lot. For example, some older subjects we targeted were wary of giving yet another website their personal information. Clearly our solution would need much work.

But then a woman strolling the Stanford campus with her elderly mother casually asked, "When do you launch?" What I can only describe as a narcotic flush spread through my brain. Someone heard our idea, which we had whipped up in under 24 hours and illustrated to her with some gab and taped-together cardboard, and took it seriously. It was easy to see how people get hooked on that feeling.

B y the end of the third day of the workshop, the instructors seemed to know that the exhausted professors could use a breather. They scheduled an evening screening of *Extreme by Design,* a documentary on the d.school's capstone course, "Design for Extreme Affordability," where students from different disciplines spend two quarters developing inexpensive solutions to specific local problems in developing nations. The course's biggest success story is Embrace, a daypack-sized newborn warmer developed for remote regions of Nepal that costs about $200.

But not every design-thinking process changes the world. The film noted that the end of each course presents a dilemma for its budding innovators: spend two or three more years developing their prototype into an actual product that can perhaps effect real-world change, or abandon their inspiration and their work and move on. After the rush of feeling innovative comes the sobering reality of bringing an idea to fruition. As the

workshop moved on from the design-thinking process to its application, Team Pauline had to abandon our brainchild and any germ of promise it held.

The workshop's participants faced a further challenge. Leticia Britos Cavagnaro, the lead instructor in the Teaching and Learning Studio and the co-director of the University Innovation Fellows program, says that the biggest problem budding design thinkers face when they return to campus is "coming back to a system that might not be designed for this way of teaching and learning."

Noah Berger for The Chronicle

Leticia Britos Cavagnaro (right), an instructor in Stanford's design-thinking workshop, talks with Kai Bruns, a political scientist from the American U. of Ras Al Khaimah, in the United Arab Emirates. Academics face a challenge, she says, because they work in "a system that might not be designed for this way of teaching and learning."

After all, academe is a hereditary culture. Scholars base their work on a foundation of knowledge built by their forebears, and they often base their teaching on that of their forebears, too. Among other things, this dynamic has led to the continuing dominance of the lecture, despite research that suggests it's often less effective than more active methods. Ms. Britos Cavagnaro, who earned a Ph.D. in developmental biology from Stanford, says she found her way to the d.school after coming to the realization that "I had learned in spite of how I had been taught."

It was easy to see the logic behind the crazy ideas and improv games within the whiteboard-lined walls of the d.school, and to envision them happening in a college classroom. But as Ms. Wasko asked regarding one particular icebreaker activity that found participants wriggling on the floor, "Can you imagine that in a faculty meeting?"

Ms. Wasko was one of several participants who believes that design thinking offers a key to the type of innovation that universities sometimes have trouble mustering. "We do what we're good at doing," she says. "We have a tendency to just implement the last program that we implemented, or a variation. Or we take courses that already exist and we just mash them up in a new way and say it's a new degree." With design thinking, she

says, innovation "is a repeatable process that can be learned and applied."

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But there is some resistance to the recent emphasis on innovation at many campuses, and much of it appears to come from how often the terms "innovation" and "entrepreneurship" appear linked together. The latter connotes commerce, which turns off professors who feel that higher education already suffers from too much corporate thinking, Ms. Wasko says. But there has to be some way, she adds, to use some of the skills of an entrepreneur to tackle problems: "You've got to be able to move an invention, an innovation, an idea forward to have impact."

Scott A. Wible, an associate professor of English at the University of Maryland at College Park, says he's gotten eyerolls from colleagues when he's brought up design thinking in meetings. But he has also found that it's easy for professors to lose focus on the needs of the users — in this case, students. For example, the English department at Maryland has seen its number of majors drop, and recently underwent a yearlong self-study to revamp its curriculum in ways that were "grounded in attention to the student perspective and defining student needs," he says. But faculty meetings on the proposed changes quickly bogged down in the proper dates of literary periods and other details that matter far more to scholars than they do to students. "That sense of taking that student perspective completely left the room again," he says.

In the middle of a snap design challenge or a sweaty movement exercise, with a bespoke motivational playlist pumping at just the right volume from nearby speakers, it's easy to get swept up in the fervor of design thinking. That doesn't mean participants didn't ponder its limits after workshop hours.

