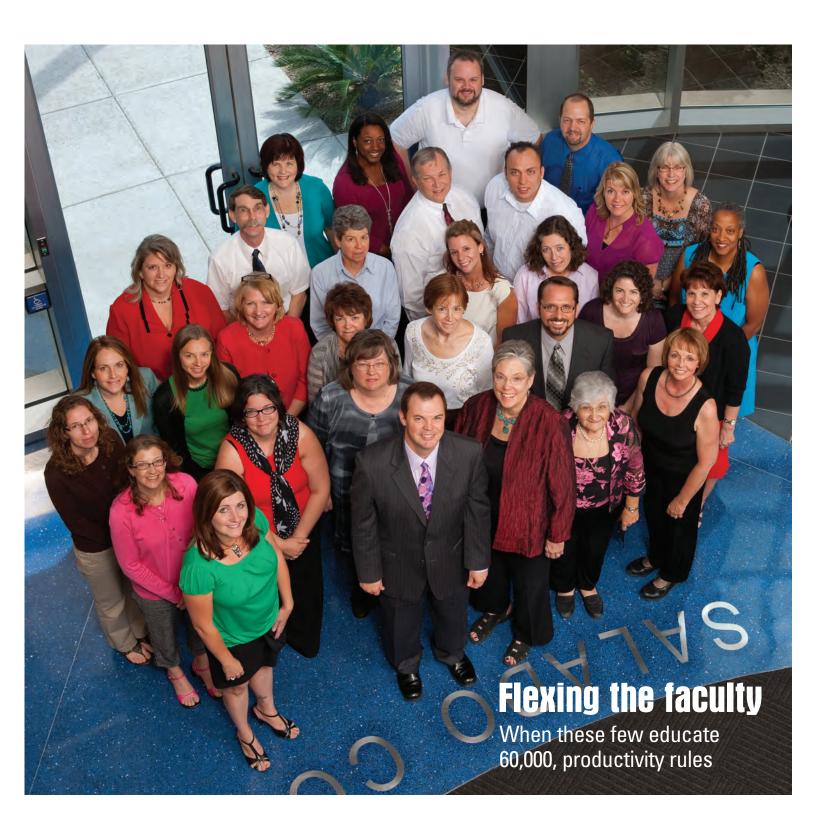
LUMINA FOUNDATION

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Productivity in Pennsylvania: Page 3



Distance learning done right: Page 13



Shop 'til you graduate: Page 23

On the cover: The faculty and staff of Rio Salado College have their offices in Tempe, Ariz., but they reach students all over the nation. With 23 full-time faculty members directing the work of 1,300 part-time instructors, Rio Salado's online model serves some 62,000 students.

PRESIDENT'S MESSAGE

he lingering economic downturn has affected virtually every American institution — perhaps none more significantly than the nation's higher education system. These days, facing significant revenue shortfalls that are widely recognized as the "new normal," state-supported colleges and universities are looking, sometimes desperately, for answers.

At Lumina Foundation, we believe strongly that those answers *must* be found. We are firmly convinced — and growing numbers of economists, labor experts and employers agree — that higher education must play a key role in fueling the recovery and ensuring long-term economic stability. In short, this nation needs millions more citizens with high-quality, relevant postsecondary degrees and credentials. The question is: How can we meet this growing demand in a time of shrinking resources? In short, how can the higher-ed system become more efficient, effective and productive?

This issue of *Lumina Foundation Focus* tackles that question head on. It takes an in-depth look at the productivity push in higher education — the growing effort under way on campuses throughout the nation to provide many more students with a quality education but without increasing costs.

In this issue, you'll hear from administrators, faculty members and students at more than a dozen publicly funded institutions in three states. All of these individuals are striving — and yes, sometimes struggling — to redefine higher education in ways that increase its productivity. For example, you'll read about:



- Changes under way at the 14 mid-sized institutions in the Pennsylvania State System of Higher Education (PASSHE) where program consolidation, pedagogical changes and other reform efforts have opened many doors, but also ended careers.
- The distributed learning model at Rio Salado College in Arizona, where some 62,000 students throughout the nation are being educated under the direction of just 23 full-time faculty members.
- The newest campus of the University of Minnesota an innovative, interdisciplinary program that operates from the top two floors of a shopping mall in downtown Rochester.

