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Stanford reimagines the college lecture hall.

by **Christopher Hawthorne**

If you take away the computer jacks and wireless connections, the lecture halls that today's college students shuffle in and out of aren't so different from the ones used by their parents—or even their grandparents—decades ago. Uniform rows of seats, often including those little L-shaped foldout desks, all face the same direction, with a podium and a blackboard or dry-erase board at the front. It's a passive setup for students: professor talks, they listen. Or surf the Web in the back row. Or doze.

Indeed, while technological changes have produced a new kind of student—one who carries a thin laptop that's more powerful than a room-size supercomputer from the 1980s and is accustomed to working anywhere and everywhere—classroom design hasn't come close to keeping up. “Higher-education typologies haven't

changed in a very, very long time,” says Fred Dust, head of environments for IDEO, based in Palo Alto, California.

But a unique confluence of events in the late 1990s allowed Dust and his IDEO colleagues to help produce an experimental space for nearby Stanford University that's pointing the way toward a new vision of where and even how students learn. It was the middle of the dot-com boom, and “a start-up mentality was sweeping the whole Bay Area,” Dust recalls. Stanford officials had seen the offices, in the surrounding Silicon Valley and a few miles north in San Francisco, where students were heading after graduation. These new spaces—the colorful ones filled with Aeron and beanbag chairs, with twenty-something would-be millionaires tooling around on bikes or skateboards—became symbolic of the whole revolution



Both pages
Courtesy Roberto Carra

that was reordering the American economy and its business culture. These days with the NASDAQ below 2,000 and casual Fridays on the historical scrap heap, they've hardened into nostalgic cliché. But back then they looked to many observers like the future incarnate.

Leaders at Stanford began wondering if they could take steps toward a similar reordering of the classroom. They hired IDEO, a firm that has made its reputation helping to breathe new life into old models of institutional space, to work on the design of the brand-new Stanford Center for Innovations in Learning (SCIL). The center was created with a \$15

million grant from a Swedish foundation as a kind of experimental think tank to promote creativity and study new techniques in education. Its mission, according to its Web site, is "conducting scholarly research and related activities that advance the sciences, technologies, and practices supporting learning and teaching from early childhood through post-secondary education."

The site for the center's new home was Wallenberg Hall, a handsome sandstone building originally called Building 160, which was completed in 1900 near the heart of Stanford's historic campus. The university picked Skidmore, Owings &

Merrill (SOM) to renovate and retrofit the existing building. IDEO's job was, in essence, to challenge classroom-design orthodoxy at every turn. SCIL wanted the souped-up Wallenberg building to act as "a working laboratory where the learning tools of the future will be forged." It would house its research staff and other employees on the fourth floor and use the lower floors for traditional undergraduate classes, from French to calculus.

To pick up new ideas and hone existing ones, IDEO sent a four-person team to roam the Stanford campus using a process it calls "instant anthropology." The members of the team watched students writing

Knowledge



← IDEO and SOM created a flexible classroom for the Stanford Center for Innovations in Learning. To accommodate new ways of learning, classrooms incorporate movable walls and screens as well as tables that let students face each other as they work.

"Higher-education classrooms haven't changed in a very long time," says IDEO's Fred Dust.

✓ **AFTER researching how students utilize space, IDEO's team adapted hall space to double as informal classroom space with media kiosks—serving as a front-porch transitional area.**



papers or IM-ing on their laptops, both in the library and at outdoor cafés around campus. They sat in on classes. More importantly, perhaps, they hung around “in between” classes, which is when the limitations of the traditional lecture hall really begin to show. They noticed that there was plenty of time when classrooms were empty or not very well used. They also watched the bottlenecks that formed by doorways between classes when students clamored to talk to professors or to one another. And they watched how much activity was going on in the halls—not just casual conversation but actual (if informal) teaching and learning, as groups of students and instructors bunched together for ad-hoc conversations. “What we realized,” Dust says, “is that classrooms don’t always act like classrooms and hallways don’t always act like hallways. They actually act like each other.”

That led to one significant architectural decision: every big classroom in the building needed a kind of front-porch space. The transitional area that IDEO and SOM came up with looks a bit like a hallway that’s been broadened out to a square. It carves out room for those pre- and after-class conversations and also includes tables and chairs along one edge so that those conversations can turn into more formal meetings. “This is the most mobile group of people we’ve ever tried to design for,” Dust says. “Anywhere they are can be a classroom.”

This shift is also evident in the entry hall of the building, where a wide space has been created by pushing the new core of the building back from the historic facade. With its computer kiosks and tall display wall made of timber slats, the wide hall is both a welcoming space and a place to get information or even to work, consistent with IDEO’s priority of making sure that there was no unusable space anywhere in the building.

