THE CHRONICLE OF HIGHER EDUCATION®

LEADERSHIP Insights

Innovation

What Every College Leader Needs to Know

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What Every College Leader Needs to Know About Innovation

Talk of innovation is rife in higher education these days. But what does true innovation look like and how can college leaders foster it on their campuses?

This *Chronicle* collection points the way for trustees, presidents, and provosts—and those who aspire to be in those positions. The booklet offers case studies on how to rethink traditional academic programs and practices, examples of how leaders have made big changes to their campuses, and examinations of how emerging ideas, like design thinking, may or may not revolutionize higher ed.

What's more, the articles and essays are accompanied by key lessons for leaders and questions they should consider at their institutions.

Turning a college into an innovative enterprise, one that both inspires and implements fresh thinking, takes hard work and time. Yet the examples here show that American higher ed can reinvent itself with the right leadership.

Innovative Practice:

How colleges experiment with bold ideas

Innovative Leadership:

How leaders can foster fresh thinking

Innovative Ideas:

How new approaches may – or may not – reshape higher ed

From a Red House Off Campus, Georgetown Tries to Reinvent Itself

By GOLDIE BLUMENSTYK

Georgetown University is as old as the United States Constitution, and its history and reputation have long been great strengths. Then came MOOCs, and new questions about the value of traditional higher education, which prompted storied colleges all over the country to ask themselves, "What are we going to do now?"

At Georgetown the answer wasn't just to try MOOCs (which it did) or start a few online degree programs (which it also did). Leaders decided to attempt to reimagine the core undergraduate experience, by setting up a kind of academic skunkworks in a small red house just steps from the campus quad, where a banner over the fireplace reads, "Yes. A university can reinvent itself."

Lessons for Leaders:

- **Be deliberate:** Georgetown placed the reinvention effort under the provost's office to signal that it seeks change at the core of its academic work, not the edges.
- **Get volunteers:** To help change academic culture, the university recruits faculty volunteers to help generate ideas and champion them within the overall organization.
- **Involve students:** The effort includes student fellows who offer their perspective on the various approaches being tested.

Making changes to something as venerated as the residential college experience, though, is as complex as you might expect, which is to say, very, and some on the campus question the project's very premise. One longtime professor told me that the Red House is based on a "facile and untested assumption" that a university like Georgetown needs to be "disrupted."

So the challenge for the Red House isn't just whether it can come up with good ideas, but whether it can find a model for bringing those ideas into the mainstream of a traditional academic culture. Especially since a core principle of the Red House is that every project break at least one rule.

Since the launch two years ago of Designing the Future(s) of the University — the official name of the Red House effort — it has proposed a diverse mix of experiments:

- Project-based minors that depend on students to develop the curricula without the confines of a class, "to help them become self-directed learners," as one writing professor puts it.
- An experiment with using educational badges to recognize student skills that don't fit neatly on a résumé.
- An effort called "studios," where students overseen by faculty mentors work together for credit to continue projects begun in class the previous semester.
- A four-year combined bachelor's and master's degree, an idea that takes aim at the college-cost issue but has been a source of particular unease for many faculty members.

Many pundits these days argue that technology is leading to the "unbundling" of higher education, as upstart companies and outside organizations offer slivers of campus services in ways that could make the package deal obsolete. But the director of the Red House, Randall Bass, argues that colleges need to focus instead on what he calls "rebundling" — linking informal and extracurricular activities on the campus more clearly to courses and other official academic activities. He argues that this "experience wrapping" is the kind of thing that will keep traditional colleges relevant as the ground beneath them shifts.

Consider a recent Red House project called Intersections, an online course that Georgetown students took during the summer while they worked at community-service internships off campus. One student worked on road safety in Tanzania, another helped form an NGO in Bangladesh, and a third tutored low-income kids in San Francisco. Each night the far-flung students would log onto the course website to work through class assignments, posting about their experiences to online journals with essays, poems, and other formats, and using Skype and social media to connect with one another. The goal was to create a "community of reflection" and help the students take away deeper lessons from their work.

During the school year, Georgetown students doing internships in and around the city are mentored by the Center for Social Justice Research, Teaching, and Service, says Andria Wisler, its executive director. The student who served as a tutor in California, Eduardo Valencia, created a YouTube channel of videos as his journal project. He said the course had helped him connect with classmates "doing really cool things around the world" and added a sense of "intentionality" to his work.

'For the first time in a thousand years, universities no longer have a monopoly on certification and learning.' Mr. Bass argues that through such rebundling, colleges can offer something that will be hard for upstart online providers to match and will be true to the mission of encouraging deep learning and reflection. "There are a gazillion ways to learn things" today, says Mr. Bass, who is also vice provost of education and a professor of English. "For the first time in a thousand years, universities no longer have a monopoly on certification and learning."

'SYMBOLICALLY IMPORTANT'

Mr. Bass is no newcomer to educational redesign. Before starting the Red House he spent 13 years as founding executive director of a teaching center at Georgetown, He has also made a name for himself nationally on the speaking circuit, talking about technology, pedagogy, and the themes he cares passionately about, like "moving beyond the binaries" of classroom and extracurricular activities. (Yes, he really talks like that, and some of his longtime faculty colleagues admit that it sometimes drives them a little crazy.)

Mr. Bass is not alone in his reinvention work at Georgetown. In addition to the dozens of faculty and staff members he's worked with across the campus, his program has three full-time paid colleagues and four faculty fellows. Students play a key role in the reinvention efforts too. Twenty-five of them are on staff as paid or volunteer Red House Board of Regents Future(s) Fellows. A few jokingly call themselves "a little cult," and they un-self-consciously pepper descriptions of their Red House assignments with terms like "self-authoring," "agency," and "dispositions."

Inside, the Red House looks like a Post-It note test site, with walls obscured by stickies, posters, and whiteboards covered with writing. (A few weeks ago, one featured the headings: "Self-empower," "Mentorship," and "Reflection.")

The Red House has a budget of $5 million for its first five years, money that was raised from foundations and other private donors. University leaders promised faculty members that Red House work would not draw from other university resources.

At other institutions, reinvention efforts like this are sometimes centered in schools of continuing ed-

T.J. KIRKPATRICK FOR THE CHRONICLE

Randall Bass, director of Georgetown's Red House, says that to stay relevant, colleges need to forge more links between students' academic work and their activities outside class.

ucation, where any changes don't affect the core of the institution. Georgetown's decision to establish its organization for redesign under the direct auspices of its provost office was deliberate. So was the choice to use the Red House as the locus.

It's "symbolically important," says Robert Groves, the provost, invoking a theory of innovation that calls for using volunteers drawn from the main culture of an organization to create and germinate new approaches within it. "We want to start the implantation" at the Red House, says Mr. Groves, who happens to live right next door, and then "have them accepted by the full culture."

So far, the Red House's success rate is mixed, although Mr. Bass says even projects that haven't progressed have yielded useful lessons. The Intersections online course is a clear hit, with plans to run it again this year and open it up to students at other Jesuit institutions. And Mr. Bass says he expects the model will be used again for students in other kinds of summer internships as well. As part of a larger effort to improve retention of first-generation students in STEM fields, Georgetown will also use the format for a summer course it plans to offer to sophomores in the sciences.

The badging project is moving forward as well, with 16 students in the first test group working toward a badge that would recognize each for being a Catalyst. Samuel Holley, a senior and a Red House fellow, calls it a valuable way for the university to validate students' activities "away from the résumé culture" that permeates student life at Georgetown. As part of the process, the students are being asked to contribute to personal and group blogs. They're also undertaking a corporate-style "360 degree" review from their professors, mentors, and peers, with the help of a commercial software tool called Checkster that's used by human-resource departments.

The studios, too, are progressing. This semester four teams from a science-and-society class will be continuing with projects they began in the fall term. They'll be creating programs to teach schoolchildren about health through lunch-tray place mats, to fight invasive species by encouraging fishermen to

catch snakeheads, to mitigate the spread of flu on the campus with "bed rest" kits to encourage students to stay home, and to encourage younger people to become organ donors by offering sign-ups during course registration.

That's a milestone for the Red House. "Moving away from the one-size-fits-all semester model," says Mr. Bass, is vital if institutions are to create new faculty-compensation and tuition structures to go along with the new instructional approaches.

FACULTY ANXIETY

But several other Red House projects have been stalled or scaled back in the face of faculty criticism or general unease about the speed at which they've been pushed forward.

That includes four proposed project-based minors. One of them, in communications, is being retooled as a one-year sequence of activities worth a maximum of six credits, although the underlying pedagogical structure remains. If approved, the projects will require students to research a social problem of their own choosing. The students will then present what they've learned via a website, an interactive map, or some other form of new media they develop. Professors will award credits based on their assessment of student proficiency.

'It's taking longer than anyone ever imagined it would.' "It's taking longer than anyone ever imagined it would," says Sherry Lee Linkon, a professor of English and faculty director of writing-curriculum initiatives, who's been working on the idea. She hopes the first set of sequences will be offered by the fall of 2016.

Ms. Linkon says she's heard questions about the approach from some colleagues. "There was a lot of anxiety about the fact that there was no course — not enough instruction with a capital I," she says. Student interest is "through the roof," though, she says, and not because students see it as a gut. They "recognize in ways that some of our colleagues don't that some of this isn't easier than writing a paper," she says.

Ms. Linkon says she understands why faculty members are anxious about this and other Red House projects. Some of it is fear of what they don't fully understand, and some of it is a sincere concern about whether the new teaching approaches will work best for students. She says she's also heard colleagues criticize Red House projects even while admitting they don't know a lot about them.

There's a lesson in all that for other institutions.

University leaders may see the Red House as a professor-led project — and indeed the entire campus has been invited to work with it — but some faculty members still regard its output as something the administration is trying to foist on them.

That's made the Red House a bit of a target for some on the campus, especially after Mr. Bass published a report last fall outlining the Red House's progress to date. Twenty-three pages long, it was packed with not only pilot projects but also efforts that appeared to be in advanced stages, said one professor who asked not to be named, leaving some with the feeling that the Red House was "like a freight train running out of control."

The Faculty Senate shared that concern. "No one outside of Randy's shop had reviewed these proposals, so there's naturally a certain amount of skepticism and concern," says Wayne Davis, its president. (In fact, some departments had seen some proposals, but not in any structured way.)

It was soon after that the university put the brakes on the minors. "People were concerned about a proliferation of new minors that could drain resources," says Mr. Bass. Similar questions were raised about the idea for a four-year B.A./M.A. Some faculty members say they were also concerned it could lead to a "dumbing down" of the degree.

"For the first time in a thousand years, universities no longer have a monopoly on certification and learning."

Mr. Groves, the provost, says that in retrospect the failure to create a coordinated governance structure for the Red House early on was "stupid of us" and is now being rectified. Last week the senate established a new universitywide committee that will vet all Red House projects before they get too far along. It will also review self-evaluations the Red House plans to conduct.

Mr. Bass says the new faculty committee will ultimately help the Red House because the expertise of the panel can improve early ideas and its imprimatur can give those ideas more credibility in the faculty ranks. Even getting bits and pieces of Red House proposals put into practice is a victory, he says. Mr. Bass insists he's not discouraged — at least not yet — by the pace of progress.

"It's plenty easy to do something innovative in some kind of isolated microcosm and run it there and have it have no effect" on the broader institution, Mr. Bass says. But these slower, piecemeal steps, he says, make up "the healthier investment in true transformation."

Originally published January 19, 2016

"Never lose sight of what's on the minds of your people," says Mary Ellen Burris, senior vice president for consumer affairs at Wegmans. The high-end grocery chain is one of the corporate models American U. is looking to as it seeks to reinvent how it interacts with students.

U. OF ROCHESTER

What a University Can Learn From Wegmans

By LEE GARDNER

American University's student services weren't working the way administrators wanted. Students found the mix of offerings confusing. Too many alumni seemed lukewarm about their campus experience. So the provost decided it was time to blow it all up.

"I said, 'I'd like to start with a clean sheet of paper,'" recalls Scott A. Bass, the provost. "What would we do if we could do that?"

The question of how a university can reinvent the way it interacts with students outside the classroom has led American to an unlikely source for inspiration: customer-service powerhouses like Wegmans, the high-end grocery chain, and the Cleveland Clinic, an elite academic medical center.

Looking outside academe makes sense because few colleges have rethought, from the ground up, how they work. When new students arrive at American, among many other colleges, they confront a complex aggregation of offices and practices. Many processes, such as advising, haven't been fundamentally altered in 50 or even 100 years, even as colleges serve a rising generation of students who find Snapchat and Amazon more intuitive than email or a course catalog.

When leaders at American began the university's Reinventing the Student Experience project last year, according to Jeffrey Rutenbeck, dean of the School of Communication, "the comprehensive nature of what we were trying to imagine was a bit easier to spot in the corporate world."

Many faculty members, and others in higher education, view the influx of business-style practices as an unwelcome invasion, arguing that corporate thinking undermines the altruistic values of academe. But the fact remains that an organization can do a good job at its primary mission, such as education, and still stand to improve how it serves those who benefit. Colleges facing enrollment problems and fighting for the best students have an incentive to give their students better services and a better experience. Doing a better job of meeting their needs can pay off with higher retention and graduation rates — and, down the road, more satisfied alumni who might be more inclined to give back.

A decade ago, the Cleveland Clinic noticed that while it had become renowned for healing "the sickest of the sick," according to Lori L. Kondas, senior director of the Office of Patient Experience, surveys revealed that many of those it had healed didn't enjoy their stays at the hospital. Since patient-satisfaction scores now figure into Medicaid reimbursements, the clinic has additional reason to serve its customers well.

> **"I said, 'I'd like to start with a clean sheet of paper.' What would we do if we could do that?"**

Through years of incremental changes, and much trial and error, the Cleveland Clinic transformed its culture and turned its patient-satisfaction scores around. "Patients First" became more than just a marketing slogan. Through training, and emphasizing its patient-centric ethos to new hires, the hospital worked to make the patient experience the focus of every employee, not just doctors and nurses.

At American, members of the Reinventing the Student Experience task force gathered similar insight from Wegmans. Everyone who works at the grocery chain, including those in the back office and on the custodial staff, is trained and expected to keep customer service foremost in mind.

Mary Ellen Burris, the company's senior vice president for consumer affairs, says one key to the approach is "being sure that you never lose sight of what's on the minds of your people." Listening to employees' concerns and ideas, she says, helps fulfill the promise that their individual contributions will help make the stores a better place to work, which will make them a better place to shop.