These examples, though instructive, barely scratch the surface of the work being done around the nation to enhance college productivity. I also urge you to visit our website, www.luminafoundation.org, where Focus offers much more on this nationwide effort.

The Web-based edition offers a wealth of extra content, including a feature on a joint effort by Ivy Tech Community College-Richmond and Indiana University East that is benefiting thousands of students; a photo slide show from Rio Salado College; and a link to www.collegeproductivity.org, where Lumina and its partners more fully explain the scope of this work.

We believe this material — on the Web and on the following pages — underscores the urgency of improving college productivity, and we hope it helps demonstrate Lumina's commitment to that effort.

We are committed to the effort because it is central to a larger national goal toward which Lumina directs all of its energies and resources. That goal, commonly called Goal 2025, is this: By the year 2025, 60 percent of Americans will hold high-quality postsecondary degrees or credentials.

Clearly, as the nation works toward this ambitious goal, we can't afford delays or half measures. It is crucial for stakeholders to work together to enhance the efficiency, effectiveness and overall value of the higher education system. The work is admittedly difficult, and the steps being taken are sometimes controversial — even contentious — because change is rarely easy.

But it is absolutely necessary. That's why, as we strive to reach Goal 2025, we must forge a broad coalition of committed reformers ... a partnership for productivity.

I encourage you to join that partnership — not only because college attainment enhances individual lives, but because it is key to our future as a nation.

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Jamie P. Merisotis President and CEO Lumina Foundation



Michael Crum spent 27 years as a theater instructor at Mansfield University in Pennsylvania, but now he's taught his final class. He retired in May 2011, but not by choice. Faced with deep budget cuts, state higher education officials chose to eliminate Mansfield's theater program.

The productivity push— and the pushback in Pennsylvania

The question sounds like a thought experiment — one of those tricky, theoretical exercises designed to prompt discussion at some academic seminar:

"Armed this year with \$110 billion less than they expected, how can the nation's public colleges and universities possibly *increase* the numbers of high-quality graduates that the nation so desperately needs?"

Unfortunately, the question is anything but academic. It's painfully real.

More than two years after economists declared an official end to the worst downturn since the Great Depression, the slumping economy continues to batter lives and institutions throughout the nation — and higher education certainly hasn't escaped the blows.

As they convened to address 2011-12 budgets, state lawmakers across the nation faced a "cumulative budget gap" of \$110 billion in state postsecondary spending, according to the National Conference of State Legislatures (NCSL). Since the onset of the recession late in 2007, NCSL reports, higher-ed spending has been slashed in at least 40 states, and the vast majority of those cuts have been percentages in the double digits.

Cuts that deep can't help but imperil the stated mission of publicly funded colleges and universities: that is, to deliver an accessible, affordable and quality education to any student who is willing and able to meet the challenge. And that brings us back to the conundrum: Is it possible for higher education to reduce costs and increase productivity without sacrificing educational quality?

Perhaps, says Travis Reindl, director of postsecondary education programs for the National Governors Association. But he says it won't be easy.