Inside the classrooms themselves, the focus was more on changing methods of campus computing. Today’s college students have made a shift from what’s called “I computing,” or a single person using a computer, to “we computing,” in which networked students collaborate technologically while watching a single giant screen. The SCIL classrooms are notable for the way the tables are arranged so that students face one another and for the huge screens along the walls, where computer desktops can be projected. The largest

classroom space in the building, a double-height room known as the Learning Theater, doesn’t have any permanent nailed-down seating at all, even though it can accommodate as many as 150 students when the walls of the adjoining classrooms are pulled back. Closed up more discretely, it becomes a space for around 50 people.

Even up on the fourth floor—where SCIL’s staff is housed in a series of offices hidden from the building’s public spaces—mutability has become a key part of the design. As in any academic setting, competition for private office space is fierce in Wallenberg. IDEO and SOM’s solution was to create a collection of “box-car” offices, which have walls that can be folded down to create shared space but also allow individual faculty members privacy when they need it, along with the ability to lock their things away. Like many aspects of the redesigned building, the SCIL’s offices are hybrids of public and private, of fixed and changeable.

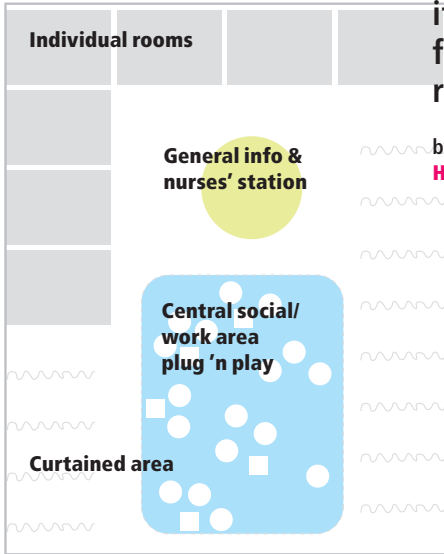
Of course, the danger inherent in this redesign is that it might have followed the mores of the dot-com rebels too closely. In other words, it might have wound up looking dated or even juvenile as a way to organize space once, inevitably, the high-tech bubble burst and everybody sheepishly threw out the beanbag chairs. But today, more than one year after it opened, the building maintains a fresh, even experimental look while managing to function quite effectively as a day-to-day classroom building.

Dust says IDEO was aware of that risk. “You look at some of these academic buildings, especially the business schools that were designed in the late 1990s, and you just cringe,” he says. If designers focus too much on technology and gadgets, he suggests, they’re always going to build things in that will become obsolete quickly.

“In the end technology was only a small part of the design,” Dust says. “What we tried to do is more like a loose sweater than a tight one.” And the team tried to keep one maxim in mind throughout: flexibility, a kind of architectural equivalent of the open-minded liberal approach that universities like Stanford believe produces the best atmosphere for learning. “The idea that one thing happens in one place, and one place only, just doesn’t make sense for these kids. I mean, look at how they live their lives now. Why would it?” 🖐

Patient-centered hospital design takes its cues from the retail world.

by **Christopher Hawthorne**



If you want to get a sense of how poorly designed hospitals and other health-care facilities are—and how they’re likely to change in the future—the hallway is a good a place to start. The average hospital corridor today has become a receptacle for all the activities, items, and services that can’t be accommodated elsewhere in the building. The most obvious (at least visually) is storage: you’d be hard-pressed to find a single hospital hallway in America that hasn’t become temporary home to a heart monitor or a bunch of wheelchairs or some hulking machine about six feet wide that gives no obvious clue to its function.

As designers from IDEO discovered when they began doing observational research for Memorial Hospital in South Bend, Indiana, hallways have also become ad-hoc stage sets for all manner of crucial interactions: between two or more doctors, doctors and patients, doctors and nurses, nurses and family members—the list goes

on and on. While such meetings should be happening in less public spaces, preferably with somewhere to sit down, the combination of staffers’ constant movement and severe space shortages at most hospitals means that they tend to happen right in the open.

“You might see two doctors having a really private conversation along a hallway, talking about some life-or-death situation,” says IDEO’s Fred Dust, a member of the five-person team that worked on the project. “And they’re over there cupping their hands against the wall so that nobody else can hear them.”

Memorial hired IDEO to work with two architectural firms, the Troyer Group and the Stein-Cox Group, in creating a new center for its heart and vascular services, a health-care sector that is growing rapidly around the country. The new branch will include 29 private inpatient rooms, new labs and radiology suites, a 20-bed short-

stay unit, a new registration and waiting area, and office space for doctors.