Wegmans and American do have some things in common, Ms. Burris says, particularly organizational silos that often compete for resources and attention. But improving the larger organization requires the participation and cooperation of all the people who are doing the work, Ms. Burris says, so that you don't have "a group of Ph.D.s fig-

Lessons for Leaders:

- **Seek ideas from outside academe:** American U. sought to bring fresh thinking to how it responds to student needs by studying customer service at Wegmans, the high-end grocery chain, and the Cleveland Clinic, an elite academic medical center.
- **Get hands-on:** A university task force took a trip to the clinic to see firsthand how its "Patient First" approach works.
- **Communicate often:** To assuage any concerns about the task force's goals, members met often with administrators, faculty and staff members, and students.

uring out how the person who cleans up the parking lot is going do his or her job."

The importance of making each employee part of the effort to improve the organization has come up at almost every subsequent meeting of the task force at American, Mr. Rutenbeck says. "The kind of excellence you can achieve with technical proficiency is very different from the kind of excellence you can achieve if you build a culture that connects everyone to the same mission."

AN APP FOR THAT?

Particulars of how American thinks it might change its student services won't be revealed until this fall, but breaking down silos and improving communications are key topics under discussion.

As at many other colleges, student data at American are scattered across dozens of divisions and their databases, few of which communicate with one another in useful ways. A problem with a student's housing may lead to difficulties in class, but it may be weeks, or months, before faculty and staff members make the connection and find a fix, if they ever do.

Colleges also struggle to communicate effectively with their students, most of whom have grown up in a seamless world of apps and handheld reminders. "We send them an email, and they don't read the email, so we send them an email to read the email," says Mr. Bass, the provost. "This is where we are."

One innovation at the Cleveland Clinic that struck American's leaders during a visit there this past spring is a practice called "rounding." Derived from medical rounds, in which doctors and medical students tour a ward to examine patients, the practice involves members of the various departments gathering regularly to discuss what's going well and what needs improving. Department heads also assemble for their own rounding, going out into the clinic to talk to patients, nurses, and other staff members. Rather than allowing problems and dissatisfactions to fester, rounding lets staff members hear about them "and sometimes even solve problems right in the moment," Ms. Kondas says.

The visiting officials from American say rounding showed them how a focused, sustained effort to stay on top of incremental successes and challenges across an organization can make a difference. Mr. Rutenbeck says he's seen college presidents try similar efforts, "but they didn't stick with it, and they didn't push it" the way the Cleveland Clinic has.

The goal isn't to suspend students in a bubble of feel-good, but to create a 'positive experience, some of which is clearly challenging, but the right challenges.' American is pondering other lessons from corporate customer-service practices as it sorts through how it wants to rework some of its more hidebound functions.

Take advising: Instead of having students make a series of brief appointments with an adviser to ponder what they're taking next semester, what if they established personal relationships with an adviser before they even stepped onto the campus? What if advisers had tools that could populate required courses into students' class schedules over years, not just semesters, plotting a more calculated and reliable path toward graduation? What if students had more frequent access to their advisers, and information about their degree progress — perhaps through an app?

Students now live in a near-constant stream of information, feedback, reminders, and prompts.

The goal isn't to suspend students in a bubble of feel-good, but to create a "positive experience, some of which is clearly challenging, but the right challenges."

"They have experience in every other part of their lives where they've got targeted, differentiated communication that comes just in time," says Teresa Flannery, vice president for communication at American. If students read articles online, they may receive messages reminding them that they can read only a few more articles free. But in choosing classes, they may sign up for their full allotment of pass/fail courses before they realize it. Students at American don't get that kind of information now, Ms. Flannery says, but focus groups suggest that "they'd really like it if they did."

HEAVY LIFTING

Treating students more like customers is not a new idea in higher education. "It's something you see in many places," says Kevin Kruger, president of the student-affairs group Naspa, "but it tends to be department by department." It remains a controversial idea, he adds, because it might make education seem like a product.

But tuition increases have led to higher expectations of colleges from students and their parents. If you're paying thousands, or tens of thousands, of dollars in tuition each year, you don't want a frustrating experience.

Faced with 21st-century students, the university has no choice but to adapt, says Mr. Bass. Like many

private universities, American has diversified its enrollment in recent years, increasing the numbers of first-generation, Pell-eligible, and minority students — populations that often need help adjusting to college life. In fact, all groups of students enrolling at American these days are arriving with more needs than previous generations did. The number of students seeking mental-health services, for example, has multiplied. American had about 150 cases in which a student needed clinical mental-health services in 2010-11; this past year it had more than 700 cases.

Like the Cleveland Clinic, the university has seen indications that some of its alumni are ambivalent about their experience there. Surveys conducted in 2009 and in 2013 asked graduates if they had a chance to do it all over again, would they? Almost a quarter of them answered, "I'm not sure," Ms. Flannery says, which is "a striking thing to say after four years and a big investment, right?"

The hurdles that American faces in making extensive changes are daunting. Its Reinventing the Student Experience project was funded by a $150,000 grant from the Andrew W. Mellon Foundation. American will need millions of dollars, ultimately, to pay for the kind of transformation it has in mind. The university can pay for small numbers of staff members to start pilot projects, but the financial support of a major foundation or other external partners is a key component to a larger overhaul, Mr. Bass says, "and I don't have that at this moment."

Remaking student-service systems, as well as the campus culture, would be easier at a smaller institution, notes Mr. Kruger, of Naspa. At a university like American, which enrolls more than 13,000 students, about half of them undergraduates, there are more and bigger silos to break down. At a college of any size, it's tough to sustain new practices and attitudes over years.

Members of the task force say the most common question so far is, 'How will this affect me?' Leading change, and persuading people of its necessity, is one of the hardest tasks. In academe, says Mr. Rutenbeck, dean of the communication school, "pushback comes with the territory."

American has tried to make sure that everyone on the campus knows about Reinventing the Student Experience, and what the project aims to do, by holding meetings with administrators, faculty and staff members, and students. "We didn't want this to sneak up on anybody," says Ms. Flannery. Members of the task force say the most common question so far is "How will this affect me?" The concern is especially keen among faculty members.

Some faculty members at American have also expressed concern that creating a more responsive student-service system, tailored to students' needs, amounts to coddling them. Mr. Bass disagrees. What the approach represents is quite different from what he encountered when he attended college, when students were expected to "sink or swim," he says. The goal isn't to suspend students in a bubble of feel-good, but to create a "positive experience, some of which is clearly challenging, but the right challenges."

Reinventing the Student Experience is an "outstanding" idea, says Todd A. Eisenstadt, a professor of government and chair of the Faculty Senate, and one that most of his colleagues support. "It's the old dream of the single-service window that a lot of us who study bureaucratic process have always sought," he says.

He worries, however, that the approach might make some problems worse, if catering so thoroughly to students' needs ends up channeling them into the role of passive consumers of services. Students of this generation, he says, need encouragement to be "active inquirers into how to best learn what they most need to know."

Mr. Kruger endorses the view that colleges must do a better job of adapting to the changing demographics of incoming students. Many colleges will watch closely what happens at American, he says. If the university can make the type of changes it's talking about and "show real, measurable outcomes" in student success and satisfaction, other colleges will be interested, especially since American will have done a lot of the heavy lifting in designing a prototype and testing what works.

The payoff for the university could be huge. Satisfied students become satisfied graduates, says Jack C. Cassell, chairman of the Board of Trustees. If American succeeds in creating a new and improved student experience, he says, "we believe that there will be a huge benefit to us in the future from the feelings and the generosity of our alumni."

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A good institution that manages to make the experience of navigating college more user-friendly also will develop a market advantage on the front end, says Mr. Bass, the provost. That "will be an institution that I believe parents will line up to have their kids come to."

Originally published July 24, 2016

The Hope and Hype of the Academic Innovation Center

By
BETH MCMURTRIE

THE COLLEGE of Veterinary Medicine at Michigan State University had a problem. Although its programs fared well on conventional measures, students complained of overwork yet felt underprepared to be practicing vets. Professors knew they weren't teaching as effectively as they could be. Things needed to change.

Working with Michigan State's Hub for Innovation in Learning and Technology, Stephen Thomas (standing) is helping faculty in the veterinary college develop a new curriculum.

BRITTANY GREESON FOR THE CHRONICLE

Lessons for Leaders:

•**Consolidate:** By marrying academic-technology units with teaching and learning centers, colleges hope to spark changes that traditional structures wouldn't.

•**Stay lean:** Michigan State's Hub for Innovation in Learning and Technology is intentionally a small operation, in part to avoid discontent from others on campus who might see it as a drain on resources.

•**Open-door policy:** Faculty visitors are encouraged to stop by to ask for advice, and the workspace is meant to be welcoming and collaborative, with no offices, only tables.

If this were a tale of conventional curricular reform, it would involve months of committee meetings and cautious moves forward, most of it carried about by the college's faculty and staff members. But Michigan State has placed a big bet on a different approach: one that blends interdepartmental collaboration, academic technology, and new forms of pedagogy. Two years ago it pulled these strands together to create the Hub for Innovation in Learning and Technology, often just called the hub. And one of its first clients was the College of Veterinary Medicine.

Instead of working within the confines of the college, Michigan State brought together disciplinary experts from the veterinary faculty with specialists in learning and instructional design who encouraged them to think differently, take risks, and move quickly. More than 70 faculty members are now participating in a complete revamp of the doctor of veterinary medicine program. Starting this fall, incoming students will be introduced to a new curriculum that includes three-week course modules, a competency-based approach, team teaching, and flipped classrooms.

"Without having that structure of the hub, we wouldn't have been this courageous," says Julie Funk, associate dean for professional academic programs and student success at the college. "There's still faculty who doubt we're going to pull it off."

A 2015 survey found that a growing number of colleges were marrying their academic-technology units with their teaching and learning centers in hopes of igniting fundamental reforms across campus. A common mission for innovation centers, particularly at large public universities like Michigan State, is improving student success. That may include revamping large introductory courses, training professors in design thinking and active learning, and using analytics to improve retention and graduation rates.

But can you engineer innovation? Advocates believe so, arguing that traditional campus structures and systems discourage change and limit creative thinking. Faculty members have little time to explore pedagogical research or figure out which classroom technologies work for them. Departments aren't always aware of how other divisions are tackling curricular reform. And systemic challenges, like student retention, require the coordination of many departments across campus.

But whether these hubs can foster systemic change is another question. Skeptics argue that innovation centers wear their own sets of blinders. Versed in the lingo of Silicon Valley, the staff may turn off more traditionally minded academics with talk of iteration and technological solutionism. And if they are set apart from the daily work of campus, innovation centers risk becoming their own silos.

The lessons of MOOC mania linger, with academic leaders taking a more skeptical view of the idea that education technology can transform higher education and bring in new sources of revenue. Some centers started in that era, around 2012, with grand ambitions but lacking clear goals. And if colleges are unable to calculate the impact these centers are supposed to have, they're more likely to lose support when times are tough, says MJ Bishop, di-

"Without having that structure of the hub, we wouldn't have been this courageous. There's still faculty who doubt we're going to pull it off."

BRITTANY GREESON FOR THE CHRONICLE

Staff members at Michigan State's hub use an update board to monitor projects underway. Systemic challenges require the coordination of many departments across campus.

rector of the Kirwan Center for Academic Innovation at the University System of Maryland and co-author of the 2015 survey.

In short, without the resources, relationships, and high-level support to simultaneously work within and help rethink existing systems, innovation centers can easily overpromise and underdeliver.

Michigan state hopes to avoid those trip wires by structuring the Hub for Innovation in Learning and Technology as a fluid organization, designed not to lead change, but to act as a catalyst. Housed on the ground floor of Wells Hall, the largest academic building on campus, the hub is an open space, literally and figuratively. Boards lined with notes and timelines stretch along a hallway dubbed Main Street, tracking the status of continuing projects. There are no offices. All staff members work at tables, grabbing whatever space is available. Visitors are welcome: Anyone can stop by to work on a project or ask for advice.

Jeff Grabill, the hub's director and an associate provost for teaching, learning, and technology, was asked by Michigan State's provost, June Pierce Youatt, to create an entity that would blend technology and pedagogical innovation, but she left it to him to work out the details. Ms. Youatt calls the hub "a support system for people with big ideas," specifically those that tie into the university's longstanding efforts to improve student success.

A lot of innovation centers prefer collaborating with faculty members who are early adopters of new technologies, says Mr. Grabill, a professor of rhetoric and writing who helped create an education-technology company from research he had done on digital writing. He is more interested, he says, in sparking broader reforms. Michigan State's portfolio includes several ambitious projects, such as rethinking general-education courses, improving student advising, and helping devise a cocurricular record system. It's the kind of work that most everyone agrees is important but often fails to get off the ground.

"In many respects," he says, "our portfolio is fundamentally unsexy."

The staff is small — a collection of learning and instructional designers, media-production specialists, and educational-technology experts — with some on loan from other divisions. Mr. Grabill says he created a lean operation in part to avoid discontent from others on campus who might see the hub as a drain on resources. He added the equivalent of two full-time positions, with most of the rest of the staff reassigned from other divisions.

Project teams are formed ad hoc, pulling in people from other parts of campus. The organizational fluidity is central to the hub's strategy, says Karen L. Klomparens, a member of its board and a senior adviser to the provost. "A lot of times we academics overthink things," she says. "Everything has to be planned out and in an org chart. And that sometimes just kills innovation."

The hub helped start a learning-analytics group, for example, that brought together people from the

registrar's office, institutional research, technology, student services, and the provost's office.

That group provided an early success story when it identified a key problem: Fewer incoming freshmen were taking a full course load their first semester. The decline, in fact, had been precipitous. From a high of 44 percent in 2006, it had dropped to 28 percent last year. Mark Largent, an associate dean and the director of learning analytics, who heads up the group, says the administration didn't realize how drastic the drop was until his team crunched the numbers.

Further analysis showed that students who take a full course load have stronger academic records and graduate more quickly than those who don't. Armed with that information, the learning-analytics team organized focus groups of students to find out what message would resonate with them. It turns out it wasn't the tuition they would save so much as the fact that they would start college on strong academic footing. The team worked with advising staff to develop a campaign called Go Green, Go 15, to sell that idea. The percentage of students taking 15 or more credits jumped back up this fall, to 42 percent.

Mr. Largent credits Mr. Grabill for providing the accelerant to the group's work. "He says if you're going to fail, fail fast. He pushes hard in the beginning."

The College of Veterinary Medicine is being pushed hardest of all. Its leaders approached the hub in early 2016 seeking guidance on the doctor of veterinary medicine degree. The college is highly ranked, and graduates do well on licensing exams, but faculty members worried that the curriculum was not as coherent as they wished and that they were cramming information in students' heads rather than training them to think like clinicians.

The college decided on a wholesale makeover: a competency-based curriculum with courses organized around core skills and concepts like clinical reasoning and decision-making. The change will require sustained collaboration among faculty members to remap the entire four-year sequence. The competency-based approach also requires new forms of teaching and assessment, as professors move away from the traditional model of lectures followed by quizzes and exams.