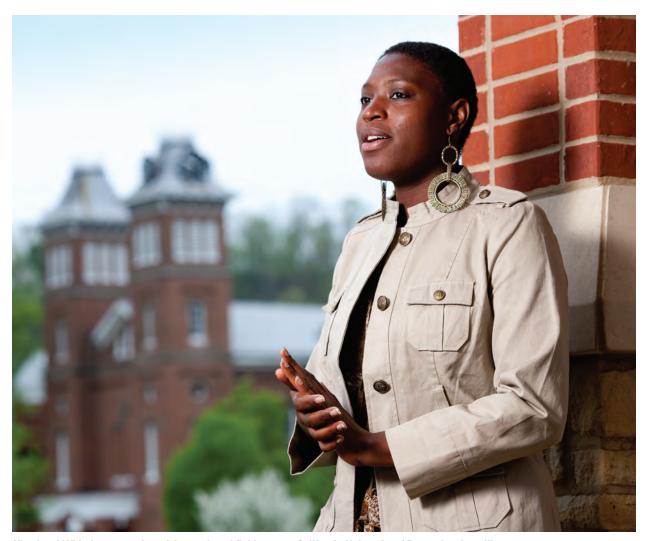
"Every institution is going to have to up its game when it comes to being relevant in this economy," Reindl says. "An institution can be efficient, but that doesn't necessarily mean it will be productive," he adds. "Cutting the paper clip budget may not be of any value to the students. We need to talk about being efficient in ways that are effective."

That conversation is precisely the one that, for at least the past three years, has dominated the higher-ed dialogue in statehouses and college administration buildings throughout the country. And in few states has the discussion been more heated than the one touched off this January in Pennsylvania. There, newly inaugurated Gov. Tom Corbett proposed cutting state funding for higher education by nearly half. By the time Punxsutawney Phil crawled out of his hole in early February, the debate had cast its shadow in every corner of the Keystone State.

Students and faculty jumped on Facebook to register their disapproval. Soon, the protests spread to campus quads. In March, students boarded buses and traveled to the state capital for a mass rally and to plead their case individually with policymakers. The cross country team at Lock Haven University took the art of protest a step further — make that tens of thousands of steps – by covering the 100 miles from Lock Haven to Harrisburg on foot. Pennsylvania's budget crisis dragged on till the eve of the July 4th holiday, when the General Assembly passed a compromise measure. Corbett immediately signed the bill into law.

The final tally for higher education wasn't as draconian as Corbett had originally envisioned. Still, it was bad enough — a reduction of \$160 million, or 19 percent, from what Pennsylvania spent in 2010-11 to educate students on 70-plus state-funded campuses. The trustees who govern Pennsylvania's postsecondary systems responded in a way that was perfectly understandable, if painfully predictable: They raised tuition, once again spinning what American Council on Education Senior

The Pennsylvania State System of Higher Education (PASSHE) Approximate enrollment Erie **Bloomsburg** 10,000 6 10 Mansfield California 9,400 Cheyney 1,200 Scranton 7,300 Clarion East Stroudsburg 7,600 Edinboro 8.700 Allentown 8 Indiana 15,000 Pittsburah Johnstown Harrisburg Kutztown 10,700 Carlisle • Philadelphia 4 12 Lock Haven 5,100 Mansfield 3,400 Millersville 8,700 The 14 state-owned universities in PASSHE constitute Pennsylvania's public Shippensburg 8,300 university system. The Commonwealth also has four "state-related" four-year institutions (Lincoln, Penn State and Temple universities, plus the University of Slippery Rock 8,800 Pittsburgh). These are independent institutions that receive some state funding West Chester 14,500 There are also 15 publicly funded two-year community colleges and technical 8,500 schools that are separate from the PASSHE system. **Average**



Khyalyani Whitaker, a member of the track and field team at California University of Pennsylvania, will return to campus next year to begin a graduate program in justice studies. She may also pursue a minor in Arabic language and studies, thanks to the PASSHE system's decision to consolidate the Arabic program on Cal U's campus.

Vice President Terry Hartle calls "the fiscal balance wheel in many state budgets."

For the 14 universities in the Pennsylvania State System of Higher Education (PASSHE), that spin of the wheel was dizzying. It meant a system-wide cut of \$90 million, or about \$800 for each of the approximately 118,000 students enrolled in the PASSHE schools. PASSHE — a centrally administered, state-owned system of mid-sized, four-year institutions scattered throughout the state (average enrollment: about 8,400) — has actually endured years of fiscal pain.

The most recent one-year cut of \$90 million comes after cumulative losses of more than \$32 million between 2006 and 2010. During that period, PASSHE saw its annual state funding drop from \$476.6 million to \$444.5 million. Also gone now is the \$38.2 million in federal stimulus funding that the system had used to offset the losses in 2009 and 2010.