Design thinking's emphasis on innovation based on interviews with a small number of participants can limit the size of the problems it tackles, for example. What if we had

never stumbled upon Pauline? Would our design have felt so potentially transformative?

Mr. Wible, who teaches writing, has students use design-thinking principles in assignments. Conducting empathy interviews has helped his health-writing students expand their understanding of campus mental-health issues and come up with more incisive solutions, he says. But a design-thinking approach leaves unaddressed the larger societal factors that fuel the rise in the need for mental-health services, like worries about the job market or student debt. "There's not a space for that type of macro-level analysis and critique," he says.

Likewise, the larger challenges in academe may be beyond the aid of design thinking, according to Amy Collier, associate provost for digital learning at Middlebury College and a former director of digital learning initiatives at Stanford, who poked holes in the idea of design thinking as higher education's antidote to disruption in a blog post. In an interview, she praised design thinking's ability to help people "get unstuck from the ways we typically think about things." That said, she worries "about the design-thinking methodology favoring solutionism rather than engagement with complex problems and looking for root causes and systemic issues." Colleges need to apply a critical eye to what design thinking can and can't do, she says.

But design-thinking proponents have a nuanced view of its potential, and its use. Erica Estrada-Liou, the director of curriculum and experiential learning for the University of Maryland's Academy for Innovation and Entrepreneurship and an instructor in the d.school's Teaching and Learning Studio, says that enthusiastic faculty members sometimes think that design thinking "is almost a silver bullet," she says. "And I have to talk them down a little and say, well, no, not all the time."

Its potential for success may depend on the subject, or objective, of a course. If a class is focused on correct answers, or optimal solutions, design thinking may be a bad fit. Ms. Estrada-Liou says that she sometimes looks not at the subject in question, but at the behaviors a professor wants to encourage. Are students having a hard time working in teams, or showing unfinished work in class? If so, design thinking may be able to help.

After all, design thinking is more than just a process, says Ms. Britos Cavagnaro. While the workshop teaches the steps, ultimately it aims to foster the abilities that underpin

them — navigating ambiguity, fixing the right problem, considering the widest range of possibilities. Design thinking is about inspiring "a prototyping mind-set, an experimental mind-set," which, she says, "is ultimately a learning mind-set."

M any workshop participants wound down the week ready to reconsider the way they do things. A selection of nontraditional class syllabi presented by the instructors made Mr. Wible question why the ones for his classes look the same as those he got from his professors in graduate school. "Is that a conscious choice you want to make?" he asked. "If so, that's fine, just do it, but just think consciously."

The design-thinking mind-set took hold in other, less tangible ways. The brainstorming exercises made Daniel R. Ardia, an associate professor of biology at Franklin & Marshall, realize "how often I pre-filter the ideas that I express, and how my own approach in asking questions pre-filters the answers my students give. Even if those wild ideas don't go anywhere, the process itself is valid."

Mr. Eitzen, also of Franklin & Marshall, came to the end of his four days at the d.school exhausted but won over. He still has reservations about design thinking, especially the way it de-emphasizes expertise. "I worked with some really smart and creative people in the small groups," he says, "but I would not hire those guys to build my deck. You need some skill." But he says he referred to the lessons he brought home from Palo Alto as he prepared his fall classes, and he'll be using the listening exercises to encourage creativity in his students.

Evidence suggests that students are hungry for the kind of learning that design thinking offers. While they were attending the Teaching and Learning Studio, the five professors from Franklin & Marshall were in the middle of designing a team-taught course on creativity, innovation, and design that would draw from disciplines across the college. They were still piecing it together in Palo Alto, but they had already put up a few fliers for the course last spring.

Because they had to accommodate the schedules of a dozen professors and staff members, the only time they could schedule the upper-division course was Friday afternoons. Over Indian takeout one evening, Mr. Stinchfield, the organizational-studies

professor, admitted that he had been nervous about the timing at first. "Good luck finding juniors and seniors who want to take a three-hour-long class on Friday afternoon," he said.

All 18 spots were taken before fall registration even began.

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