This year begins the hard work of course design and production. Stephen Thomas, a curriculum developer based out of the College of Natural Sciences, was brought in last fall to help coordinate the development of 13 new three-week courses. He spends about a third of his time working with other experts from the hub, in instructional design, faculty development, and academic technology. Together with teams of veterinary faculty members, they wrestle with big questions: How do you create courses that emphasize critical thinking, not simply memorization? How do you build curricular coherence, so that courses logically flow from one to the next? How do you determine whether students can make sound decisions amid uncertainty?

Mr. Thomas, who holds a doctorate in entomology and evolutionary biology, says the experience is an education for him as well: His expertise is in digital instruction, yet the project has taught him about competency-based approaches and professional development. He is also seeing firsthand the barriers to curricular reform. "Time has been the continual challenge," he says. "Faculty who are already very engaged and invested in the clinic and teaching and research — how do you give them the time and space to work on this?" These are the kinds of structural concerns, he says, that the hub can bring to the attention of senior university leaders.

Ioana Sonea, an associate professor who teaches pathobiology, is part of the group that's redesigning the first course, on the musculoskeletal system. Her group began meeting in December at the hub, where they discussed the competencies the course must cover, the best way to assess students, and how to train instructors in these new forms of teaching. Many of the answers are still in play, but Dr. Sonea, who is on eight of the 13 new course-design teams, gives the hub credit for keeping her group focused on the larger goals. For example, when it came to assessments, her colleagues from the hub reminded her that communication is one of the goals of the course. So instead of using exams, she is building in case reports — in which students are presented with test results, a diagnosis, and treatment plans for a sick animal and must summarize what they've learned — something that is normally reserved for later years. "I probably wouldn't have thought of that on my own without their help," she says.

Can you engineer innovation? Advocates for places like Michigan State's hub believe so, arguing that traditional campus structures discourage change and limit creative thinking.

Other departments are working on different projects, such as rethinking the large introductory lecture. Down the hall from the hub, Jonathan Weaver plays to a tough crowd of more than 600 students. A number of them look as if they'd rather be elsewhere.

One December afternoon, Mr. Weaver is reviewing various psychological disorders, like generalized anxiety and phobias, in his introductory psychology course. His tone is sincere and brisk. His descriptions are short and peppered with relatable examples: a movie clip of Jack Nicholson obsessively washing his hands, or the story of a friend whose brother came home from Iraq with PTSD and subsequently killed himself. He gives pop-up quizzes to make sure students are paying attention.

But lecture halls are easy places to hide, especially in the back. There, undergraduates are hunched over phones, earbuds in and hoods up. A young woman in the last row watches *Grey's Anatomy*, stops to click her answer to the quiz questions, and returns to her show.

"This is something that keeps me up at night," Mr. Weaver, an assistant professor, says later. "I feel sometimes I'm just doing a pony show up there."

For Michigan State, Mr. Weaver's struggles embody a campuswide challenge: How do you make the large lecture class more engaging? He only has one teaching assistant, so he is limited in how much he can restructure the class. To find answers, Mr. Weaver has been working with Sarah Gretter, a learning designer at the hub, as part of a departmental effort to revamp the 101 gateway course. Roughly 10 percent of the students in the course earn a C or less, and previous efforts to help these low performers, with direct emails and clicker technology, have had limited or no success.

Mr. Weaver says conversations with Ms. Gretter and others at the hub have helped him and others in the department design strategies based on research, not just intuition: "We'd bring ideas and the hub would go, Oh, yeah, here's some data that backs that or doesn't back that." He also credits weekly conversations with Ms. Gretter for giving him ideas that don't require many resources. "One of the barriers I kept hearing from students who weren't doing well was that they didn't know anyone in class," he says. He and Ms. Gretter are adding small, mandatory online study groups to the class this semester. They will also train some undergraduates as "learning assistants" to help monitor the groups and report to the main teaching assistant. The hope, he says, is to build connections among the students themselves.

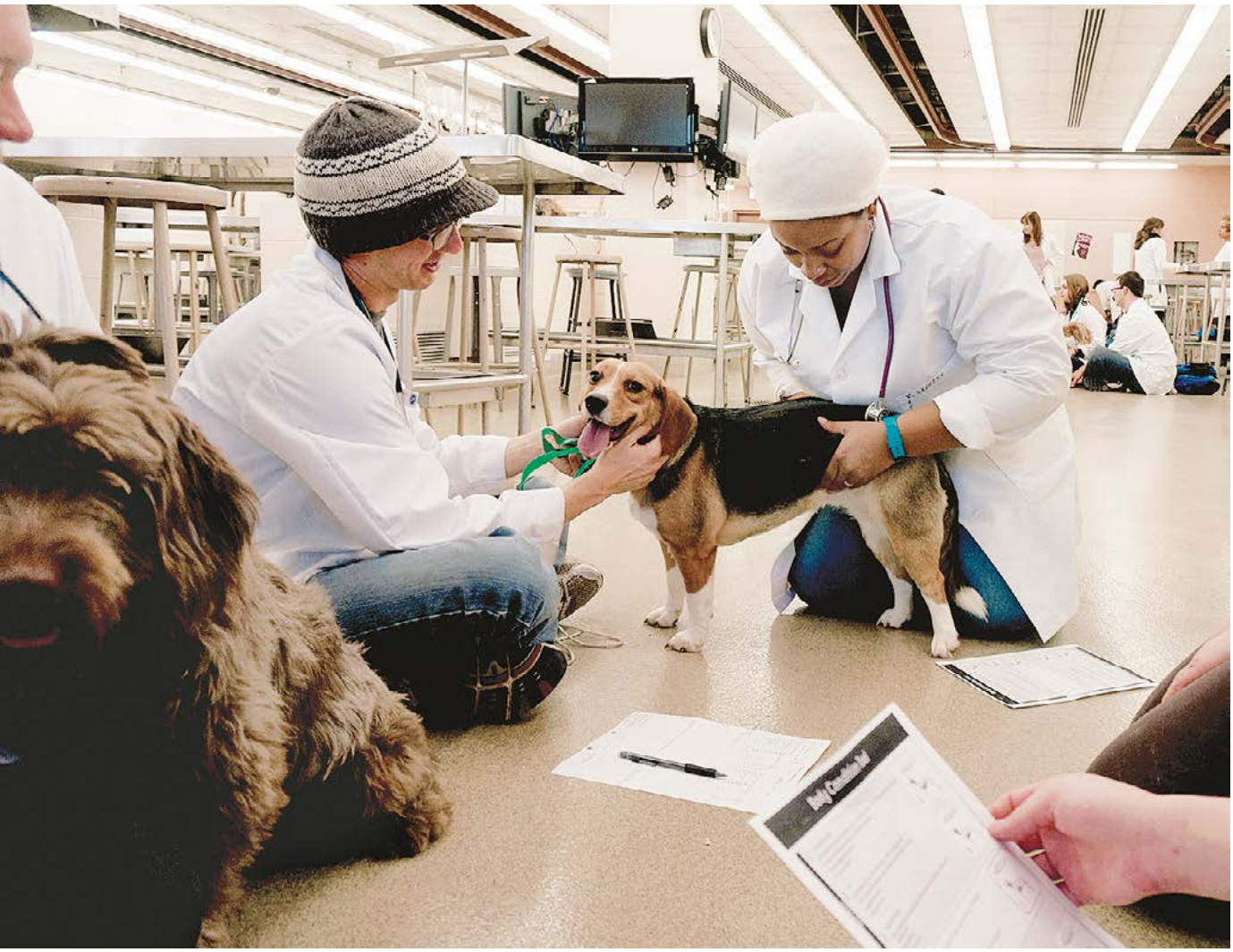
Unlike with the veterinary college, Mr. Weaver and Ms. Gretter decided to try one change at a time to see what works. If there's no difference in performance compared with the fall course, they'll try other interventions that focus on materials or teaching style.

Mr. Weaver is optimistic that, as he and others work with the hub, more fundamental changes, like hiring new instructors who put a priority on engaging students, will follow. "It takes a long time in academia for people to embrace things," he says. "Once people see others trying, it's going to get them trying too."

Not everyone is enthusiastic about the hub's approach. Steve Weiland's office is a five-minute walk from the hub, inside the College of Education. Just as his narrow office, stacked with papers and books, is strikingly different from the hub's open spaces and sticky notes, so are his views toward innovation centers.

It's hard for some students to engage in a large lecture class like Psychology 101 at Michigan State. "This is something that keeps me up at night," says Jonathan Weaver, the assistant professor who teaches the class.

BRITTANY GREESON FOR THE CHRONICLE



BRITTNEY URICH, DENISON U.

Faculty members are participating in a complete revamp of Michigan State's doctor of veterinary medicine program. The first year of the new curriculum will be in place this fall.

A longtime faculty member, Mr. Weiland sits on the hub's board but says he often feels like he's the only skeptic of the bunch. How can a centralized unit — one preaching innovation but lacking disciplinary expertise — break down academic silos, he wonders. Equally troublesome, he says, is the presumption he feels emanates from the hub's proponents: that they can innovate their way through some of the most intractable challenges in higher education. Maybe, he says, they shouldn't be asking what kind of technology can connect students in a 600-student lecture course, but why does Michigan State have so many large lecture courses in the first place?

"There's not enough criticism and skepticism built into the way we do things," says Mr. Weiland. "Part of being a research university is to ask these tough questions."

He is supportive of curricular-reform efforts and says technology plays an important role in higher education — he teaches online himself — but wants to see the hub hold an "intellectual profile, not just an operational profile." He would like to see the hub spark conversations on campus, for example, about the role of laptops in the classroom, the limits of learning analytics, and the impact of social media on students.

Instead, he says innovation-philes on campus "talk in the imagery of the Stanford Design School. They iterate and all that. You get some Silicon Val-

ley-style bullying going on now."

Academics at other institutions who study innovation echo some of these concerns. Innovation centers are susceptible to failure if they don't clearly identify goals, integrate their work into campus life, and prove their worth.

"We developed a lot of these centers and programs and positions without a strong understanding of how to go about measuring impact and return on investment," says Ms. Bishop, director of Maryland's Kirwan Center for Academic Innovation. As a result, she says, when budgets get cut, or new leaders come in, these centers are often among the first to go.

That's what happened with the University of Texas System's Institute for Transformational Learning. Created in 2012, when interest in MOOCs was rapidly growing, the Texas Board of Regents decided it needed such an organization to better shape the future of the system.

The institute, led by Steven Mintz, a history professor from the flagship campus in Austin, had a broad and ambitious agenda similar to Michigan State's: to help make education more accessible and affordable, improve student outcomes, and support technology-enhanced education.

Because it was regent-driven, says Mr. Mintz, the institute faced an uphill battle from the start. Some campuses resented the money being funneled into the institute — nearly $100 million in all — while others weren't convinced of the value of its proposed projects. It was also expected to be financially self-supporting, says Mr. Mintz, although it was never quite clear how. Then, he says, "the clock ran out before we could get there."

As new regents came in, skepticism toward the institute and its mission grew, with some looking back on what they considered overly rosy and vague promises to "define the future of higher education." The center will shut its doors at the end of this month, says Mr. Mintz, with some of its projects shifting to the University of Texas at Austin.

He offers some advice to others embarking on similar efforts. Make sure there is widespread agreement on what problems need to be solved or opportunities should be pursued. Otherwise, don't move forward. Everyone's expectations also need to be properly calibrated, he says. The UT system wanted change to happen quickly, which the institute couldn't provide.

Finally, he says, you need to have the talent and the money to do what you set out to do. "Whether a central unit can attract the level of expertise and have the resources is going to be a big question at a place like Michigan State," he says. "I know a lot of leaders of comparable centers, and I think they share very similar challenges."

Now entering its third year, Michigan State's Hub for Innovation in Learning and Technology is extending its reach. It is working with the College of Arts and Letters to redesign study abroad. It is helping the math department rethink remedial education. It is working across departments to revise required discipline-based writing courses.

The plan, says Mr. Grabill, is to branch out across the campus, getting buy-in from academic leaders and others to spark more systemic reforms. He agrees with Mr. Weiland that the hub needs to raise its intellectual profile. To that end, he plans to use it as a forum for faculty members to discuss big ideas in higher education, like the future of digital learning.

For now, optimism among its advocates tends to run high. "They're great at things I don't do well,"

"There's not enough criticism and skepticism built into the way we do things. Part of being a research university is to ask these tough questions."

says Walter Hawthorne, chair of the history department and one of the people involved the writing-course revamp, "which is to break down territorialism and get people talking."

Mr. Largent, the learning-analytics director, is on to the next phase of his project: restructuring the course-scheduling system so that students aren't shut out of classes. He's confident that his team can remove some of the barriers that have made course scheduling a headache for so long.

None of these changes will be quick or easy, Mr. Grabill notes. Substantive reform takes time. "That's a really important thing about innovation work," he says. "It looks bright and shining from the outside. But if that's all you're doing, there will be no change."

Originally published January 21, 2018

QUESTIONS TO CONSIDER

HOW does your university plan to innovate in the key parts of its academic programs, such as big introductory courses, advising for struggling students, and how students record and reflect what they learn in and out of the classroom?

DO new innovation centers or hubs answer to the provost, president, or other senior leader directly? Or are they placed at the margins of the organizational structure?

HOW does your college get ideas from outside its campus and outside higher education? Does it look for lessons at large companies or nonprofits?

HOW do you plan to create a wider culture change without causing a backlash? Do you communicate sufficiently the goals of the innovation and recruit so-called early adopters to help champion change?

The Making of a Higher-Ed Agitator

Michael Crow's prescription for colleges divides and inspires

By JACK STRIPLING

For Michael M. Crow, president of Arizona State University, this is hallowed ground. It is the site of Taliesin West, Frank Lloyd Wright's low-slung winter home in the foothills of the McDowell Mountains. The residence's slanted redwood beams and walls of native stone appear to be natural extensions of the desert landscape.

Mr. Crow, a stocky figure in a blue blazer and an open-necked shirt, strolls toward the prow of the property, where a gravel walkway juts to a tip on the southern side of the residence. From this vantage point, Wright intended his home to resemble a ship on the desert, draped with a canvas roof reminiscent of a sail. The deliberateness of it all, Mr. Crow says, carries the signature of a master designer bending the natural world to his aims.

Lessons for Leaders:

- **Find unlikely influences:** Michael Crow, president of Arizona State University, looks to Frank Lloyd Wright and science fiction to inspire his thinking.
- **Failure happens:** While now known as a champion of innovation, during his time at Columbia University, Mr. Crow led an online-education project that was later abandoned by the institution.
- **Skeptics abound:** Mr. Crow has his fair share of critics. Even supporters admit that he is a polarizing figure and can push through unpopular changes from the top down.

Mr. Crow, 59, considers himself a designer, too, convinced he has a new, more populist blueprint for universities. With his ideas, he seeks to upend the natural order of academe, in which universities derive prestige from the proportion of students they exclude.