The pain, then, is palpable. But in a broader sense, the belt-tightening is prompting more than pain. It's also serving to highlight a long-term reform effort in PASSHE — an effort aimed not merely at cutting costs, but at improving productivity in the system.

The goal of the productivity push in higher education is clear: Produce many more graduates at the same or lower cost without compromising the quality of their education. It's a tall order, but labor economists and other experts insist it's an order that must be filled if the nation and its citizens hope to compete in the 21st century global economy.

Institutions and systems in several states are heeding the call, looking for new ways to boost efficiency and effectiveness. Essentially, the tactics fall into four main categories (see box on Page 6), and PASSHE officials are considering productivity enhancements in all four areas.

In fact, PASSHE took the first step a decade ago, becoming one of the nation's first public university systems to voluntarily implement a performance-based funding method. Since 2001, PASSHE schools have received state funding not only on the basis of how many students they enroll, but also on how well those institutions perform in key areas such as retaining and

graduating their students. System Chancellor John C. Cavanaugh insists the performance-funding mechanism works, calling it "a key driver in PASSHE's success over the last decade."

Other productivity steps are under way as well, including system-wide consolidation of some programs that,

until recently, had been offered at more than one PASSHE institution. Admittedly, such efforts are causing concern in some quarters; as with any fundamental change, PASSHE's approach is creating both opportunity and loss.

Not surprisingly, PASSHE officials emphasize the opportunity. They say the changes are both necessary and positive — a way to position the system and its institutions for future success, and to ensure that the needs of students and the state are met. Khyalyani Whitaker, a senior track star at California University (Cal U) in southwest Pennsylvania, sees in the restructuring a personal opportunity — a chance to pursue a field of study that will give her an edge in a tough labor market.

CALIFORNIA

Odeese Khalil, a native of Syria, joined the Cal U faculty in the fall of 2008. With Arabic language courses now available online at all 14 PASSHE universities, Khalil has students throughout the state.

However, about 200 miles to the northwest, at Lock Haven University in the central part of the state, psychology Professor Mark Cloud sees the changes far differently. In fact, he claims PASSHE is now depriving students of the personal attention from professors that he sees as vital to their success. And an hour further north, at Mansfield University near the New York state line, longtime theater instructor Michael Crum sees PASSHE's reinvention not as a hopeful beginning, but as the bitter end to a long and cherished career.

Each perspective merits a closer look.

Whitaker, a heptathlete who competes in seven events each time she dons the red and black uniform of the

Cal U Vulcans, is also an academic multi-tasker. She has a dual major, justice studies with a concentration in homeland security, and is also linguistically varied. She has a better-than-average understanding of Spanish, speaks Creole (a dialect she picked up as a volunteer in Haiti) and is teaching herself Arabic, an interest that

> grew out of the Islamic faith and customs observed by some of her relatives.

As her education progressed, Whitaker saw how fluency in Arabic could complement the advanced degree she plans to pursue in justice studies.

"It could be a plus in the job market," says Whitaker, who may pursue a minor in Arabic studies when she returns to Cal U in 2012 as a graduate student in justice studies.

To students such as Whitaker, the option of Arabic language and studies as a degree-bearing field is important personally. To PASSHE, the introduction of Arabic as an academic department delivers a critical message to the governor, legislature, faculty and students about the state system's com-

mitment to improving productivity.

Staggered by consecutive years of declining revenue and anticipating still more reductions, PASSHE began laying the groundwork for the new Arabic major/minor even before the 2010 election that put Corbett in office. The process, say system officials, was part of what has become a total reinvention of PASSHE. To improve productivity, system officials have moved to streamline the curriculum, eliminate duplicative offerings, consolidate the less-popular classes and expand online learning to make quality courses available to students at all 14 universities.

