The genius of Leland Stanford's plan for his new university was its expandability. The structure of the Main Quad, with its east-west axis, lent itself to coherent growth that could elaborate upon the original vision while respecting it. But the university lost its architectural way soon after its founders died. Today, the university community is working hard to recover the old vision and adapt it to a new world of exciting research.

See story, page 2
The genius of Le–
land Stanford’s plan for his new
university was its expandability.
The structure of the Main Quad, with its east-west
axis, lent itself to coherent growth that could elaborate upon the origi-
nal vision while respecting it.

But the university seemed to lose
its architectural way soon after its
founders died. So did many other
great universities in the 20th century;
Harvard, for instance, was once de-
scribed as “a loose confederation of
departments held together by alle-
giance to the central heating plant.”

At Stanford, buildings went up
where they shouldn’t. There were dis-
putes over modern versus traditional
architecture. There was no flow.
There was little consultation with
faculty or other users. “There are ar-
eas with no ‘there there,’ no anchors,”
campus architect David Lenox said,
gesturing at a campus map.

His predecessor, David Neuman,
also was concerned at how the uni-
versity had gone astray.

“Without vision, not space”

A disorderly campus affects ev-
everyone, if only subliminally,” he told
order, you’ve lost the physical oppor-
tunity for chance encounters and the
collegial atmosphere that encourages
cooperation and creativity.”

Gerhard Casper recalled recently
that when he became the university’s
president in 1992, he also was wor-
ried. So he took a more active role
in campus architecture and began
presiding over open competitions for
new buildings.

“SEQ is more accepted now, but
at first it was controversial,” Casper
said, referring to the Packard, Se-
quoia, Moore and Hewlett build-
ings in the Science and Engineering
Quad, which went up on his watch.

“The landscape architect worked
with the architect to create an infi-
nitely lighter, more Mediterranean
quad,” he said. “The new buildings
picked up on the themes of the Main
Quad even though [the Hewlett and
Packard buildings] are point and
counterpoint. Some people said,
what is this atrium doing there? And
the Paul Allen Center is the very op-
posite of the Gates building; it picks
up on traditional themes but in very
different ways.”

The SEQ1 buildings, except the
Hewlett Teaching Center, are de-
partmental. Today, as Stanford em-
braces multidisciplinary approaches
to research and teaching, campus
architects’ tasks include ensuring not
only that buildings make aesthetic
sense but that they properly house
and encourage new types of scientific
and intellectual journeys. Flexible
classrooms and break spaces, central
workshops, open office space, mov-
able equipment and furniture, op-
portunities for spontaneous meetings
or huddles—these are all elements
of the new university.

The faculty has a
much greater role in
architectural planning
today than in the past.

SCHOOL OF ENGINEERING CENTER:
From the Ground Up

Talking about building academic buildings can take
as long as building them—longer, in fact. There are ar-
duous conversations about research collaborations, links
among disciplines, proximity to shared facilities such as
workshops and libraries, likely areas of growth and the
image of their field that scholars want to project.

The second building to go up in the second Science
and Engineering Quad (SEQ2) will be the School of En-
gineering Center (SoEC), whose planners are involved
in precisely those sorts of conversations with faculty
members.

The building has a hard act to follow: the Environ-
ment and Energy Building (E+E), which will open its
doors in October.

“We’re interested in the experience of a building,” said
Sandy Meyer, director of facilities and planning for the
School of Engineering and program representa-
tive for SEQ2. “Instantly when you arrive at E+E, you
understand what it’s about. We need the same to hap-
pen with this building.”

The SoEC will house the Management Science and
Engineering Department (MS&E), the Institute for
Computational and Mathematical Engineering (ICME)
and the dean’s office. The adjacent rotunda, which the
architects call “the signature building of the quad,”
will house the library and a host of common areas, in-
cluding exhibition space, classrooms, an auditorium
(used principally by the Stanford Center for Profes-
sional Development), a research gym, breakout rooms
and a café.