Rather than a university president, Mr. Crow sees himself as a "knowledge enterprise architect." In this role, he has assessed what he believes universities are meant to do and drawn up an organizational structure best suited to meet those goals. If a college aims to produce more graduates and make research breakthroughs, Mr. Crow says, it should be designed so that a policy of near-open access enhances the prospects that professors will cure cancer or build flying cars.

Mr. Crow's prescription for colleges amounts to a finger in the eye of the higher-education establishment, which has for decades used selectivity as a proxy for greatness. His thesis challenges conventional wisdom, which suggests that the nation's greatest research accomplishments will come from highly selective institutions with established reputations — not 80,000-student behemoths like Arizona State.

Designing the New American University (Johns Hopkins University Press), which Mr. Crow recently wrote with the historian William B. Dabars, is the most thorough exploration to date of themes the president has espoused since his appointment at Arizona State, in 2002. The book has brought new attention to Mr. Crow's arguments, which implicitly indict some of his peers.

He does not typically name names but vaguely defines his opposition as a nameless, faceless cohort of colleges that imitate the exclusionary policies of Harvard in the destructive pageantry of rankings. In so doing, he argues, these institutions function as engines of inequality, perpetuating a system in which young people are consigned to lives of fulfillment or struggle well before they take their first standardized tests. In other words, just about every institution but Mr. Crow's has some major "design" flaw.

His disciples, of which there are many, see Mr. Crow as a thinker on a par with the late Clark Kerr, the University of California president credited with helping to create the modern model for public col-

TIM TRUMBLE

Michael Crow, president of Arizona State U., sees himself as a "knowledge enterprise architect." His populist prescription for colleges amounts to a finger in the eye of the higher-education establishment.

leges. But Mr. Crow's ascendance in higher education, propelled by an uncommon blend of intellectual curiosity and ambition, raises important questions about whether his proposals for the sector can or should be emulated. His success at Arizona State is a product of what even some supporters describe as a top-down style of administration likely to meet resistance elsewhere.

For all of the attention his ideas are paid, skepticism lingers about whether Mr. Crow is a revolutionary or simply an able marketer, casting conventional ideas of interdisciplinarity and scale with the high gloss of a great design thinker.

The first sketches of the New American University were drawn well before anyone knew the designer's name.

Mr. Crow's ideas were rooted in a working-class childhood, shaped by a graduate program that connected organizational theory with design, and tested during an unlikely stint as an Ivy League administrator empowered to make big bets that did not always work out.

In August 1973, a Plymouth Belvedere station wagon pulled up to Friley Hall, a dormitory at Iowa State University. As Mr. Crow remembers it, he and his father had made the 350-mile drive from Chicago without exchanging a word. Indeed, they had barely spoken for the past six months.

George E. Crow, a petty officer in the U.S. Navy, had envisioned things differently: His firstborn would attend the U.S. Air Force Academy, where he had been offered a full-ride scholarship that covered room, board, and clothing. Instead, Mr. Crow had come to a state university to throw a javelin on the track team.

The college freshman, who had achieved Eagle Scout status at age 13, pulled from the car a green trunk emblazoned with a Boy Scout symbol. Everything he owned was inside.

By opting against a military life, Mr. Crow was shunning an organizational structure that tended to reinforce distinctions of class and rank. As the son of an enlisted man, he knew his place: the bottom of the pecking order.

Mr. Crow's mother died while in treatment for cervical cancer when he was 9 years old, after which George Crow designed an unconventional curriculum of moralism and masculinity for his son, one of five children.

One night his father took him to a Chicago morgue, paying an attendant to show the boy the corpse of a man killed in a drunken-driving accident. This is what happens if you screw up, his father told him.

There were journeys down to skid rows, where George Crow paid homeless drunks a few bucks to tell his son how their lives had fallen apart.

And there was the time George Crow tried to cure his son's nightmares. He slipped into a raccoon coat, donned a ghoul mask, crept into Michael's room, and awoke his son, hovering over him with the visage of a monster.

"I remember that like it was 10 seconds ago," Mr. Crow said. "I don't think I had any more nightmares after that."

The backdrop of these lessons was a childhood of constant disruption. Mr. Crow, who was shuffled among relatives after his mother's death, moved 21 times and attended 17 schools before he went to Iowa State. The experience, he says, instilled in him a skepticism of rigid curricular design. He would sometimes arrive in a class at midyear, cobbling together enough projects to persuade teachers that he merited advancement to the next grade.

By Mr. Crow's late 30s, less than a decade after earning his Ph.D., he had become one of the most powerful people at Columbia.

Now, decades later, Mr. Crow argues that students are most likely to succeed in self-paced classes tailored to their needs. At Arizona State, he has been a champion of "adaptive learning," a technology-driven form of instruction in which students progress through general-education courses only after demonstrating mastery of key concepts.

After his father dropped him off at Iowa State, Michael Crow began a remarkable trajectory through higher education. He earned a Ph.D. in public administration at Syracuse University and returned to Iowa State as director of the Office of Science Policy and Research under Gordon P. Eaton, the president. When Mr. Eaton left for an administrative post at Columbia University, in 1990, he all but insisted that it also hire Mr. Crow, who had proved adept at procuring grants.

By Mr. Crow's late 30s, less than a decade after earning his Ph.D., he had become one of the most powerful people at Columbia.

In 2002, professors at Columbia were getting restless.

An administrator named Michael Crow, tenured but hardly known in the School of International and Public Affairs, had become chief architect of the university's first significant online education venture, known as Fathom. For this project, paid for with money from patent royalties, Mr. Crow seemed

to have unlimited discretion. He derived his authority from Columbia administrators, who by this time were impressed with his record of patenting and selling the rights to researchers' discoveries.

But Mr. Crow was short on answers about how or when Fathom, a for-profit entity, would ever generate revenue.

"It simply looked like an annual drain on the university's budget going forward with no predictable end in sight," says Richard W. Bulliet, who co-chaired a University Senate committee formed to look into Fathom.

Before Mr. Crow went to Columbia, the central administration did not have tens of millions of dollars at its discretion to take chances on uncertain ventures with little faculty buy-in. But Fathom — like other projects paid for with the Strategic Initiatives Fund — was a clear-cut example of how much things had changed since Mr. Crow's arrival, in 1991.

The university had reshaped its intellectual-property policies, at his urging, so that more and more revenue from discoveries would flow into the provost's office, where Mr. Crow worked. Deans scoffed, but Mr. Crow was in a protected class. Through a variety of titles, culminating in executive vice provost, he spoke with the implicit authority of Jonathan R. Cole, the provost, who was widely viewed as heir apparent to the Columbia presidency.

"He was very assertive about what he knew, and I had his back," Mr. Cole says. "And they knew that."

Fathom promised to use the Internet's vast untapped potential to share the intellect of Columbia's scholarly community with the rest of the world. It is easy to view the project as an early example of Mr. Crow's egalitarian ideals in action, "scaling" up the Ivy League experience for the masses.

The concept of Fathom is not much different from the Cheesecake Factory model that Mr. Crow discusses in his new book. The theory, which has been used in relation to health care, argues that scaled-up colleges could mimic the restaurant chain's efforts to make a "gourmet culinary experience" broadly available at a reasonable price. Fathom was Mr. Crow's first attempt to cook a more affordable "Glamburger."

If there is a central pillar to the New American University, it is the concept of scale. There is no good reason, Mr. Crow contends, that students at big public universities with relatively low admissions standards cannot have the same enriching experiences as those at small colleges.

Skeptics argue that raising enrollments will inevitably mean that more students get lost in the system, but Mr. Crow is a believer in the power of technology to mitigate those problems. Electronic advising systems, designed to track the progress of tens of thousands of students toward degrees in real time, are just one way in which colleges can mitigate the perceived challenges of scale, he says.

Mr. Crow condemns elite colleges for being "aloof from society."

The notion that universities should be designed to reach more people, and thereby maximize societal good, is in keeping with ideas that Mr. Crow started to formulate at Syracuse's Maxwell School of Citizenship and Public Affairs. The beginnings of this line of thinking, his mentors say, can be found in a 1998 paper, "Public Administration as a Design Science," which he wrote with R.F. (Rick) Shangraw Jr., a classmate who is now president and chief executive of Arizona State's foundation.

One of their central arguments in the paper is that the thinkers in public administration should stop postulating theories and start offering prescriptions for complex organizations. Their responsibility is to design institutions that "convert collective will and public resources into social profit."

But Fathom was not entirely about social profit. It was about financial profit, too. In 2001, Mr. Crow told *The Chronicle* that the project was poised to exploit an untapped niche market of adult learners with disposable income, allowing Columbia to "use knowledge as a form of venture capital."

Columbia officials were also motivated by fear. The nightmare scenario was that the likes of MIT or Stanford would plant the flag online first. Worse yet, Microsoft or some other tech giant might start poaching professors for a private education venture.

There is no good reason, Mr. Crow contends, that students at big public universities with relatively low admissions standards cannot have the same enriching experiences as those at small colleges.

Egged on by Mr. Crow, Columbia went headlong into Fathom without fully recognizing the costs. Not to mention that about half of Fathom's potential customers still used land lines with their computers, which made accessing the content difficult at best.

By the end of Mr. Crow's time at Columbia, the university was pulling the plug on Fathom.

"It was a failure because of what we did," says Mr. Cole, who conceded that the venture lacked a clear business plan. "But it was not a failure of concept. It

was a phenomenal concept that will get recreated, I guarantee you, in the next 10 years."

This is a common defense of Mr. Crow. Failures are couched as ideas that simply came before their time or died because entrenched academic interests lacked the foresight or the spine to follow through.

Supporters will also say that Fathom and Biosphere 2, an ill-fated living laboratory that Mr. Crow championed, have to be viewed within the context of Columbia's successes. The university's Earth Institute, which Mr. Crow helped to dream up and first directed, has earned a reputation as a model for interdisciplinary approaches to complex global problems, such as climate change.

"This might be true of the projects I become involved in: They are reach ideas," Mr. Crow says. "I'm a huge believer in launching many boats, because some boats won't make it and some will."

The abandonment of Fathom was a "strategic blunder," he insists. If he thinks he bears any responsibility for what went wrong, he describes it in the most theoretical of terms. "I hadn't broadened the design opportunity to enough individuals in the institution to survive whatever kind of perturbation might come along," he says.

By the time Arizona State started courting Mr. Crow, a changing of the guard was imminent at Columbia. The board made no move to promote Mr. Cole to the presidency, opting instead to make a splash with the appointment of Lee C. Bollinger, president of the University of Michigan at Ann Arbor, who had been in the running to lead Harvard.

Mr. Cole was losing his influence in the university's inner circle. "Mike saw the handwriting on the wall for himself, too," Mr. Cole says.

Mr. Crow characterizes things a bit differently: "I ran the course of my design contributions at Columbia."

After a decade at Columbia, Mr. Crow quickly cast the university as a foil for what he planned to do next.

On November 8, 2002, four months after becoming president of Arizona State, Mr. Crow delivered his inaugural speech in ASU Gammage, an auditorium designed by Frank Lloyd Wright.

It was there that he described Columbia and its ilk as "the gold standard of the past." Other universities, he said, slavishly mimic these "elitist institutions," fashioning their departments and admissions policies in a futile quest for comparison.

Undergirding the new leader's speech was a candid acknowledgment: If defined by the old order, Arizona State did not stand a chance. To be influential, it would have to be redesigned and rebranded as an audacious experiment without any peers. That meant new departmental configurations, lumping together disciplines under some common theme, such as "Human Evolution and Social Change." It meant unbridled enrollment growth. It meant teaming up with wealthy private companies that could help expand the university's reach beyond state borders.

Since Mr. Crow's arrival, enrollment at Arizona State has risen from 55,000 to 83,000, a 50-percent increase buoyed by an online education program with a fierce national marketing campaign. Half of the university's students take all or some courses online, according to the most recent federal data.

On the main campus, in Tempe, about one in three undergraduates is eligible for federal Pell Grants, which are designated for low-income students.

Seeking more students who might not otherwise go to college, Mr. Crow recently struck a deal with Starbucks. Under the arrangement, Arizona State will discount online tuition for the company's employees. In turn, Starbucks will reimburse students for any tuition costs not covered by need-based financial aid.

This week Arizona State announced that it would join edX, a nonprofit online venture founded by Harvard and MIT, in a program called the Global Freshman Academy. Students can enroll for a full year of credit-bearing classes without going through an admissions process, and they pay for only those courses they pass, organizers said.

"Great departments are never built on democracy."

The arrangement, designed to remove barriers to entry, appears to be a crystallization of Mr. Crow's philosophy. Notably, the program carries the imprimatur of two of the nation's most selective institutions, the likes of which he might have dismissed as yesterday's universities not long ago.

In terms of institutional design — Mr. Crow's personal passion — Arizona State is experimenting with new departmental configurations, which he says will stimulate interdisciplinary research. Since his arrival, the university has eliminated 74 academic units and created 38.

The first and most expensive such arrangement is the Biodesign Institute, which is housed in a $150-million facility on the Tempe campus. Stuart M. Lindsay, a physics professor who works in the institute, starts to chuckle when he describes how the project came together under Mr. Crow. "Biodesign was Michael's invention. It was top-down executive action," he says.

Mr. Crow would expect that sort of talk from Mr. Lindsay, a British immigrant whom he describes as a "natural-born cynic of the highest order." But Mr. Lindsay is among the president's allies, illustrating a curious thing about Mr. Crow: Even his friends on

the faculty say he tends to shove his ideas down the throats of professors. The question is whether that matters. To Mr. Lindsay, it does not.

"Great departments are never built on democracy," he says.

With biodesign as an anchor, Arizona State's research spending has tripled during Mr. Crow's tenure, totaling more than $367 million in 2013, according to the most recent data available from the National Science Foundation.

Those results have transformed faculty recruitment, Mr. Lindsay says. "We used to say, 'How far down the applicant list do we go before someone will take an offer?' Now the institute often gets its top choices, who bring with them publications from major journals and independent funding, he says.

But the top professors, recruited with generous start-up packages, are only part of the story. Among Arizona State's 2,800 instructional faculty members, 36 percent are ineligible for tenure. This contingent work force helps teach the tens of thousands of new students who have enrolled during Mr. Crow's tenure.

The reliance on adjunct professors, who have limited job security, reflects a national trend. Arizona State introduced new guidelines this winter that would allow the most experienced instructors to secure multiyear contracts, officials said, as opposed to the year-to-year agreements most common in higher education.

But concerns about contingent faculty have been acute at Arizona State, which has seen budget cuts in tandem with its growth spurt. Faculty members in the English department, for example, pushed back in recent months against a proposal that would increase teaching loads to five courses per semester for nontenured composition instructors.

Asked about the concerns, a university spokesman said that instructors carrying heavier teaching loads will have their service obligations "shifted elsewhere."