One example: Arabic. The course, part of a trend marking higher ed's response to the 2001 terrorist attacks, first materialized on the Cal U course list as an elective

Four steps to enhancing productivity

- Performance funding: Tie state funding not to enrollment, but to graduation rates or other outcome measures.
- 2. Student incentives: Link financial aid eligibility to student performance, including high school course-taking behavior.
- 3. New models: Expand and strengthen lower-cost, nontraditional education options.
- 4. Business efficiencies: Apply good business practices at the institution and system levels to keep costs down.

For more, see Four Steps to Finishing First in Higher Education: An Agenda for Increasing College Productivity to Create a Better-Educated Society, August 2011.



James Moran, PASSHE's former vice chancellor for academic and student affairs, now serves as the interim president of Edinboro University. Kathleen Howley is the system's assistant vice chancellor for academic and student affairs. Both have been closely involved with PASSHE's productivity efforts, including the decision to base the system's Arabic language program at Cal U.

in 2004. The program began to soar when Syrian-born Odeese Khalil came aboard four years later as the first full-time Arabic faculty member. Cal U, located 45 miles south of Pittsburgh on a bucolic bend in the Monongahela River, also made the course available online to military personnel in the U.S. and overseas.

Enrollment was never large enough to fully cover the cost of providing the Arabic language program, but Cal U felt it worthwhile to shoulder that cost early on. Budget woes quickly changed that calculus. Soon PASSHE officials saw clearly that Cal U could not, by itself, afford to support the program. But the system could.

"We had to ask ourselves how we could move 14 universities toward non-European languages when there was little money available," says James Moran, then PASSHE's vice chancellor for academic and student affairs and currently the interim president of Edinboro University. "The more we looked at it, the more we realized there were several different models. There was the possibility that two or three universities could share the program. We finally decided to concentrate it at California and open it up to all of them. In terms of framework, we knew we had to take advantage of the system, its unique strength, its diversity."

The available technology and the ease with which 21st century students adapt to it (Moran calls them "digital natives") also eased the decision to base Arabic studies at Cal U.

John Cencich, dean of Cal U's School of Graduate Studies and Research, says the economy did his institution something of a favor by forcing system officials to take a hard look at reality. Their conclusion: A mid-sized campus in the Monongahela Valley could never attract enough students to justify the expense of offering fullfledged programs in languages such as Arabic or Chinese.

"After all, we're not a national university," says Cencich. "But how many students across the state, if offered the chance to get a degree in Arabic, will take the opportunity to major in Arabic online? Even if it's two or three per school, we view this as a win-win situation. We are not competing with our sister schools. Now a student in Millersville can study for a degree in Arabic from (Cal U) and still walk across a stage with a BA from Millersville."

In the view of Kathleen Howley, assistant vice chancellor for academic and student affairs in the PASSHE system, the upgraded Arabic program fits right in with the actual course-taking behavior of today's students. At the same time, she says, it helps chip away at one of their most common complaints: that institutions are too reluctant to accept credits earned online or from another college.

"The nature of students today is that they tend to take more than one course from one university," Howley explains. Offering more courses online, she adds, "removes one of the barriers to earning a degree in a timely manner."

Ironically, points out Christine Kindl, Cal U's director of communications and public affairs, the decision to offer Arabic to students on distant campuses appeals to a decidedly non-technological postsecondary tradition. "A lot of people still want a degree from a brick-and-mortar institution," Kindl says, emphasizing that these students see a real difference between a fully online university and a traditional one that offers some online programs.

Mark Cloud, the Lock Haven University psychology professor, has heard PASSHE's explanations, but he's still not convinced. He worries that the streamlining, consolidation and other reforms in the works — including the emphasis on online instruction — may actually prevent many students from earning a degree from a PASSHE university. And he fears that first-generation students (approximately 11 percent of the PASSHE enrollment) will be the first to founder.

Cloud, president of the Lock Haven chapter of the Association of Pennsylvania State College and University Faculties, says faculty reductions brought about by layoffs and attrition are already having a profound impact on the 5,100 students at his university. He says the cuts have diminished the quality of the educational experience at Lock Haven by depriving students of personal attention from their instructors.