This spring, planning entered the schematic phase.
Members of the Portland, Ore., architectural firm
BOORA met with users and faculty members to figure
out how they operate and move, where their research
and teaching takes them in a building, how much space
they need and how it should be distributed.

Beyond the needs of the individual units, planners
grappled with the peculiar structure of the School of
Engineering and SEQ2. The new building will contain
just one of the school’s nine departments; some of the
rest will be in other SEQ2 buildings which will all be
connected through their basements, but others will be

See FROM THE GROUND UP, page 4
Innovation can be expensive or inexpensive, cumbersome or uncomplicated. “It’s about vision, not space,” said Margaret Dyer-Chamberlain, director of the university’s Department of Capital Planning. “The Stanford Challenge fund-raising campaign includes new or redesigned buildings in the schools of Medicine, Engineering, Law and Business, as well as new dorms, an Arts Path and an expansion of the social science complex, including the Hoover Institution, the Stanford Institute for Economic Policy Research and Encina Hall. All the projects share common issues: space, parking, mission, linkages, sustainability, flexibility for an unknown future, architectural intelligibility.

What’s different now is that the process for working out these challenges includes faculty and staff to a far greater degree than before. Now, not only are the buildings better, the excitement is shared.

“I’ve made three lab moves since I’ve been at Stanford, and each time I was told, you’re moving there,” said Channing Robertson, senior associate dean in the School of Engineering. “The change has come because of more enlightened planners and also because of resistance from faculty.” Dyer-Chamberlain calls what she does “space therapy.”

“We sit with departments to figure out how all the components translate into what they’ll need in the new building,” she said. “We ask people, what works where you are now; what doesn’t? We talk about access, proximity, interaction, social engineering. “Often people say everything should be exactly the same in the new building. It’s really hard to envision anything different. So we say, what do you love about your current space? What don’t you like? And then they say, well, now that you mention it, there’s no space for... So where should that be? We ask. Closer? Farther? We try to get them to think differently about their space.”

Visibility today is more important than it was. Running into people is important. The ability to simultaneously participate in more than one scientific undertaking and to convey that simultaneity to visitors entering the building is important. Being able to work both alone and with colleagues is important. Above all, flexibility is important.

“There’s no reason to bolt down lab equipment; we don’t do that in our own homes,” Robertson said. “Technology changes so rapidly, we can’t possibly project science 50 years down the line.”

This issue of Interaction takes a look at how the schools of Medicine and Engineering are balancing technology, function, aesthetics and finances, among other things, to create spaces for teaching and research that will adapt themselves to the requirements of future decades. If these walls ever talk, they will have a lot to say.

LEARNING & KNOWLEDGE CENTER: Gained in Translation

The School of Medicine gets awards and honors for just about everything. But not architectural planning. At least not yet.

“Right now, over there, there’s one of everything,” said campus architect David Lenox, including buildings that date back to the school’s move from San Francisco to the Farm nearly 50 years ago.

School and university officials had been talking about a redesign for years, but it was the arrival of Dean Philip Pizzo in 2001 that kicked the plans into gear. Many of the building projects on campus are attempts to revitalize Stanford’s original east-west quad arrangement. But given the potpourri of buildings at the medical school, another scheme had to be devised.

So the school will be at the intersection of two coherent walkways. The clinical, or “Discovery,” walk will link the school in one direction to the hospitals; in the other to the two science and engineering quads, SEQ1 and SEQ2. The research walk will run east-west from the school buildings past the Clark Center to the biology and chemistry buildings. The paths will formally integrate the off-campus community with the schools of Medicine, Engineering, and Humanities and Sciences.

At the heart of all this—the nexus of research and education and health care—is the Learning and Knowledge Center (LKC), which will occupy the site of Fairchild Auditorium. Construction will start in late spring 2008. The project was designed by the architectural firm NBBJ. (The building’s website is http://lkc.stanford.edu).