Mr. Crow's reshuffling of academic disciplines has also been opposed by some professors, who question whether it makes any difference in what faculty members do. The creation of the School of Historical, Philosophical and Religious Studies, for instance, is remembered by some as a particularly messy example of Mr. Crow jamming through one of his big ideas.

"None of the three units forced into the marriage wanted it," says Mark von Hagen, the school's founding director and now a member of the history faculty. "That didn't make any difference."

Questions linger about whether Arizona State has really been transformed at all, or merely rebranded itself. Skeptics look no further than Wrigley Hall, home of the School of Sustainability, to make their case. The building's most noticeable features are six wind turbines, mounted on the roof.

These turbines, which together cost about $45,000, actually provide a negligible amount of energy to the building, university officials concede. Peter Rez, a physics professor, grimaced as he looked up at them on a recent spring morning. He called the turbines mere "ecosymbolism" and said they were a good example of how the president makes an empty show of the university's inventiveness. "It's the quote from *Macbeth*," he said. "A tale told by an idiot, full of sound and fury, signifying nothing."

Solar panels, which supply 14 percent of the campus's electricity needs, are the largest source of sustainable energy at Arizona State, university officials say.

But Mr. Crow has seized a national platform, and in so doing he has accumulated both supporters and opponents beyond the university he leads.

True believers often start conversations by announcing their allegiance, precisely because they know the president can be polarizing. Bridget Burns is one such person.

As a fellow at the American Council on Education, in 2013-14 she spent a year working under Mr. Crow. She chose him because he was invariably described as the most innovative president in higher education. But what she'd heard about him gave her pause: He won't make time for you. He's "arrogant."

In her first interview with Mr. Crow, Ms. Burns laid out her trepidations. "You come across like you've never experienced a moment of vulnerability in your life," she recalls telling him. "I'm here to find out if you might be crazy."

What followed was a steady conversion to Team Crow. Ms. Burns could barely keep up with him, she says, observing that the president's life is structured in 15-minute increments that may stretch from 6 a.m. to 10 p.m. He eschews caffeine and alcohol, describing his job as an extended act of "energy preservation," she says.

"Ideas are his energy source," Ms. Burns says.

The ideas come from untraditional places. One night during Ms. Burns's fellowship, Mr. Crow took in a midnight showing of *Elysium*, a science-fiction film that imagines a future in which the planet's wealthiest inhabitants live on a utopian space station while the rest of humanity toils back on Earth. The president was so enthralled by what he saw that he insisted Ms. Burns check it out for herself.

"Don't watch the movie for the story," she remembers him saying. "Watch it for the technology. I want you to think about the technology needs of the future and call me back."

Ms. Burns now is executive director of the University Innovation Alliance, a consortium of 11 institutions that Mr. Crow helped to organize under the shared goal of graduating more students at lower costs.

His national ambitions distinguish him from many of his peers, who spend most of their energy consumed with the needs of the institutions they

lead. That broader focus has invited comparisons to higher-education leaders of the past, most notably Mr. Kerr, architect of California's master plan.

Christopher Newfield, an English professor at the University of California at Santa Barbara, says the comparison with Mr. Kerr goes only so far. Unlike the California leader, who galvanized public support for his vision, Mr. Crow has not fully acknowledged the necessary role that state aid must play if public higher education is to expand its reach and maintain quality, Mr. Newfield says.

Rather than grapple much with those thorny issues, Mr. Crow euphemistically describes his consolidation and elimination of programs as a "design" strategy, the professor says.

"He overemphasizes design as a nicer way of talking about efficiencies," Mr. Newfield said in a recent interview. "His whole generation of university leaders has really undersold the need for continuous large-scale public investment in these mass-scale institutions."

Mr. Newfield reviews *Designing the New American University* in the *Los Angeles Review of Books*, arguing that the design solutions Mr. Crow proposes would create the same costly and bloated "all things to all people" institutions that saddle students with debt today. The book, he writes, "doesn't offer a novel public university structure as much as it revives the grand mission of the postwar public university in all its primordial ambition."

In his book, Mr. Crow condemns elite colleges for being "aloof from society, and inaccessible to the majority of Americans." His children, as it happens, have attended colleges decidedly unlike the large-scale, affordable research institutions he says the nation needs. Mr. Crow's daughter earned a bachelor's degree at Bard College, and his son went to Bowdoin College. Each institution has fewer than 3,000 students and a sticker price approaching $50,000 a year.

Mr. Crow says he sees no inconsistency between his public positions and his family's personal choices. He told his children they could attend any college, so long as they agreed to major in two unrelated subjects — a nod toward the value that he places on interdisciplinary thinking.

"It turns out that's where they wanted to go," he says, "and I happen to have the resources."

Mr. Crow's total compensation was nearly $675,000 in 2012-13, well above median presidential pay of about $480,000 for public college presidents, *The Chronicle*'s most recent analysis found. Thirty presidents earned more than Mr. Crow that year.

The reach of Mr. Crow's influence hinges in some ways on whether the bully pulpit will be sufficient to effect change beyond his one institution. The recent edX deal suggests a desire to work directly with other universities on a worldwide scale, and Mr. Crow's tutelage of rising higher education leaders may be felt in years to come.

In the past two years, two women who consider Mr. Crow a mentor have been named college presidents. Laurie A. Leshin, who developed Arizona State's School of Earth and Space Exploration, is president of Worcester Polytechnic Institute. Mariko Silver, a former senior adviser to Mr. Crow, leads Bennington College.

Ms. Leshin describes Mr. Crow as "the voice in my head," one that conveys two complementary but seemingly contradictory messages. On one hand, the voice of Michael Crow pushes protégés to take big risks and to rethink everything that has come before. On the other hand is the reminder that big bets are not without cost.

"His whole generation of university leaders has really undersold the need for continuous large-scale public investment in these mass-scale institutions."

"Resources are scarce," Ms. Leshin says. "And we don't have infinite resources to fail if we're not going to fail smart."

Whether or not one agrees with Mr. Crow, she says, he has become impossible to ignore. "When he arrived, ASU was not a leader in higher education. And now almost everyone would say it is."

Mr. Crow is the type of executive who seems to believe that criticism of his decisions only proves that he is on the right path. The attacks mean that people are listening.

Frank Lloyd Wright, the president notes, had his detractors, too. So does I.M. Pei. So does Frank Gehry.

"That's been true," Mr. Crow says, "of every revolution that's ever occurred."

Originally published April 24, 2015

Want More Innovation? Diversify Your Team

COMMENTARY

WILLEMIEN KETS

You don't need a degree in statistics to see that African-Americans are underrepresented at the highest academic levels on college campuses across the country. Nationally, 5.3 percent of doctorates are awarded to African-Americans, and 4 percent of full professors are African-American. In my own field, economics, the percentage of professors is even lower: 1.8 percent.

Ending this underrepresentation is important for many reasons, not least because of the unquestionable importance of fairness and equity. But it turns out that diversity also makes good economic sense.

Research by my colleagues and I suggests that university administrators who do not work hard to attract and retain African-American faculty may well be missing out on an important benefit: Academic departments that are more diverse may produce more unorthodox ideas and do more original work. In the academic world, where there is a big premium on being the first to come up with an idea, this is a major benefit.

We have developed a mathematical model to study the effects of diversity. It allows us to drill down, and in doing so we discovered a simple truth: More diverse groups may do better because they are less conformist.

Picture it: You're brainstorming with your best friend of 30 years. You grew up in the same neighborhood, went to the same school, and stood up for each other at your weddings. When a crazy idea crosses your mind, you immediately see all the reasons why he may dismiss it. On the other hand, you know what ideas he is receptive to — so why not start with those?

Now suppose you're brainstorming with someone who grew up with a different perspective and who has very different experience than you. Would you be more willing to share your crazy idea with her? After all, you have no clue what ideas she is open to — so why not try it out?

Something like this may be going on in the academic workplace. We often don't realize it, but we constantly think about how people around us will react to us. In itself, this is not a bad thing. If we didn't put ourselves into other people's shoes, we'd be experiencing even more frictions and misunderstandings than we already do.

But our research suggests that a little unpredictability may not be a bad thing. In fact, a little more unpredictability may be what we need to make us all a little less conformist and a little more open to trying new things.

To be sure, mathematical models have their limitations, an important one being that it's impossible to include all factors that play a role in real life. However, extensive data suggest that more diverse teams outperform homogeneous teams when it is crucial to be innovative, consistent with our mathematical model. In continuing work, we are designing experiments to test the theory directly.

So if diverse groups outperform more homogeneous ones, why do university administrators not choose to hire more African-Americans? There

Lessons for Leaders:

- **Diversity can bring fresh thinking:** Research shows that more diverse groups are less conformist, while interacting with people like ourselves allows us to stay within our comfort zones.

- **Examine hiring practices:** If innovation is the goal, it pays for universities to actively pursue a more racially and ethnically diverse faculty and administration.

are many possible reasons, but one is that people have a tendency to hire people like themselves. Interacting with people like ourselves allows us to stay within our comfort zones. It is certainly easier to find common ground with one's friend of 30 years than with a stranger. Yet given the increasing emphasis on innovation and creativity in today's economy, it pays for universities to actively pursue a more racially and ethnically diverse faculty.

A 2014 study found that papers written by ethnically diverse groups receive more citations and have higher impact than papers written by more homogeneous ones. This is true even holding fixed the authors' previous publishing performance. So researchers at all levels may benefit from working with people from different ethnicities. Similarly, for innovation-focused banks, increases in racial diversity are related to enhanced financial performance.

If diverse teams are more creative, then the economic benefits of diversity apply much more broadly than has been previously recognized. It has long been known that diversity in educational background makes teams more productive: A product-development team that consists only of engineers or only of marketers will not do as well as a team where both groups are represented.

Our research suggests that even if people from different backgrounds have exactly the same skills and knowledge, diverse teams may still do better than more homogeneous ones, a finding that should affect hiring practices in every academic department. Because while it is important for university administrators to reflect and hold meetings with students, faculty, and staff to identify and confront campus and societal injustices, one simple strategy can help produce a more inclusive atmosphere, reduce the underrepresentation of minority groups, and improve the research climate: Stop hiring people who look like you.

More diverse groups may do better because they are less conformist.

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Originally published November 23, 2015

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.

Can Design Thinking Redesign Higher Ed?

By LEE GARDNER

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.

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 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.

Lessons for Leaders:

- **Focus on the end user:** Design thinking encourages practitioners to develop empathy for the eventual user when creating a product or a service. So, for example, get to know adult students before crafting programs for them.

- **Build prototypes:** 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.

- **Promote crazy ideas:** Pitching far-fetched ideas may be counter to academic culture, which believes deeply in scrutiny and peer review, but it can be crucial to brainstorming truly innovative approaches.

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

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.

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?

In 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.

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

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.

By 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

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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."

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."

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."

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

How Design Thinking Can Be Applied Across the Campus

Design thinking has shown promise in pedagogy, but can it work in a department meeting, or other more bureaucratic settings? The lessons learned by participants in a recent design-thinking workshop at Stanford University's d.school suggest that it can.

Empathy can make a difference.

Madlen Simon, the associate dean of academic affairs and outreach in the School of Architecture, Planning, and Preservation at the University of Maryland at College Park, has found design thinking's emphasis on empathy to be useful in working with colleagues. Recently she ran a faculty-senate subcommittee to devise a new policy for handling student grievances against faculty. When the subcommittee submitted the new policy for approval, faculty members attacked it; the issue of the proper use of "reading day" between the end of classes and the exam period aroused fierce resistance. "Surprisingly, this seemingly mundane thing raised a lot of passion," she says.

Ms. Simon started a series of conversations with stakeholders "to try to ferret out the trigger points that made people anxious and emotional," she says. Those conversations led to a broader reconsideration of the policy by the committee, which found that the larger problem wasn't the grievance process but uncertainty over professors' obligations to students. Ms. Simon's exercise in empathy enabled the committee to "morph this thing from, 'Here's a way for students to get their complaints dealt with,' to 'Here's what students can reasonably expect, and if these things aren't met, here's what we do about it." The second take on the policy was approved and enacted in the spring of 2016.

Crazy ideas sometimes aren't so crazy.

Suggesting far-fetched notions goes against the grain for many academics, who have built their careers on knowing what they're talking about. For Scott A. Wible, an associate professor of English at the University of Maryland at College Park, team brainstorming during the design-thinking workshop was inhibited at first. But the wild ideas came out eventually. For example, how might one motivate the graduate students Mr. Wible teaches at Maryland to take more risks in their own teaching? How about, as someone on his design team suggested, a trip to Disneyland or a retreat in Hawaii?

"If I keep asking questions, I'll get to a point where there's something in there that I can spin out into a workable idea." "I had that knee-jerk 'Nah, we'd never do that,'" he says. But the core idea of incentivizing risks stuck with him. "There's some promise here," he says. "If I keep asking questions, I'll get to a point where there's something in there that I can spin out into a workable idea."

Perfect isn't always ideal.

Quick and dirty are not values academe typically embraces. A group of undergraduates from the University of Alabama at Birmingham attended the University Innovation Fellows program at the d.school in 2015, and returned to campus fired up to create a maker space, according to Molly M. Wasko, their adviser, and the associate dean for research, innovation, and faculty success in the Collat Business School.

When the project was in the hands of the faculty — herself included, Ms. Wasko says — it went nowhere. "We had a very traditional model of think it, plan it, get it perfect," she says. "Let's spend $100,000 on the prototype and then launch it." But administrators expressed concerns over students using tools unsupervised. There was no space considered suitable. "We just couldn't see a clear pathway forward," she says, until she and Alan W. Eberhardt, a professor of biomedical engineering and a fellow adviser on the project, turned it over to the students.

Despite her own experience with design thinking, she found it difficult when the students' plans didn't seem practical — for example, creating a "Maker Day" on the campus quad with only two months to plan it. "You just want to shake them and say, 'Don't you realize there's something called reality?'" she says. "I had to learn how to say, 'Sounds awesome. How can I help?'"

The students persuaded the dean of libraries to give them space. The university provided $10,000 to buy three 3-D printers, but the students had to figure out how to sustain the operation financially. Ms. Wasko says she and Mr. Eberhardt "had many fretful little coffee talks" about the project. "We're going to have an opening day of a maker space that I'm the faculty sponsor for, and it's going to look like something we set up in a garage?" she says. "Yes, actually, that's exactly what we're going to do, and we're going to see how it works." The maker space opened in February 2016, and now supports itself by doing 3-D printing for other students.

—Lee Gardner

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."

Many 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.

Originally published September 10, 2017

How Colleges Prepare (or Don't Prepare) Their Leaders Is Holding Back Innovation

COMMENTARY

JEFFREY J. SELINGO

The resignation of Temple University's president, Neil D. Theobald, last month is a story that is becoming all too common in higher education: A new leader takes over with much fanfare, only to be ousted within a few years (in Theobald's case, just three years).