Mark Cloud, a psychology professor at Lock Haven University and president of the local chapter of the faculty union, has his doubts about PASSHE's reform efforts. He says staff reductions have contributed to a lamentable loss of personal interaction between instructors and students.



Financial woes haven't completely halted capital projects in the PASSHE system. On the Cal U campus, construction is almost complete on a \$54 million Convocation Center. Officials say some proceeds from events held at the center, set to open this fall, will go to aid student-success efforts.

Figures provided by the university show that the studentfaculty ratio has increased in recent years, rising from 19:1 in 2005 to 21:1 in 2010. Where the problems really show up, Cloud says, are in large lecture classes. Not long ago, an enrollment of 90 in his introductory psychology course was an anomaly. Now, he says, 90-plus is the norm.

"Freshmen are most likely to experience the large class, and they're the ones most likely to be affected in a negative way," Cloud says. "One of the things that defines (Lock Haven) is having a personal connection to our students. When you are one of a hundred students in a lecture hall, that kind of connection and engagement is impossible. And when students are the first in their family to go to college, it really takes a toll. First-generation students don't have the stories of brothers or sisters or parents to help them along. They don't know what they're getting into. It's pretty scary, and they need to have those connections and support."

John Curtis, director of research and public policy for the American Association of University Professors, says the changes at Lock Haven and other PASSHE universities are by no means an aberration. Budget-driven faculty reductions have hampered individualized learning nationwide, he insists, adding that larger classes automatically translate into less time an instructor can spend with a student when problems arise. The widening gap in teacher-student ratios also compels instructors to measure progress with multiple-choice exams and quizzes, rather than the essays and projects that Curtis deems key to an individualized educational experience.

For Cloud, what is most bothersome about the PASSHE cutbacks is that they have created distance between faculty and those they're working to educate.

"This is the first time I don't know the names of all my students, and it's driving me crazy," says Cloud, who arrived at Lock Haven 25 years ago. "I don't have that personal connection anymore, and it really bothers me."

Over at Mansfield University, longtime theater instructor Mike Crum is also bemoaning the loss of personal connection. But for him, the loss is permanent: He taught his last class in May.

In the world of college drama and theater, Mansfield University of Pennsylvania isn't exactly on par with New York University, Julliard, Yale or other schools whose alums dot Broadway stages and Hollywood film sets. Still, for a small, state-supported college with 3,400 students, the Mansfield theater department distinguished itself well enough. Over the years, the program sent its fair share of set designers and actors to the Big Apple. It also gained prestige because several graduates of its highly regarded music program also minored in musical theater.

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John Cencich. Dean of Cal U's School

of Graduate Studies and Research

Perhaps because of these successes, Crum, an assistant professor, didn't worry much when the number crunchers trained their calculators on the department at the onset of the recession. Nor was he much concerned when Mansfield officials pointedly asked the department to defend its budget. In response, Crum recalls, the program produced spreadsheets showing the department not only ran in the black but was on more solid financial footing than 67 other academic programs.

"(The theater department) generated money through its productions and through the music majors (many of whom were musical theater minors) who leave the school and generate interest in (Mansfield) all over again," Crum points out. "Supposedly, the whole premise here was streamlining and saving money," he adds, insisting that his work and the theater department as a whole had served that premise well.

Unimpressed, school officials informed Crum that the department simply had too

few students to be able to survive.

Crum finished teaching his final class at the end of this year's spring term. When students returned for the summer semester, the Mansfield University theater department had been eliminated.

If the Arabic program at Cal U represents PASSHE's potential for gain, then Crum maintains the defunct theater program at Mansfield symbolizes its very real loss. "You can't talk budget streamlining and not have it affect productivity," he insists.

Moran — on leave from his administrative duties while serving as Edinboro's interim president takes such criticism in stride.

Change rarely comes without

some measure of pain and resentment, he points out. "With any kind of endeavor, you have a group of faculty at the front that needs to see signs of success. And when others see that success, they will move along (with the leaders)," says Moran.