“The Discovery Walk underlies our mission of translational medicine,” said the School of Medicine’s LKC project manager, Maggie Saunders. “This building is both the first and last step in the translation process, because without dialogue there is seldom innovation, and without teaching, there is no translation.”

‘A human process’

The planning process for the LKC began with meetings among all the players, including faculty members. One faculty member who from the start assumed a leading role was Dr. David Gaba, associate dean for the School of Medicine, Engineering, and Humanities and Sciences.

“Technology changes so rapidly, we can’t possibly project science 50 years down the line.”

‘A human process’

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Food and Thought

When the Clark Center was being planned, some people were skeptical about the space given to the cafeteria. It was too big, they said. Better to give the space over to labs.

No way, others said. Channing Robertson, in particular, was adamant. “I taught in Switzerland, where it was very common to have a large eating space,” he said recently. “People would leave their labs and socialize there. The same was true in Cambridge. In the United States, though, that puts the eating places often come after the fact. They're not where it always was.

“I taught in Switzerland, where it was very common to have a large eating space,” he said recently. “People would leave their labs and socialize there. The same was true in Cambridge. In the United States, though, they don’t fit well, they’re in the worst position. People are more willing to participate if you find negative growth in terms of space dedicated to stacks and less activity on the loading dock. The new engineering library will occupy around 6,000 square feet in the rotunda.

“It’s open, glassy, transparent, the iconic center of the university,” said architect Isaac Campbell, “analogous to the church in the Main Quad.” With a nod toward the Clark Center, planners also want people outside to be able to see inside. “Windows on creativity” is one of the building’s themes.

One issue raised at a meeting in early March was how to create a sense of flow from the quad to the library. Visibility from the outside is one thing; leading people inside is another. There were several potential entrances to the library, and the group discussed which was the most logical.

“I can’t envision the natural flow,” said Bob Street, professor emeritus in the Department of Civil and Environmental Engineering, pointing to the computerized rendering of the new building. “It doesn’t feel obvious to me. Is there an obvious front door?”

And once you go through that front door, what do you find? How do you interact with librarians? Does checkout have to be with vending machines containing packaged food; and several kitchens (including one just for students) so people can cook 24/7.

There will be three levels of food in the LKC: a downstairs café along the Discovery Walk, open during regular hours; an area with vending machines containing packaged food; and several kitchens (including one just for students) so people can cook 24/7.

Over in the future School of Engineering Center, meanwhile, the director of the Institute for Computational and Mathematical Engineering, Peter Glynn, envisions a kitchen “with a large table” right next to the lounge. That will be the hub, he said.

And at a meeting to discuss the future Arts Path, one participant suggested, only half in jest, that maybe 10 cafes along the way would create artistic buzz.

Although it’s hard to object to sharing ideas over food and drink, the mere presence of food and drink in no way guarantees the ideas, or even the fellowship,
one campus planner cautions. "Food can serve the purpose, but it's not just about food," said Margaret Dyer-Chamberlain, director of Stanford's Department of Capital Planning. "You have to think about linkages, seating, the surroundings."

Seating was a particularly important issue at Clark. The original plan called for lots of outdoor tables, both on the lawn and on the sky bridges. The long tables in the cafeteria were inspired, again, by European eating customs.

"The problem with round tables is that one person sits down and no one sits down with them," Robertson said. "With the long tables, there's no ownership of the table."

But they can make it difficult to talk in a small group, which may also be hybrids between VR and physical simulation, along with high-resolution power-wall displays and telesimulation capability.

"In a one-dimensional simulation—like an actor portraying someone in pain—students can't very well practice treatment," said Dr. Clarence Braddock, Gaba's colleague in the planning process. "But in a multidimensional situation, students can experience more complex scenarios. The simulations will be much more rich."