At a time when higher education is under tremendous pressure to reinvent its financial model and remake its curriculum for a digital age and a diverse student body, who will — and perhaps more important, who can — run colleges and universities for this new era is a question increasingly being asked by trustees, faculty members, and policy makers.

Sure, new ideas to transform teaching, financial aid, and student services often bubble up from experiments in the trenches. But presidents encourage innovation by setting the tone, crafting the narrative for internal and external constituencies, and finding the money to expand boutique projects.

The average tenure of a college president has dropped slightly in the last decade — from 8.5 years to seven years, according to the American Council on Education. Unfortunately, turnover at the top often stunts the growth of innovation across a campus.

Presidential searches sometimes take six months or longer; once new presidents finally arrive, they go on "listening tours" for their first year; and then they embark on an extensive strategic-planning process in which previous priorities are shelved in favor of new ones. By then, it's two years after the predecessor left, and probably much of the senior leadership has also changed.

What makes those transitions even more difficult in an era of rapid change is that finding qualified candidates for college and university presidencies, as well as for senior-leadership roles, is becoming more difficult.

Over the past three years, I have led a program to find the next generation of higher-education leaders under the direction of the presidents of Arizona State University and Georgetown University. Nearly 90 midcareer administrators have completed the Academy for Innovative Higher Education Leadership, which combines the latest research on teaching, student success, and finance with the principles of "design thinking"

Lessons for Leaders:

- **Retention is important:** Turnover among senior administrators can stifle innovation.
- **Groom faculty leaders:** Preparing academics for the ambiguity of institutional decision making, among other issues, can help develop the leadership pipeline.
- **Understanding the big picture:** Too many leaders are "heads down" inside their institutions, keeping up with daily demands.

and leadership training.

In working with those administrators, from a range of public and private colleges, the faculty and I have learned eight lessons about why it is so problematic to find the next generation of leaders, and by extension, why innovation so often gets stuck on campuses.

1. Teaching and research are perceived as more valuable than administration. Faculty leaders find it challenging to leave their colleagues, teaching, and research to lead change and innovation that aren't always understood or appreciated by traditional academics as necessary to the institution's future. Stepping up can actually feel like a step back, especially if future faculty status is threatened by the diversion to leadership.

2. There's a steep learning curve. Professors and staff members exchange knowing looks when a new dean or provost steps into the role. They know it will take a year or two before the new official has learned enough about leading people and processes in a complex system to be useful in daily management and decision making.

And not every academic-turned-leader makes the transition successfully. Academics who step into such posts must learn the difference between generating knowledge and managing the challenges of an organizational-leadership role that requires people skills, systems thinking, and vision. They must make the shift from focusing on their own teaching and scholarship to bringing about results through others.

3. Many leaders are short-termers. Turnover in leadership results in a disruption in the concerted, committed effort needed to bring about lasting change and innovation. The agendas of presidents last only as long as they are in the role. The long-term nature of college and university culture leads to a passive approach as well. "Waiting out" the term of a poor president, provost, or dean is a common way to resist change and tolerate the high turnover of key positions. That mentality breeds complacency and a sense of resignation in the institutional culture.

4. Administrators lack a big-picture view. The diversity and complexity of challenges facing higher education today require leaders to look outside of their institutions for new solutions and innovations, yet most are "heads down" inside their institutions, keeping up with daily demands. Even when they look up and grasp a bigger picture, a glimpse at the context can be more daunting than clarifying.

5. Professors don't understand how decisions are made. Academics are not trained in how to build the necessary networks and relationships that enable them to get things done. They are unclear on how board decisions are made and the importance of cultivating good relationships with board members and other stakeholders.

I often hear basic questions about how a provost works with a president, and how the triangle of president, chief financial officer, and provost operate together to achieve goals. In short, many professors don't know how things get done and are ill prepared when assuming senior-level positions.

6. Academics aren't trained to look inward. Research shows that emotional intelligence is a key determinant of leadership success, yet while an academic career requires intense scrutiny of intellect, it calls for little self-reflection.

Faculty members in leadership roles do not make the connection between their self-awareness and their ability to inspire and bring about results through others. They have little understanding of the impact of their style on others. They put a higher priority on solving problems, making decisions, and completing tasks than on reflecting, building relationships, and developing leadership, unwittingly sabotaging their own effectiveness.

Stepping up can actually feel like a step back, especially if future faculty status is threatened by the diversion to leadership.

7. Scholars are averse to risk. Leadership requires courageous decision making, holding a clear, principled position in the face of controversy, and a willingness to express a bold vision for the future. With a habit of research and analysis, many academics are uncomfortable navigating the ambiguity of institutional decision making, preferring to stay with known approaches rather than move the organization forward without guarantees of success.

8. Career options are often poorly explained. We hear from many leaders who go through our program about their frustrations in learning about new career opportunities. Many academics have little insight into opportunities on their campuses or elsewhere, and are not sure of how to work with headhunters. There is relatively little mentoring, coach-

ing, or overt succession planning that would allow for the cultivation of the next generation of leaders.

The result? Talented leaders feel uncertain about options and unclear about their qualifications and how to explore new opportunities.

With the average college president nearing his mid-60s, a wave of retirements is expected in the coming years. The people who fill those top jobs are critical to the success of innovative ideas across campuses and throughout higher education. The biggest hurdle to change in higher education is not a lack of money, shared governance, a reluctant faculty, or tradition. It's leadership, and right now, the likely successors to this generation of presidents are not prepared for the top job.

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Originally published August 9, 2016

QUESTIONS TO CONSIDER

INNOVATIVE approaches often fail. How do you create a college ecosystem that still encourages out-of-the box ideas and rewards failed ones as long as lessons are learned?

DOES your institution bring together a diverse team of people to pitch new ideas?

DOES your institution prepare academics to take on roles in leading innovative projects?

WHEN overhauling student services or the curriculum, how much does the institution understand the needs of the "end user" — the student?

IMAGE SOURCE/REX/SHUTTERSTOCK

The Case for a New Kind of Core

COMMENTARY

NICHOLAS LEMANN

When I was a professional-school dean (at Columbia University's Graduate School of Journalism), we had no choice but to try to define the specific content of an education in our field. The premise was that if you want to practice a profession, there is a body of material you must master, at least in the early part of your education. That perspective led me to urge, this year in *The Chronicle Review*, that undergraduate colleges move in a similar direction: a core curriculum.

Traditional undergraduate colleges have had the luxury of being far looser in the way they define what it means to be educated. Of course American undergraduate colleges vary greatly. The majority of undergraduates study skills, mainly by taking courses designed to prepare them for specific jobs, in practical-minded fields. But liberal-arts majors, who populate the country's most renowned and prestigious colleges, usually have a great deal of choice in what they study. Some colleges have no curriculum requirements at all; most impose only a light-duty distribution requirement, perhaps along with a required writing course.

My premise here is that the liberal arts are still essential to an undergraduate education. The explicitly liberal-arts colleges will continue to set the standard for what an undergraduate education means, and so will have a broad effect; and almost no college is so skills-oriented as to be willing to drop any claim that it is providing its students with more than the kind of education one could obtain at a free-standing trade school.

At a time when the great challenge for the higher-education system as a whole is to raise graduation rates, a suite of general-purpose courses, if well designed and taught, can help the many students who are struggling with the transition from high school to college. The lesson we should take from the diminution of the liberal arts in recent years is that they have to be made stronger, clearer, and more sustainable. And as a matter of principle, the higher purpose of college — education for independent thought and active participation in democracy — can't be achieved without the liberal arts.

There are both principled and practical reasons that the core curriculum has languished. When American academic leaders of the late 19th century, like Harvard University's Charles William Eliot, pushed for an elective system to replace the curriculum of the day, which was heavy on theology and classics, it was an aspect of the exhilarating embrace of research and academic freedom as the central principles of the university.

It's time to stop simply letting the liberal arts gradually slip away. The key to reversing their decline is to move in the direction of a core curriculum. No idea has staying power unless it develops its own political economy, though, and administratively, elective systems have a lot going for them. They avoid the difficult process of trying to get people to agree about what undergraduates should be taught. (Even high schools, where the course titles are far more standardized, have this problem — that's one reason the Common Core has run into heavy weather.) Electives permit colleges to appeal to a broad array of potential students whose academic interests vary considerably. And they are generally popular among faculty, especially research faculty, because the alternative core courses are labor-intensive and intellectually constricting.

Pressure in the other direction, toward a more defined curriculum, however, may now finally be appearing.

The days of the seemingly limitless expansion of higher education and of minimal resistance to its cost by students and their families have been over for quite a while. This year's survey of tuition discounting released by the National Association of College and University Business Officers shows that the gap between the stated tuition and the amount students actually pay to attend private universities continues to grow, to an estimated average 48.6-percent discount for first-year students. One of the main themes of the presidential campaign was that colleges charge too much, in return for too little in the way of postgraduate economic prospects.

At the same time, six-year graduation rates remain stuck at an unacceptably low 60 percent; that is partly because many entering students just aren't prepared to navigate the world of college-level work. Elective systems don't help to solve the problem. A well-designed core curriculum could. It could be an equalizer, providing acculturation to the university and all it has to offer.

It's true that the lifetime-earnings premium of a college degree remains so substantial that, if you have any choice in the matter, you would be nuts not to get one. But that statistic is rapidly being disaggregated by subject of study, not just by anxious parents who aren't so excited about their children's majoring in philosophy but also by the federal government's College Scorecard, which offers a field-by-field breakdown of a student's future economic prospects. The result will be further movement by students away from the traditional liberal arts and toward more practical-sounding and better-paying fields like engineering and business. That is already happening almost everywhere.

What students aren't hearing, but should, is a stronger argument — stronger, or at least more specific, than calling for "critical-thinking skills" and "education for citizenship" — for an undergraduate education that isn't overwhelmingly oriented toward employment skills that have a demonstrable payoff. Otherwise we will see continued erosion in the role of the liberal arts within undergraduate education.

Lessons for Leaders:

- **Professional schools offer tips:** Journalism and other professional schools can offer ideas on how to reform undergraduate education with both employment-related and critical-thinking skills.
- **Embrace a radical approach:** A methods-based, rather than a canon-based, curriculum is what's needed for today's students.

What I am going to do here is propose a specific undergraduate core curriculum, aimed at first- and second-year students in a four-year program. A few stipulations: First, my main idea is not, to say the least, overwhelmingly popular in higher education. Being a professor, as I now am, rather than a dean gives me the luxury of not having to operate within the limits of any current consensus; I am trying to start a conversation. There is no danger that my ideas will be immediately enacted anywhere, so I don't feel I have

to be cautious about proposing anything that hasn't been elaborately field-tested and had its effectiveness demonstrated through research. I will be pleased if readers respond with their own better ideas.

Second, my proposal is for a methods-based, rather than a canon-based, curriculum. That's partly because of the difficulty in the 21st century of selecting with confidence a limited number of books, or a specific body of knowledge, that are so universally important that everyone should have mastered them. Instead, I have tried to identify a suite of intellectual skills that together would empower a student to be able to acquire and understand information across a wide range of fields, and over the long term. These skills can be thought of as making up a tool kit that would help a student become a more empowered user of the university; they ought to help one have a more successful education and also a more successful career and life.

I realize that in almost all cases, you can't study methods without any use of specific content: There have to be cases to which the method is applied. The idea is that the methods are in the foreground, and the content is used to support them. A course on the historical method would have to consider some specific periods or themes, but it wouldn't be "about" them in the manner of a traditional survey course.

It's time to stop simply letting the liberal arts gradually slip away. The key to reversing their decline is to move in the direction of a core curriculum.

More and more first-year college students are taking at least some remedial coursework. That may be because colleges are taking the problem of low completion rates more seriously, or because the quality of high-school instruction isn't improving rapidly enough. Here, I am assuming that a student enters college from a typical American high school (that is, not superb, but also not so terrible that its graduates require extensive remediation) having acquired some math and science knowledge, some history, and some experience with reading literature and writing about it.

We should try to help students make the transition to a new way of learning and a higher level of intellectual self-management. My proposed core curriculum would be aimed, in effect, at taking the student from seeing the world in two dimensions to seeing it in three: coming to understand the limits of one's own knowledge and experience and learning how to transcend them, in ways that are both rigorous and subtle, so that the world is no longer divided into a comfortable realm of things that feel true and an uncomfortable realm of the unfamiliar. This transition should empower people who have gone through it to operate with greater confidence in new environments and to avoid some of the most obvious kinds of mistakes and misunderstandings, such as making important decisions on the basis of bad or incomplete information or untested hypotheses.

The courses I am proposing are meant to be tailored to the skill they confer. Quite a few colleges around the country have recently gone through the difficult and admirable process of devising a new undergraduate liberal-arts curriculum. (The Association of American Colleges and Universities' decade-long initiative called Liberal Education and America's Promise has been a big help in promoting and helping these efforts.) Because I am operating here in the realm of the ideal rather than the practical, I can grumble that these new curricula often identify a suite of intellectual skills and require students to take courses on them, but then permit a wide array of existing courses to fulfill the requirements, which encourages declaring victory simply by pasting on a new label. Or they define the new requirements in terms of "learning outcomes" rather than course content, which puts the emphasis on devising an end-of-course assessment rather than on designing the course itself. Or they offer courses on broad interdisciplinary subjects, with words like "ethics," "values," or "justice" in their titles, rather than on the inescapably different project of identifying fundamental methods of understanding and analysis. Or they focus primarily on a way of teaching a course — these new liberal-arts curricula regularly use terms like "project-based," "problem-based," "inquiry-based," "team-based," "community-based," and "experiential" — that may be original and effective but do not necessarily tell you what the course teaches.

Selectivity is an obvious challenge in this exercise. I have arbitrarily limited my core curriculum to eight one-semester courses, which would amount to no more than half of an undergraduate education, so it would not eliminate the ability to have a major or to choose elective courses. Here goes:

INFORMATION ACQUISITION

Google is a life-changing tool that we all use, but it doesn't overlap perfectly with one of the core methodological skills of college students, which

is locating usable information. To do that well, one has to know something about the sociology of knowledge — that is, who creates information, under what conditions, subject to what distorting pressures. It is pretty easy to cure students of the idea that everything they encounter online, or elsewhere, is true; a more challenging and important task is communicating a basic typology of information (academic, documentary, journalistic, governmental, crowdsourced, and so on) along with the idea that information isn't cleanly divided into true and false, but is instead created through constant contention and revision. Some of the purpose of this course would be to give students a basic user's guide to higher-education study: how to use libraries and online databases, how to distinguish among a multiplicity of sources, especially online, and how to perform a basic literature review. The kind of assignments that might go with this course would ask students to write a basic summary of what's known about a subject, or to adjudicate between two widespread conflicting claims.