Cal U Dean John Cencich takes a similarly philosophical view. Cencich is a self-described "legal scientist" who came to higher education from a career in law enforcement that included a stint as a United Nations investigator for the international war crimes tribunal in The Hague. He argues that PASSHE — and higher education as a whole — has no choice but to change, to move creatively and proactively in an effort to redefine itself.

"We believe we need to grow ourselves out of this dilemma through well-planned growth in the right areas. We need to offer the niche programs" that can help fuel that growth, Cencich says. To him, openmindedness and flexibility will be vital as higher ed

reshapes itself into a more productive enterprise.

Lock Haven's Mark Cloud is all for cooperation ... up to a point. "People need to realize that we are not making widgets or sewing zippers here," he says. "I'm aware that the kinds of things we can do to facilitate greater collaboration are in everyone's best interest. But how far can we take that notion? Because when we eliminate theater at one school and physics at another school, we're shortchanging the citizens of this commonwealth."

For his part, Mansfield University theater instructor Mike Crum definitely feels shortchanged. As school gears up this fall, he'll be on the outside of academia looking in for the first time in 27 years. The provisions of academic tenure and PASSHE's contract with the faculty union prevented Crum from being fired outright. Instead, the labor agreement stipulated that Crum, a "retrenched" employee, be given top priority should a

> position open up in the theater department of another PASSHE school. Crum passed on that opportunity, choosing instead to retire. As he points out: "All I lost is the right to get a job in a system that has no jobs."

Crum will likely never teach again, though he plans to serve as a consultant for a musical production firm owned by a former student.

Still, in his absence, classes Whitaker will begin her senior

will resume this August in the other departments at Mansfield University, and faculty members at the other 13 PASSHE universities will soldier on under the banner of fiscal accountability. Khyalyani

year at California University of Pennsylvania. And she'll decide soon whether to return to Cal U to pursue further studies in Arabic language and culture. Mark Cloud will stand behind a lectern to deliver the first psychology lecture of the semester to his introductory class students at Lock Haven University — a class that is sure to include many more students than he cares to see at one time.

And PASSHE officials will continue to look for ways to make their educational enterprise even more productive — to broaden access and maintain quality. They know their decisions will not always be admired. But they're convinced that change is vital, not merely to protect the PASSHE from fiscal disaster, but to position the system — and the state — for the economic and social realities of the 21st century.

"If you dig in and wait it out, you could be setting yourself up for failure," Cal U's John Cencich insists. "What we're doing is fiscally responsible."





Patricia Case, chair of the social sciences faculty at Rio Salado College, oversees nearly 100 adjunct professors who ply their academic trade online. She's now a distance-learning veteran, but Case still recalls the mid-1990s, when "this thing out there called the Internet" was introduced at Rio Salado.

'College without walls' uses high-tech tools to open many more doors

Longtime psychology professor Patricia Case reached deep into history to explain where Rio Salado College has been, where it stands and where it's going.

The year was 1995. And Rio Salado, at age 17, had firmly established itself as the distance-learning cog in the sprawling Maricopa Community Colleges system serving metropolitan Phoenix. One of 10 colleges in the Maricopa system and among the nation's first "colleges without walls," Rio Salado had always embraced the latest technology, offering everything from mixed-media presentations to closed-circuit television broadcasts of lectures. Now, in the mid-1990s, the college gathered its faculty to introduce another promising tool in the push to improve educational productivity.

"We were sitting in this room," Case recalls, "and (a college official) said: 'There's this thing out there called the Internet.' I'd never heard of it," she confessed with a shrug. But some had — enough, in fact, that 100 students signed up within a month of the college going online. Five months later, online enrollment stood at 1,000.

"We were thrilled," Case recalls. Today, with multiplegigabyte smart phones pinging in millions of global pockets, it seems positively quaint to point out the mere 1,000 dial-up Internet connections that Rio Salado made 16 years ago. That's especially true in light of Rio Salado's current enrollment of 62,000 students — 40,000 of whom learn entirely online.