The basement also will contain a large project classroom, with sinks and benches for messy exercises. Faculty members will be able to observe many of the activities with monitors or one-way mirrors. Actors will have an area for lockers and a break room.

The mannequins won't have a break room, but they will have names. One of Gaba's many virtues is that of being an unrepentant Deadhead, so the simulated patients have been honored with names from the song list including Jack Straw, John B. Goode and August West.

"The exact design of the basement is still under consideration," Gaba said. "We need space with flexibility for the future. We know there will be new developments out there, but nobody knows yet what they are."

He envisions a role for Stanford University Medical Media and Information Technologies (SUMMIT), led by Parvati Dev, who holds a PhD in electrical engineering from Stanford. SUMMIT develops and shares medical informatics, be they simulation devices for teaching surgical techniques, anatomical images broadcast around the world or virtual environments for teaching medical emergency management.

The group originally was focused on anatomy and curricular development, and many of its projects enable medical students in distant places to follow along. But increasingly it has turned its attention to surgery and gaming, changing its emphasis as the imaging technology has advanced.

"What's refreshing about Stanford is that every...

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Gained in Translation

continued from page 3

immersive and simulation-based learning.

"The most important part of the process is bringing together faculty from different parts of medical education," Gaba said. "That was the secret."

Gaba, anesthesiologist, was on a similar building committee at the Veterans Affairs Palo Alto Health Care System after the 1989 Loma Prieta earthquake. Technology has changed since then; designers can portray things graphically far better than before. "But frankly," he said, "the process is a human process, and that hasn't changed."

Gaba explains his interest in simulation-based learning: "Anesthesia has always been at the forefront of mannequin-based simulation because it is dangerous and it is not therapeutic in and of itself," he said. "Anesthesiologists are very worried about safety, very risk-averse, so they were the leaders of the patient-safety movement."

Those concerns led him 20 years ago to adapt techniques used in cockpits by aviators, who also have to make split-second decisions that involve the safety of others.

Simulation-based learning will be one of the most outstanding pedagogical features of the LKC, according to the medical school. One common feature of all building planning processes is the fight over window space. Happily, that is not the case here, as virtual reality (VR) and simulation labs, along with operating and exam rooms, need controlled lighting. So the simulation component, the largest in the building, will be in the basement.

All in one place

The simulation area will comprise several parts. The school and hospitals today have three such labs, incorporating all modalities of simulation: clinic rooms with standardized-patient actors or mannequins; VR labs; and gaming, changing its emphasis as the imaging technology has advanced.

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The New World of Area Studies

Judith Goldstein, director of the Division of International, Comparative and Area Studies, in Encina Commons, which she hopes can be the new home for all her division’s programs and centers.

Afer World War II, U.S. scholars, lawmakers and diplomats agreed that knowledge about the rest of the world was essential if another such conflagration were to be avoided. Within a few years, the postwar desire for peace was overtaken by the Cold War, whose premises also called for Americans to take seriously the challenge of understanding the rest of the world. “We” needed to learn about “them.”

As a result, in 1958, Title VI of the National Defense Education Act (renamed the Higher Education Act in 1965) provided funding for research and training in international and foreign language studies, and it has done so ever since.

In the private sector, meanwhile, after the death of Henry Ford in 1947, the Ford Foundation also underwent a dramatic shift toward international concerns, and in the following decades it plowed hundreds of millions of dollars into block grants for international research at leading universities, Stanford among them. The Ford Foundation played a critical role in the development of area studies.

“When I was an undergraduate [at Swarthmore],” said Stanford political scientist David Laitin, “the only course on Africa was The British Empire.”

In response to that dearth, universities nationwide established centers and/or programs devoted to Africa, East Asia, Southeast Asia, South Asia, the Soviet Union and Eastern Europe, and Latin America. The criteria for determining that these were areas, though Europe and North America apparently were not, was problematical, as was the question of where to draw boundaries and why.