Ostensibly the job had mostly to do with consolidating a host of heart-related procedures in one new space. But the reorganization also happened at a time when Memorial, like many health-care organizations in the United States, was realizing that because of increased competition and staffing pressures it was going to have to make a transition to a more patient-centered model of doing business.

Individual patients and companies paying for their employees’ insurance coverage have more choice these days when it comes to health care, a shift that hospital administrators are all too aware of. According to Dana Cho, leader of IDEO’s Memorial team, hospitals are finally accepting the fact, however grudgingly, that their new facilities will have to offer a less intimidating face to patients. She says that IDEO was hired “to infuse the whole design process with a patient-centered approach.”

To that end the firm worked with the architects in helping Memorial come up with an organizational scheme for the new center that takes many of its design cues from the retail world. The goal is to treat patients and their families more as con-

Health

↑ THE NEW “short stay” area (plan top left and image, bottom) is for patients getting simple diagnostics. A central waiting hub is surrounded by curtained-off rooms—soft boundaries that let patients choose their level of privacy. Brief patient-physician interactions happen in a private but visible corner office (right); and an office-style nurses’ station (far right) sends a do-not-disturb message to visitors seeking general information.



sumers than as visitors to a strange and unnerving place that is organized primarily to serve the needs of staff. For example, Dust notes, “If you look at a typical hospital, it’s just this warren of rooms, and as a patient you’re not sure which ones you’re even allowed to go into.”

IDEO’s project team—which in a multidisciplinary mixture typical of the company included a documentary photographer, an industrial designer, and a technology expert who works on interactive displays—suggested organizing departments inside the new center around separate “neighborhoods,” each with their own individual “storefronts.” These public entries to various sections use oversize graphics and see-through walls to improve navigation. They also promote a welcoming sense of openness for patients.

Because of the serious nature of the procedures performed at the heart and vascular center, this openness must extend to families too. They and other visitors serve an underappreciated role in helping patients get through a long hospital stay, often bridging the gaps created when nurses or other employees change shifts and fail to leave their replacements up to speed on a particular patient. To acknowledge this reality, the Memorial plan includes private or semiprivate rooms adjacent to the reception area, where families of patients required to stay several days for a major surgery can “camp out.”

“People do this in informal ways already,” Cho says, “by bringing blankets and pillows or rearranging furniture. It’s a way of saying to everybody else in the

waiting room, ‘This is the Johnson family area.’ But it helps to have formal comfortable spaces for people to do that.”

Sometimes, she adds, these family groups are quite large. Major heart surgery can produce crowds of patients’ friends and relatives “that are almost like family reunions, right there in the hospital. You’ve got people coming together for the first time in years. You have to have a design to anticipate that.”

Other changes suggested by IDEO involved improving the rooms where patients stay before and after surgery, as well as providing somewhere for them and their relatives to get a respite, however brief, from the prevailing feel of a hospital space. “Usually,” Cho says, “there’s not a single place you can go and get away from the beeping of the machines or the uniforms or the announcements over the PA system—all these things that remind you, every single second, that you’re in a hospital. That can be very draining, especially if you’re in recovery.” So her team added what it calls “therapy spaces,” rooms free of noise and hospital signage where patients can step temporarily away from a hyperclinical environment.

A patient-centered design can go only so far, of course. Doctors, nurses, and other staff have complaints about the way hospitals are designed too. A good example, Cho says, is the nurses’ station—a place where nurse practitioners decamp to use a computer, the phone, or perform some other task when they’re not moving from room to room. Often these stations are designed to look like information desks. And this means that patients and

visitors bombard the poor nurses with all kinds of questions.

For the most part, Cho notes, these queries have “absolutely nothing to do with patient care.” People ask for directions to the bathroom or to the cafeteria. Sometimes they even ask for directions *outside* the hospital, or other kinds of random advice, as if they were speaking to a hotel concierge. IDEO’s solution was to change the design of the nurses’ stations to include both stand-up tables—for nurses who are just stopping by the space and might in fact be open to questions from a patient—and tables where they can engage in what Cho calls “head-down” work that sends a strong signal to passersby that they’d rather not be disturbed: “Now the nurses will be able to communicate very easily whether they’re open or closed for business.”

All of which leaves just one question about the Memorial’s new Heart and Vascular Hospital, which is due to open in early 2005: How will the hallways look? Well, they will be cleared of old equipment (at least at the start). As new things inevitably accumulate, these items will be corralled into recessed storage areas. And there will be alcoves carved out to give doctors and other staff a place to step away from hallway traffic—and hold conversations with at least a semblance of privacy. 🖐

↓ IDEO DEVELOPED a portable patient toolkit—which includes a mini-Zen rock garden and a deck of cards—to help relieve the boredom of long hospital stays.