CAUSE AND EFFECT

This is something like a course in the basics of the scientific method, aimed at people who aren't necessarily going into science. The core thinking process entails stating what question you're trying to answer, then establishing a hypothesis as to what the answer might be, then finding a way to test the hypothesis by gathering material that would settle its degree of trustworthiness. The title of the course refers to the idea that causation is a key concept in almost all fields of inquiry, which is too often used sloppily or instinctively, with unfortunate results. One could teach this course using primarily scientific examples, but that isn't strictly necessary; for years, I have been teaching a version of it to journalists, using news stories as the main material. What might explain, for example, why violent crime has decreased so much more in New York City than in Chicago? What's important is conveying the idea that making inferences is a skill, and that a series of thinking techniques is powerfully helpful in performing it.

A well-designed core curriculum could be an equalizer, providing acculturation to the university and all it has to offer.

INTERPRETATION

The focus here is on close reading of texts, a fundamental academic skill that students may have missed in high school, that they will need to succeed in college, and that will also prove to be both practically helpful and emotionally enriching as they go through life. There are a number of ways to teach it from different disciplines, which could fruitfully be combined in the course: literary reading, analytic reading, and so on. Therefore this course could have elements of an English class, or a social-science class, or a class in law or religious studies. The main idea is to learn to read for meaning, for subtlety, for contradiction and ambiguity, and for connection to other texts. Some of the same skills could potentially be applied to material from film or drama. Assignments in this course would be traditional analytic papers, whether on the full meaning of a biblical passage or the governing principles embedded in the U.S. Constitution.

NUMERACY

I am persuaded by the broad argument that the political scientist Andrew Hacker makes (talking about elementary and secondary school rather than college) in *The Math Myth and Other STEM Delusions* (The New Press, 2015). For purposes of general education, not the specific education of people going into fields that require mathematics, colleges should require undergraduates to take a course that familiarizes them with the quantitative world. It is deeply present in just about everything, including not-obviously-scientific realms like politics and government. This need not be a math course per se. Hacker suggests pulling examples out of everyday life that illustrate the broad applicability of being able to think confidently about numbers — poll results, sports statistics, stock-market indicators, government economic data (these examples are mine, not Hacker's). The idea is to make students understand how numbers are generated, how to compare quantities from different realms, and some of the basic concepts underlying probability and statistics.

PERSPECTIVE

Most people, including students entering college, believe that the world as it appears to them and the people around them is the world as it is. It is crucial, and not easy, to teach people that they actually have a particular perspective, which inescapably has its limits — and then to help them understand that other people experience the world profoundly differently, which ought to be under-

stood rather than dismissed. This project is central to a number of disciplines, including sociology, anthropology, literature, psychology, and even the client-oriented aspects of professional education, any of which might be brought in. Courses on diversity or understanding other cultures would have some overlap with what I am proposing, but I worry that those sometimes take the edge off the complexity and difficulty of the subject by communicating the idea that through tolerance, respect, and understanding, a person can successfully adopt a benign, universal perspective that can honor all other perspectives. That's appealing, but it's important not to let students believe that their own viewpoint can ever escape being limited in important ways, or that fundamental conflicts between perspectives can ever be entirely avoided.

THE LANGUAGE OF FORM

The course title is a slightly modified version of a term that the digital humanist Johanna Drucker uses in *Graphesis: Visual Forms of Knowledge Production* (Harvard University Press, 2014). She focuses on how we increasingly get our information in the form of visual displays rather than texts or numbers. She explores mainly a deep understanding of charts and graphs, which are ubiquitous in the life of every educated person, but the method could be extended to the third dimension so that questions of how space and volume are arranged could also be considered. This course would have elements of design, architecture, planning, art, and even ecology. I want to distinguish it, though, from "design thinking," as promoted at the Stanford d.school and elsewhere, which understands design not as encompassing everything visual and volumetric, but as more specifically about the process of making things. This should be a course in intelligently seeing and producing visual information, not in prototyping products and training people to plan and iterate projects in teams, which is useful but less universal than what I have in mind.

THINKING IN TIME

This, to some extent, is a course on the historical method, but it's meant to do more than teach people to do historical research per se. To most students arriving at college, the past often seems safer than it actually was, outcomes more inevitable than they were, and operative assumptions closer to the ones we use today. Historical thinking is a powerful way of opening people's minds to unfamiliar possibilities and ways of thinking, a process central to a liberal education. It can make students see that everything could have turned out differently, that individual people always operate within social, economic, and cultural contexts. One could teach such a course by focusing on a period in history, but that wouldn't be strictly necessary, and the primary aim would not be to teach students the procession of significant events in a particular time and place. Similarly, it would be a good idea to study original historical documents in this course, but that's a means to an end, not the end itself.

ARGUMENT

Back in the 19th century, when undergraduate core curricula were the rule rather than the exception, practically everybody had to take a course in rhetoric or oratory. The requirement often had roots in the colleges' original mission of training ministers, and it usually vanished with the advent of the elective system. This course would aim to revive the tradition by teaching students how to make a compelling and analytically sound argument, both written and spoken (and probably also, inevitably, in PowerPoint). It is an endeavor with centuries of interesting thought behind it, so one can imagine the course drawing on philosophy, law, theology, even drama — with the opportunity to consider exemplary arguments from the past. It should be obvious that the assignments would ask students to practice the skills the course is teaching them, in writing and in performance.

What these courses have in common is a primary commitment to teaching the rigorous (and also properly humble) pursuit of knowledge. They therefore go against the grain of assumptions that are widely held in higher education today, including that entering students don't need such a high level of direction, and that the idea that one can be taught to get closer to the truth of a situation is too problematic to justify a tight embrace. They put methods above subject-matter knowledge in the highest place of honor, and they treat the way material is taught as subsidiary to what is taught.

There are excellent reasons for why core-curriculum discussions are difficult and unpopular, and why methods are not an explicit or primary focus of undergraduate education. But the result is that the balance has shifted too far away from the kind of material I have proposed here. I hope it will at least begin to shift back. That would make liberal education stronger and more sustainable.

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Originally published January 8, 2016

Want Breakthroughs That Last? Consider Your Business Model

COMMENTARY

RICK STAISLOFF

If a college truly wants to be innovative, it could start by educating its own leaders about its business model. Sadly, the business model is typically the last issue to be raised when new projects are proposed, if it is raised at all.

What level of investment will be necessary to ensure a successful launch? How do changes in student retention and average credit loads contribute positively to the bottom line? At what point (if ever) would the innovation cover its costs or provide a financial return? These kinds of questions, critical for a successful business model, cannot be separated from the passion that colleges bring to delivering high-quality instruction and student success. In fact, the only way to deliver that quality and success today is to ensure that investments in innovation lead to sustainable business models.

The lack of attention to business models often results in underinvestment in innovation, unrealistic expectations as to what the innovation will produce, and a failure to create the holistic cultural change needed for new ideas to take root. This dynamic has been evident across many inventive changes in higher education, from online education to more recent competency-based education programs. Given these risks of failure, why do colleges rarely focus on the business model behind new projects? There are three reasons:

First, colleges too often fail to provide their leaders with training about how the business model works. Many college leaders — including presidents, department heads, deans, and program directors — have not had the training or experience necessary to create a business model that supports both their mission and the need for financial sustainability. Without these skills, leaders are unable to determine the next best investment. When confronted with multiple opportunities for inno-

Lessons for Leaders:

- **Costs matter:** Colleges often plunge into innovation without calculating the true cost of the endeavor.
- **Business training is required:** Presidents, department heads, and deans often have not had the training or experience necessary to create a business model that supports sustainable innovation.

vation, how will they know where to put the next dollar or move that vacant faculty line? Once an investment is made, leaders must also set clear targets for the expected return on investment, in order to demonstrate their own accountability. Colleges need to assess these kinds of business skills when selecting their leaders and to invest in training that helps them build on those skills. Understanding the business model is now a fundamental component of leadership success in higher education.

A word on "return on investment": In applying a business-model lens, colleges must consider return on investment not only in terms of dollars and net revenue but also in terms of student success. Not every investment or innovation will generate additional revenue for a college. However, a college must establish, before investments are made, what the results should be — both financially and in terms of student results.

A second reason that colleges often fail to focus on the business model behind new initiatives is that many do not have good institutional data or the ability to analyze that data. They are unable to engage in good storytelling — to share a compelling narrative about the elements that contribute to financial sustainability — because they cannot show what the numbers mean and why they are important.

Finally, there is a general lack of understanding in higher education about how college business models work. If we don't understand current models, how can we create new ones that will support new ideas? This issue is crucial as we consider how our innovations will be financed. In a recent survey, almost 60 percent of college chief financial officers predicted that investment in their institutions would need to come from reallocation of existing resources rather than an increase in net revenue. That means that long-term, sustainable investment in innovation would have to come from changes in a college's existing business model and by structuring innovations to eventually support themselves.

Discussions about innovation often appear to support the idea that colleges can jump to new business models at will, simply by choosing to become innovative. The reality is that most institutions must first do the heavy work of understanding their current model and restructuring it to better support their mission and financial sustainability. The most successful colleges focus on maintaining quality and generating more net revenue from their current business models while also driving toward invention.

How does this work happen? At the most basic level, a college would introduce faculty and staff members to new business models and create an urgency for change. It would then use data and metrics to determine its current financial performance, establish clear performance targets, and track progress in meeting those targets. This step produces good opportunities for institutions to move away from spreadsheets and engage in storytelling. The institution would then examine its academic portfolio and administrative services to determine how best to meet academic and financial goals, and how it might restructure services to maintain quality at lower cost.

Once an institution has identified its economic engines (the programs and services that make the largest contribution to financial sustainability), it can direct resources toward them and to its strategic academic and financial goals. The college should be in a position eventually to harvest resources for reinvestment in new strategies, thus moving dollars, people, and time away from simply maintaining the current model, and toward an investment in the college's future.

The importance of tying invention to a college's business model is readily apparent in the movement toward competency-based education programs. Such programs offer an opportunity to bend the higher-education cost curve by lowering the cost of academic delivery and creating potentially faster pathways to degree completion. However, my company's recent research suggests that too many of the institutions now interested in competency-based programs have failed to consider the business models behind them, placing the sustainability of their efforts at risk.

For example, many colleges establish tuition rates before developing a business model. Low tuition rates may support critical goals like diversifying a class and getting more students to graduate, but they reduce an institution's flexibility around revenue generation. As a result, institutions are forced to reach very high levels of efficiency and economies of scale to break even. Furthermore, colleges often fail to understand the significant up-front financial investment required to start a competency-based education program, which limits their ability to offer the program on a large scale. Finally, many colleges mistakenly believe that competency-based education can be a quick moneymaker. In fact, such programs will most likely require "patient capital," since it can take five years or more before annual revenues equal operating expenses.

Innovation cannot happen on command. Rather, the movement toward inventive new business models requires significant institutional research and investments in training college and faculty leaders. Only then can colleges ensure that their innovations are not only new and exciting but sustainable as well.

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Originally published October 23, 2016

Rebirth of the Research University

COMMENTARY

NICHOLAS B. DIRKS

In California, some of us spend a good deal of time feeling nostalgia for days past (specifically, 1960) when the California Master Plan for Higher Education was codified, approved, and financed. In the world of higher education, this visionary plan was the greatest organizational idea for public higher education in the 20th century. It connected excellence in research to the mission of near-universal education by defining the roles of its three systems of universities, state colleges, and community colleges.

Today, however, there is a growing belief that higher-education systems modeled after the master plan have run their course; many people in state governments and the public at large not only assume that such a model costs too much in absolute terms, but also increasingly question the value and quality of higher education, particularly of the sort delivered at elite research universities. Indeed, at the root of debates about the cost of higher education, the worth of college, the vocational utility of degrees, and the commitment to teaching among research faculty, there is a widespread suspicion that we cannot have all that the master plan promised. There is a growing belief, in particular, that research can no longer be the primary mission of our great universities.

Lessons for Leaders:

- **Research can drive change:** Innovation in research often connects to innovation in teaching and learning.
- **Explain that connection:** Leaders should give full-throated explanations of the extent to which research is crucial to the educational mission.

Michael M. Crow, president of Arizona State University, is proposing a solution.

Clark Kerr, first chancellor of the University of California at Berkeley, then president of the university system, who is the architect of the master plan, saw it as the basis for the "second great transformation" of the American university. In Kerr's structure, the university was "called upon to educate previously unimagined numbers of students; to respond to the expanding claims of national service; to merge its activities with industry as never before; to adapt to and rechannel new intellectual currents," he wrote. This was "a truly American university, an institution unique in world history, an institution not looking to other models but serving, itself, as a model for universities in other parts of the globe."

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In subsequent years, however, Kerr sensed that the American research university had already begun to undergo a third transformation, far more difficult than the one before. Although he never worked out a new model, and concerned himself more with Berkeley's survival as the flagship university than with the increasingly unsustainable provisions of the master plan, before his death in 2003 he began to write about the acute need to take on the increasing pressures of globalization, technological innovation, and demographic change.

Crow left Columbia University, where he had been executive vice provost, to become president of Arizona State the year before Kerr died (and two years before I joined the senior administration at Columbia). Now, a little more than a decade later, he asserts that his institution has become a model for how a great university can prosper and grow in the new century. His vision is described in a new book, *Designing the New American University* (Johns Hopkins University Press). He wrote it with a historian, William B. Dabars, who is his colleague in the office of the president).

When Crow moved to Arizona State, it was, he writes in the preface, "a burgeoning but then still largely undifferentiated regional public university." Not widely known for its research productivity, it was far from being a candidate for inclusion in the A-list of research institutions, the Association of American Universities. It was also not associated with innovative academic proposals of the kind discussed and illustrated in the book. The authors provide a meticulous review of the literature on the history of American higher education and an ambitious account of how Arizona has, in Crow's words, "deliberately undertaken an exhaustive reconceptualization to emerge as one of the nation's leading public metropolitan research universities." By that, he and Dabars mean an institution that combines accessibility to education for a diverse population, representative of the region and the nation, with an academic program grounded in the research and the production of new knowledge.

There is no doubt that Crow has had a transformational effect on the institution he leads. There is also no doubt of the power of his vision, one that deliberately echoes Kerr and the California master plan, updated to confront the challenges of the 21st century in the context of what Kerr himself had begun to see: major state disinvestment, steadily growing demand for student seats, and rapid economic, social, and technological change. Crow and Dabars aspire to a combination of world-class teaching and research with broad accessibility in what they suggest is a hybrid plan, explicitly bringing together the two levels the California plan had kept distinct, the research-intensive campuses and the teaching-intensive campuses.