Nonetheless, social scientists and humanists at these centers studied cultures, languages, economic development, social movements and state formation. They were, veterans say, the first interdisciplinarians. As the former president of the Social Science Research Council (SSRC), Kenneth Prewitt, wrote in 1996, the development of area studies was “the most successful, large-scale interdisciplinary project ever in the humanities and the social sciences.” (The SSRC, created in 1923 by the Rockefeller Foundation, together with the American Council of Learned Societies ended up managing many of the Ford Foundation grants until the mid-1990s.)

The oldest of the area studies programs at Stanford are the Center for East Asian Studies and the Center for Latin American Studies, formed in the early 1960s, and the Center for Russian, East European and Eurasian Studies, founded in 1969.

Today those three plus a collection of other regional and religious concentrations are grouped together in the Division of International, Comparative and Area Studies (ICA) of the School of Humanities and Sciences. Depending on the center or program, they offer master’s and undergraduate degrees, postdoctoral research opportunities, speaker series, and a physical and intellectual space for an array of Stanford and visiting scholars who share an interest in and love for a specific geographic area, however defined.

For, what is an area, anyway? If the commonality between, say, Argentina and Honduras appeared obvious to Latin Americanists in the 1960s, the same is not true today. Scholars are far more critical than they were about terms such as “culture” or “development.” Explaining why a region should be studied as such is no longer easy. Lines on a map are not the most significant way of defining a region; where, exactly, does the Middle East begin or end? Which region does Central Asia belong to? Is a Texas county whose population is 90 percent immigrant any less “Latin” than the state across the Mexican border?

**Disciplines and regions**

Chief among the commonality of Argentina and Honduras, of course, was their language, and the language and literature scholars (along with anthropologists) early on took the lead role in area studies.

“The social scientists ignored area studies,” remembered historian Herb Klein, director of Stanford’s Center for Latin American Studies. “People complained that they didn’t speak foreign languages; they just crunched numbers.”

According to Stephen Haber, professor of political science and a senior fellow at the Hoover Institution, “at the extreme ends you had people who had models and data sets but who had never been to Mexico. Or, you had area studies people who didn’t know which way a demand curve sloped. People who know both are rare. They can solve models and they know about the way a demand curve sloped. People who know both are rare. They can solve models and they know about the way a demand curve sloped. People who know both are rare. They can solve models and they know about...
The problem with some scholars, both in the humanities and the social sciences, is that they’re not interested in anything other than their country. That’s a boring intellectual attitude, if you ask me. If you think you can find a way of understanding human behavior so as to see geography, culture and language as fundamental, you bang into the wall. You find you need to know about it. You have to figure out how to talk to people who aren’t specialists, who are theorists, and talk to them in their own language.

In the years since area studies programs were established, universities have witnessed a transformation of the traditional disciplines and forms of government support for research. When there was enough money to go around, there was room for differentiation. Today, after 20 years of debate, the social scientists (many of whom broadened out and learned languages) have become central to area studies. Since universities were already occupied with the difficult task of Haber pointed to, expert in both their discipline and a region. Judith Goldstein, a political scientist and director of ICA, says area studies was neglected for years.

“The deep knowledge lost out,” she said, what with the social scientists crunching numbers and the humanists studying languages and cultures. “Now we need to use ICA as a resource to help departments hire people who are both area and discipline specialists. We need to reidentify area studies back into the social sciences.”

Klein, Goldstein’s departmental colleague, shares that view.

“When I got here, research based on fieldwork was re-emerging. It isn’t both areas and disciplines. We need to think about how this research is done.”

But, he added, Stanford needed “to restock the social sciences” with people skilled in both their discipline and in regional studies.

Faculty billets

So ICA was given a small number of billets that, instead of going to departments, would be regional in nature and open to a series of competing departmental, political science, Economics and Anthropology would be asked if they were interested in hiring, said, a Middle Eastern scholar. If they were interested, ICA would fund them to their respective discipline, and the ICA standing committee on hiring reviewed all the candidates.

Their dossiers, said Llatin, the committee chairman, “are a joy to read.”

“I’ve learned a great deal,” he said, “seeing how different people think. How do we know if things are typical or not? We deal with the same sort of problems. It’s really spectacular work.”

Goldstein says ICA is a resource to help departments hire people who can do both area studies and disciplines. “It is not a hub-and-spokes arrangement, she said; “it’s what the field needs to keep the faculty going.” Klein, too, part of the ICA leadership, insisted; “It’s more like the grease that keeps the disciplines.” It is not a hub-and-spokes arrangement, she said. “It has its own journals, its own intellectual network, and it has undergone many permutations,” Wigen said. “It’s an area that’s underfunded heavily in the global game, and no one wants to be left behind.”

Goldstein thinks all the regional and religious programs under the ICA umbrella should co-locate, ideally in Encina Commons. Though the connection among the disciplines may not be apparent, Goldstein says there is great potential for collaboration among them and for stressing breadth rather than depth. “In an example of setting opportunities, ICA is planning to launch a series of multidisciplinary projects next year focusing on the Silk Road in ancient and modern times, in which students will study the transfer of goods, ideas, languages and people along the 5,000-mile route linking East Asia and Europe.

But faculty will do their own thing. We work with faculty in other universities anyway.”

Wigen, who has a pronounced dedication to area studies—she teaches graduate seminars on Reconfiguratios in Asian Studies—came to Stanford with her husband, historical geographer Martin Lewis, precisely because she saw the ICA was the ideal match for her in terms of intellectual and area training. At Duke, the two were part of a pathbreaking project launched in response to the 9/11 attacks, the “Crossing Borders” initiative, which set as a goal “stimulating communication across a pair of formidable boundaries: the geographic beyond the boundaries of area studies and the disciplinary borders between the social sciences and the humanities.” The Duke project, called Oceans Connect, recontextualizes ocean basing as areas. Wigen believes the spatial framework itself, not just what goes on within it, must be an object of analysis because it is so obviously a construction. “The Pacific,” after all, has not always been a logical unit of analysis. Neither, for that matter, has “Asia.”

A resilient corner

The problems facing area studies today are not new ones: a permanent shortage of funds for research and teaching in the social sciences and the humanities, inadequate knowledge of languages, disagreement over the adoption of multidisciplinary approaches to teaching and a struggle to make academic structures respond to international, political and demographic ones. Universities also must identify priorities in their global coverage.

But it appears to be a resilient corner of academia. It survived the fall of the Berlin Wall and harsh criticism from conservatives in the 1990s that its focus on the international arena was acceiently “balanced.” While Title VI funding has plunged and major foundation support has ebbed, new donors appear at the university’s doorstep year after year in funding centers.

“Area studies has been engaged in a long conversa- tion, and it has undergone many profound changes,” said. “It has its own journals, its own intellectual networks and institutions—precious a legacy that we need to pass on.”

Carl Bielefeldt, director of the Center for Buddhist Studies, was on a panel in 2005 with the Dalai Lama.

‘I’ve learned a great deal seeing how different scholars are all asking, how do we know if things are typical or not? ’ Llatin said.
Connections in the classroom

The Center for Teaching and Learning helps faculty members design collaborative and innovative courses.

One such ATS is Claudia Engel, who works with anthropologists, most recently on collaborative learning spaces and the use of spatial technologies like geographic information systems. She has degrees in anthropology, biology and education.

"Some of us work with programs where scholars come together, like Human Biology, but we also collaborate across disciplines, bringing departments together," Engel said. "We look for opportunities to do that."

They also can create possibilities for scholars to interact with people elsewhere, opening up dialogues. Engel is collaborating with Lynn Meskell, a professor of cultural and social anthropology, to set up a wiki devoted to Turkish figurines, and she taught John Rick, an associate professor of anthropological sciences, to use advanced digital imaging to display his archaeological data.