They see unexpected opportunities in their hybrid approach, arguing that the fact that ASU is not burdened by a history of excellence — in the manner of the "gold standard" they associate with Harvard University and my own Berkeley — is precisely what allows them to be so innovative. As they see it, they don't have to contend with the "filiopietism" of adherence to tradition. While that argument is reminiscent of Kerr's adage that he doubted whether the faculty of any great university would ever be able to "agree on more than the preservation of the status quo," Crow and Dabars mean more. The success of their new model depends on extensive institutional change, new ways to mix and leverage different disciplinary configurations and connections, organize new problem- and project-based collaborations, build new relationships between academic interests and the research needs and imperatives of the private sector, all to create what they call a "complex and adaptive knowledge enterprise."

The signal feature of Crow's tenure at Arizona has been a febrile pace of experimentation and innovation. Units have been reorganized to create research and collaboration opportunities for students and faculty, such as the School of Human Evolution and Social Change and the School of Earth and Space Exploration. A variety of new schemes to generate revenue have been explored, ranging from doubling down on technology transfer and philanthropy to newfangled ideas like the development of ASU Online, which doesn't just deliver traditional content via the web but also experiments with

ways of fostering online student interactions. Expanding the latter program has entailed new sorts of partnerships with corporations, like Starbucks, to recruit their employees. And the campus has also energetically promoted the expansion of the traditionally enrolled student body, adding more than 20,000 students, with special efforts made to attract more low-income and underrepresented students. Arizona State University, in short, is taking its "mass education" mission as seriously as any university in the country today.

It's probably too early to evaluate the success of its model, though early signs are promising. Under Crow's leadership, the percentage of students with Pell Grants (i.e. students from low-income backgrounds) has steadily increased (much higher than at most flagship public universities, though still lower than the top institutions in the University of California system), but graduation rates have stayed frustratingly low. At the same time, while Crow correctly notes that admission to Berkeley (and the University of California at Los Angeles) has steadily become more difficult (now admitting less than 20 percent of applicants), ASU has adopted admissions policies similar to those of Berkeley in the 1950s and 60s, when high-school seniors needed only to graduate with a 3.0 grade-point average to qualify.

Research productivity has also increased: Crow and Dabars report that expenditures on research are up by more than 250 percent since 2002, without significant growth in the faculty. But Arizona State is not (yet?) a member of the Association of American Universities, and many of its more-innovative programs have not been in existence long enough to measure their real contributions or ultimate success. Certainly not all these innovations have always been warmly greeted. Crow's effort to channel resources into productive new arenas has also involved tough decisions to end programs, decision that have been met with great resistance. Perhaps the best-known case was the attempt to dismantle the Cancer Research Institute, which led to lengthy public controversy and litigation. It remains to be seen if genuinely advanced research can be productively pursued in a great many areas of endeavor, given the challenges of a student body and educational mission that resemble the Cal State system far more than they do UC.

Insofar as politicians do support research these days, they are talking about applied research, and that in areas where people can point to immediate benefit.

Beyond the excitement generated by many of Crow's proposals, what is perhaps most heartening is his commitment to the idea that research is a fundamental feature of the university, not one that can be dispensed with on the road to mass delivery of education. In this, Crow is arguing against the premise of most, if not all, for-profit education corporations, both online and off, which implicitly, if not explicitly, assume that educational "content" can be delivered to "customers" absent funding by corporate "suppliers" for the complex (and expensive) process of supporting research.

At a time when many critics question the role of research in education — except, perhaps, at private institutions with huge endowments, where alumni are satisfied that research does not compromise undergraduate education — it is refreshing to see evidence of genuine support not just for research but also for connecting innovation in research to innovation in teaching. Public research universities, in particular, are increasingly asked to justify their research efforts. There are greater doubts about the value of research in the social sciences, not to mention the arts and humanities, although even the sciences are experiencing a loss of confidence in the importance of much basic research.

Insofar as politicians do support research these days, they are talking about applied research, and that in areas where people can point to immediate benefit. Although educators offer example after example of how basic research produces applications that could never have been foreseen, and despite the growing need for advanced research in areas including political analysis (to, for example, document the relationship between money and political outcomes) and the extent to which the use of big data or new biomedical techniques can be analyzed in relation to human agency and the public good, that type of inquiry has been regularly denounced in Washington and widely disparaged in popular media.

The near absence of discussions of research in the spate of publications about college over the past decade is perhaps the most astonishing lacuna in the higher-education literature. *The Great American University* (PublicAffairs, 2010), an important book by Jonathan R. Cole, a former provost and dean of faculties at Columbia, contains an extraordinarily useful and wide-ranging set of illustrations of the value of research, but stands out

almost as an exception. Fortunately, the AAU and the National Research Council have promoted the importance of research, and the association's president, Hunter R. Rawlings III, was involved in the important 2012 report "Research Universities and the Future of America."

Those of us leading or working in research universities, especially public ones, face the urgent imperative to articulate and give full-throated explanations of the extent to which university research not only brings economic and social betterment (through new medicines, policies, products, jobs, etc.) but also is crucial to the educational mission. It drives discoveries that can be commercialized to enrich innovators and their backers, and it ensures that those innovations will be deployed to sustain the vitality of our economy, our society, and our human values. Research is also a good in itself across the full set of disciplines and fields that constitute university life; it is an aptitude and skill that students, both undergraduate and graduate, learn in college that can be of lifelong value; and it is a force that generates new knowledge — and new modes of teaching and learning.

It is research that compels scholars and administrators to create institutes, centers, and programs that bring disciplines together. While we know that professional recognition and rewards for research often militate against interdisciplinarity in the short term, that kind of work is responsible for many of the most important breakthroughs in fundamental understandings, in methodology, theory, and even the data we use. We can cite examples in every field: the importance of information theory in the limits and possibilities of quantifying information for biology, of social psychology in behavioral economics, of historical or anthropological work in literary study. Research skills and experience are likely to be of as much importance as critical reading, writing, and numeracy for any sustained career in rapidly expanding knowledge industries.

The preoccupation with research may compete with time for teaching, or direct teaching toward narrow specialized fields, but research is also needed for many innovative reforms in pedagogy. And that is true well beyond the current enthusiasm for "maker" culture and its emphasis on do-it-yourself innovation and the integral role of design thinking in courses in many fields, from the arts to engineering.

Even the most traditional pedagogy is animated by a passion for new ideas, new interpretations, new contextual frameworks, and new evidence. Indeed, the bottom line is that teaching and research genuinely benefit from each other. The relationship is not simply the result of an accidental compromise in the history of American higher education, but a recognition of the importance of both activities for all our universities and colleges, even those that cannot support research at the highest levels. That is the basis for the pre-eminence of our global model; and that may be most at risk — both in funding and in popular attitudes — in the current crisis in university life

That was the special genius of California's master plan: attempting to forge and maintain connections at every level between teaching and research.

At Berkeley we are developing a model different from Crow's for reimagining the American university. As I announced last fall, we intend to build a "global campus" in nearby Richmond Bay. Instead of planting the Berkeley flag abroad, we want to create a new form of international hub, where an exclusive group of some of the world's leading universities and high-tech companies will work side by side with us in a campus setting. We envision a collaboration not just among disciplines but across global institutions on topics like climate science, energy policy, data science, artificial intelligence, medicine, global health and inequality, urban studies, museum studies, and more. We have decided, however, that even in a context in which global research will be at its most innovative, we will have at the core of our institutional design an educational mission, beginning with graduate programs. Our first degrees will be in global studies, with a curriculum that will train a new cohort of world leaders to tackle today's problems. We hope that teaching, research, practical engagement, and a public mission will combine to create an innovative next phase in the evolution of higher education as initially hypothesized by Clark Kerr.

Columbia's new Mortimer B. Zuckerman Mind Brain Behavior Institute takes advantage of the excellence of the medical school and the rich resources of basic-science departments; Stanford's pathbreaking efforts in the field of design are signs of the vitality of their deep connections with the technology sector, while enabling broad interdisciplinary collaboration across top

colleges and departments; the Broad Institute in Cambridge, Mass., links and builds on the strengths in bioscience and medicine at Harvard and the Massachusetts Institute of Technology; and Berkeley's programs in the field of computing and data science (AmpLab, the Simons Institute for the Theory of Computing, the Berkeley Institute for Data Science) catalyze its unique expertise not just in computer science but also in social, statistical, and behavioral science, as well as, for that matter, in physics and cosmology. Those examples serve as reminders of the extent to which cutting-edge research can propel institutional change, even in places where traditions might seem most resistant.

As various universities compete with one another to establish their own new models for higher education, however, it is important to point out that most proposals are not designed to displace or endanger the highest-level research universities, whether private or public, which have successfully linked the undergraduate liberal arts with top-quality research and the production of knowledge. Crow and Dabars acknowledge that some leading universities are well positioned to advance knowledge in ways that will both transform some of our most basic understandings and radiate to other institutions (and not just through their Ph.D.'s who move on to teach and conduct research in these institutions).

And we must remember that the connection of excellence and access is not just a slogan but a necessity for all of us in higher education. That was the special genius of California's master plan: attempting to forge and maintain connections at every level between teaching and research. The plan requires updating, with more emphasis on serving diverse populations of students, and continued expansion and innovation.

Crow and Dabars may not have reinvented the master plan, but they have made an important intervention in the debate about which models work best, for which purposes and constituencies, and how we can support those models at the scale they require, all while maintaining academic rigor and autonomy. As we carry the debate ahead, it is crucial that our commitment to research in the research university be unwavering, and that our advocacy for the many reasons that research matters be argued and advanced far beyond the university itself.

Nicholas B. Dirks is chancellor of the University of California at Berkeley.

Originally published April 27, 2015

Innovation — Everyone Says It's the Answer, but Is It What Colleges Need?

By SCOTT CARLSON

You can always chide higher education by referring to innovation in the sector. Or, rather, the supposed lack of it. The criticism should be familiar: Paradoxically, in an industry full of thoughtful people, the imaginative ideas are strangled by dull leadership and organizational bureaucracy.

That swipe is at the top of an article on higher education's "16 most innovative people" in the current issue of *Washington Monthly*. And it was embedded in some of the opening remarks in a panel at New America on Thursday, based on the *Washington Monthly* article and featuring three of the innovators it described. They each got a chance to talk about what innovation is for, where it comes from within an organization, how you can measure its success — and, hey, what's higher ed's problem, anyway?

Lessons for Leaders:

- **Make innovation more than a buzzword:** Much of what is touted as innovative in higher education is more tactical than strategic.
- **Measure outcomes:** Too many of the incentives in higher education focus on inputs — more applicants, more students, the time those students spend in class — rather than outcomes, like graduation rates or the jobs students get after college.
- **Innovation doesn't need to be splashy:** Often innovation is code for a big, brand-new program or approach, but small changes done well should still count.

KENDRICK BRINSON, THE NEW YORK TIMES, REDUX

Many people in higher education are working to make college more accessible and effective. Even some who are succeeding, though, acknowledge that praise and money tend to follow what's "new" more than what works. Above: A crosswalk at Georgia State U., where a program that uses analytics to help struggling students succeed was recently honored.

Actually, the panelists pointed out, it might not be entirely colleges' problem. Too many of the incentives around higher education, they said, focus on inputs — more applicants, more students, the time those students spend in class — rather than outcomes, like graduation rates or the jobs students get after college. And that focus applies to the innovation conversation as well.

"The pressure to be innovative is actually the pressure to be new, rather than the pressure to effect change," said Charles L. Isbell Jr., a professor and senior associate dean in the College of Computing at the Georgia Institute of Technology. A college can get grant money for trotting out something that looks interesting and new, yet is totally ineffective, he said, but it won't get money if it borrows successful techniques from other colleges.

Mr. Isbell was joined on the panel by Bridget Burns, executive director of a consortium of public colleges known as the University Innovation Alliance, and Amy Laitinen, director of higher-education policy at New America. Paul Glastris, editor in chief of *Washington Monthly*, moderated the panel, while Jamie P. Merisotis, president and chief executive of the Lumina Foundation, provided some additional comments.

There is no doubt that higher education is, in many ways, a hidebound and bureaucratic industry, but some of those processes are tied up in the notion of giving students a rigorous experience. One of the great dilemmas in innovation, Ms. Laitinen said, is how colleges and federal programs can provide flexibility for students without encouraging fraud and abuse.

"The pressure to be innovative is actually the pressure to be new, rather than the pressure to effect change."

"There is the threat that higher education stays the same, and it doesn't help the students who need the change," she said, "and there is the threat that higher education will change, and it hurts the students it needs to help the most."

"We need to rethink our concept of innovation," Ms. Laitinen said. "We can't afford to keep thinking that you are for innovation or you are for con-

sumer protection. And, at least in D.C., those are too often the camps that people put themselves in."

A QUESTION OF EMPHASIS

The push for "innovation" in higher education is somewhat problematic to begin with. The term itself sets up an ideal for new and groundbreaking initiatives. Yet much of higher education needs some basic blocking and tackling, says Kent John Chabotar, a former president of Guilford College and an expert on college finance. At many colleges, the ratio of students to faculty and staff members is unsustainable, for example, or the course offerings are not in line with what's in demand, or the debt or deferred maintenance is out of control. Those things need to be resolved before a college thinks about innovation.

And, he says, much of what is touted as innovative is more tactical than strategic. When he talks to people about what they are doing to change their business practices, "there's an overexaggeration of what they consider 'innovation' — things like changing the curriculum or increasing or decreasing the class size."

The *Washington Monthly* article highlighted a number of projects that help students get through college to graduation, like Georgia State University's use of analytics to identify struggling students and give them guidance.

In a commercial setting, that might seem kind of a low bar. "Customers" who are paying for a "product" would expect services that deliver what they paid for. But in higher education, it's not seen as a way to improve service but a philosophical argument: Where's the line between helping students and letting them off the hook?

What's more, "innovation" is kind of problematic for higher education in another way: It's an out for policy makers who don't support the enterprise at the levels it needs to do its job. Higher education has endured cut after cut over decades. The answer to dealing with those cuts has often been to "innovate."

At the panel at New America, an audience member who has been both a tenured professor and an adjunct in her career pointed out that college administrators, in their push for innovation, too often ignore the plight of those instructors. In a dialogue about reform, she said, that issue can't be ignored.

"There is a broader question that we need to focus on," Ms. Burns responded, "which is that higher education has an unsustainable funding model, and what you're seeing are decisions being made to get by."

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"The infighting gives the illusion of progress," she added, "but when we pit people against each other, which is faculty versus student versus staff versus administrator versus president, we're missing the big picture here, which is the sector. Instead of focusing on institution by institution, we need to get together and solve these problems on a much more global level."

Originally published September 16, 2016

QUESTIONS TO CONSIDER

ARE there parts of higher education, like professional schools, that can provide fresh ideas for the undergraduate curriculum or other areas that require overhaul?

DOES your institution think enough about financial sustainability when it comes to trying new approaches? Does it train its academic leaders to understand the business model?

DOES your college or university make sure that innovation in research and research practice can also benefit teaching and learning?

HOW do you and your institution define innovation? What's the litmus test for a truly innovative program?

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of Higher Education®

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