"There are faculty members who have never crossed the mountain, who never even consider what the person across the hall is doing," said Carlos Seligo, a former teaching fellow in the Introduction to the Humanities program who is now an ATS with Human...
If we are going to teach in a new way, maybe we have to ask ourselves if we still have to keep teaching the old way,” Berman said.

If team-teaching is the most obvious way of getting interdisciplinary work done, “there are more ways to be interdisciplinary than just team teaching,” Russel Berman said. “We should ask ourselves if we still have to keep teaching the old way.”

Russel Berman
From the Ground Up
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ments. SoEC must become a home for them all.
Because ICME faculty will still be dispersed, Glynn
said, the top priority is to have a lounge “to build com-

Stephan Barley

community spirit”—a place where they can all gather for

colloquia and meetings. There has to be an adjacent

kitchen with plenty of space for cooking, and—a nice
touch—lots of whiteboards on wheels. Mathematici-
cians need to show their ideas right away, he said, and
if they’re standing around having muffins and coffee,
they don’t want to wait.

In March, Glynn told the architects he’d prefer that
his allotted 6,000 square feet be all on one floor. “The
split floors in Terman are a disaster,” he said. “You
can go weeks without seeing people.”

True, facilities director Meyer acknowledged, but if
ICME occupied the entire basement (the only whole-
floor option), the institute would lose access to a first-

floor terrace. And, she pointed out, there are huge ad-
vantages to being on adjacent floors.

“We could make two floors visible to each other by
using a mezzanine, creating vertical connections with
opened-up spaces. You could look up from downstairs
and see colleagues above,” she suggested.

Glynn kept an open mind, and that was exactly the
plan that was presented to ICME a month later. As
in the E+E Building, BOORA is organizing academic
units around vertical light towers, the result of atria
that allow natural ventilation, visual communication
and a more open feeling. Departments don’t have to
huddle together on one floor; in fact, members will
probably see more of each other if they are stacked.

At the second ICME meeting, the conversation
dwelt mainly on how to ensure that first- and second-

year graduate students could be in an open area with
big tables allowing them to bond, while more advanced
students could have privacy and quiet. Faculty mem-
bters must be near their students, Glynn insisted, which
led the conversation back to the creation of good verti-
cal linkages and community.

How to occupy space

MS&E was created in 2000 by fusing two depart-
ments that were themselves fusions: Industrial Engi-
neering and Engineering Management, and Engineer-
ing Economic Systems and Operations Research. As a
result, MS&E has unique and challenging concerns.

At an early meeting, Professor Steve Barley and his
colleagues were perplexed with the space assigned to
them—on three floors.

“We need to coalesce,” Barley told the architects and
Meyer. “We’re the result of a merger, so we’re already
interdisciplinary. We have to build our department.”

Various suggestions for how they could divide up
their allocated 21,000 square feet were projected onto
the wall. None was perfect.

“We are options like which of your kids do you want
to hurt?” said Ross Shachter, an associate profes-
sor. But he and his colleagues said they would take the
proposals to the rest of the faculty and continue the
dialogue.

A month later, the decision had been made about
which blocks of space MS&E would occupy, but the
distribution of that space internally was still wide
open. Once again, the conversation returned to the
department’s organization. It comprises some eight
focus groups, whose members often overlap, making
a hypothetical physical arrangement of offices also an
academic one. It is also, clearly, a political one.

“There’s an important social engineering issue here,”
said Barley, the department’s deputy chair. “This is the
last hurdle in the merger that began seven years ago.
The last thing we want is for this building to take us
back in time.

“We have to involve all the faculty in these decisions
or it’s going to blow up in our face,” Barley said.
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one has a keen curiosity and willingness to learn,” said Pat Youngblood, SUMMIT’s director for evaluation. Youngblood, who has PhD in education and has worked for two decades in educational technology, makes sure the technology actually helps medical students learn. “People don’t wear blinders” at Stanford, she said. “They don’t say, no, that’s not my field. I work with surgeons, and we share a common commitment to teaching and learning. Surgeons want to learn from me.”

The notion that medical education must be grounded in practice is fundamental to Pizzo’s vision for the school, Saunders said. “He knows that innovation happens by doing.

Flexible classrooms
If that is true in the basement, it will be true on the LKC’s other floors as well. For instance, designers and faculty spent many months developing a prototype of the classroom of the future. “Because the faculty are fundamentally supported by clinical and research dollars,” Saunders said, “there might be little incentive to innovate with teaching. So we have to supply spaces and opportunities so they can see the advantages. The building will be a step ahead of where the faculty are; it will support them to move forward in their teaching.”

Prototypes are “expensive but essential,” Saunders said. With a relatively small faculty, the medical school aims for a highly flexible studio classroom that can accommodate several small groups at a time. Renderings look a bit like a second-grade classroom at a Montessori school, with groups of students clustered around various large tables. Furniture and whiteboards will be on casters. Projection technology will be adaptable. Everyone, who teaches internal medicine and has won a long list of teaching awards, worked with architects and other faculty members in developing the space with team-based learning in mind.

“In health care, people are calling for interdisciplinary teamwork among physicians, nurses, pharmacists, etc. As an instructional method, this lets learners apply knowledge to real-life case studies and work effectively etc. As an instructional method, this lets learners apply knowledge to real-life case studies and work effectively.

The dean’s office will be on the third floor. So, too, will a suite of conference rooms, to ensure that the school’s administrative faculty and students have opportunities to bump into one another, as they do in the neighboring Clark Center, the pathbreaker in enlightened design on campus. Like the classroom space and lecture halls, the center will be highly flexible, allowing for tiered or flat seating, small or large groups.

The dean’s office will be on the third floor. So, too, will a suite of classrooms, to ensure that the school’s administration, faculty and students have opportunities to bump into one another, as they do in the neighboring Clark Center, the pathbreaker in enlightened design on campus.

But you won’t bump into students on the fourth floor or the fifth. There’s a suite of conference rooms, to ensure that the school’s administrative faculty and students have opportunities to bump into one another, as they do in the neighboring Clark Center, the pathbreaker in enlightened design on campus.

Below, the Learning and Knowledge Center, seen here in an artist’s rendering, will form part of the School of Medicine’s new “front door.”

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Boosting graduate education

BY PATRICIA GUMPORT

Graduate students will have an easier time taking classes in other schools and departments.

O

utstanding graduate programs at the School of Engineering, Stanford has reached international prominence in large measure because of the strength of its graduate programs at the master’s, professional, doctoral and postdoctoral levels, which contribute to making Stanford a recognized center of intellectual innovation.

How should graduate education at Stanford be enhanced in light of emerging opportunities and needs in the 21st century? In September 2004, President John Hennessy charged the Commission on Graduate Education with conducting an extensive institutional self-study to answer this question.

The commission worked for over a year and answered the president’s call with a bold vision: to be the place that attracts the best graduate students and provides them with unparalleled education in preparation for their leadership roles in a complex, global society.

The mission for those involved in graduate education is to foster interdisciplinary learning, educate a diverse graduate student population and cultivate leadership potential so that our graduates will be able to bring their full talent to bear in solving the most vexing problems facing the world.

I find this vision compelling, as it encapsulates the central teaching and research roles of the university. When I was offered the opportunity to serve as the university’s first vice provost for graduate education (VPGE), I saw it as a unique opportunity to help bring these ideas to reality.

I also saw it as a chance to put my research into action. I study the challenges of academic restructuring, as universities seek to both forge and keep pace with knowledge change. These are defining moments with knowledge change. These are defining moments.

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