"This is the future of higher education," says Chris Bustamante, who, since 2010, has been president of

Arizona's largest public postsecondary institution. "It's going to look a lot more like the Rio Salados of the world than the traditional institutions."

And the world, it seems, has taken notice of the college and its 72 percent student-retention rate. Last year, noted business-consulting firm McKinsey & Company honored the school as one of the most "highly productive" institutions in the nation.

Two numbers seem to enter every conversation about Rio Salado: 23 and 1,300. There are just 23 full-time faculty members on the college payroll, and 1,300 part-time adjuncts shoulder the teaching load. In this redefinition of the faculty role — an increasingly common strategy nationwide as institutions seek to improve productivity and maintain educational quality — the full-time faculty members choreograph the logistics for each adjunct.



Faculty and staff at Rio Salado — all 23 full-time faculty members and their administrators — gather each Wednesday morning for a staff meeting. Participants say the wide-ranging weekly meeting breaks the traditional departmental and academic boundaries and sets the stage for continuous improvement at the college.

At Rio Salado, faculty run the show from adjoining offices that flank a common room in the college's administration building, a modern structure in suburban Tempe, Ariz. The building includes a few classrooms, as well as the studios of the public radio stations serving the Phoenix area. Once a week, faculty members emerge from their individual offices to gather at a circular table for the ritual that all agree is the cornerstone of the school's success. At an institution where collaboration is paramount, the Wednesday morning staff meeting blurs the lines that elsewhere often divide faculty, academic departments and administrators.

No one is excluded from the weekly conversation. Facilitated by Case and Vice President for Academic Affairs Vernon Smith, the discourse glides from mundane updates by department heads, to reviews of complex



accountability measures, to philosophical shifts in college policy. Participants say long-term scenario planning is common and that discussions often take on a stream-ofconsciousness quality.

"I've just finished my seventh year here, and I can tell you that no two years have been the same," says Jennifer Freed, an electronic-learning designer who also serves as faculty chair. In fact, the one constant in the Rio Salado approach is change — an institutional commitment to continuous reinvention and improvement.

In early May 2011, Alicja Lee became a full-fledged beneficiary of that commitment when she strode across the Orpheum Theatre stage in downtown Phoenix and accepted a dual degree in criminal justice and technology from President Bustamante. Lee is exactly the type of student Bustamante means when he says: "People are coming to the realization that in this country and in this state we need to meet the needs of students on their terms rather than our terms."

The daughter of Polish immigrants, Lee graduated from a suburban Chicago high school in 2003 with plans to enter college immediately and earn a bachelor's degree within four years. Instead, she fell in love, left a community college after a single semester, got married and moved to Arizona, where she eventually landed a job as a patrol officer with a Phoenix-area police department.

All the while, the prospect of one day returning to college to earn her degree danced on the fringes. "In this economy you need a piece of paper that proves you successfully completed something," the pragmatic Lee says. A happy occasion — the birth of her daughter Natalia in 2008 — pushed that piece of paper a bit further out of reach. "First, the kid is up all night. Then you're juggling play dates and your marriage and shopping. You just can't do it all," she says.

Lee needed a college that was willing to meet the educational needs of a young wife and mother on her own terms — a college able to provide a quality, affordable education along with a flexible schedule. Enter Rio Salado.

For one thing, the price was right. "I thought about a traditional school, but not after I looked at those prices," she says. "It's the difference between \$70 a credit hour here (increasing to about \$75 during the coming academic year) and hundreds and hundreds of dollars at another school." Also vital: An asynchronous schedule gave Lee the freedom to begin coursework when she wished, and online instruction allowed her to learn and study on her own time.

"You can start (a class) on any Monday. Or, if you want to procrastinate, you can do that, too," she says. "It saved us a lot of time and a lot of money on commuting and child care."

When it came to jump-starting a stalled college education, nothing could have been better for Alicja Lee than Rio Salado's distance-learning program.

"The online environment has really opened up a new world for adult learners," says Pamela Tate, president and CEO of the Council for Adult and Experiential



Learning (CAEL). "If they could, (these students) would go to a campus because they are as interested as anyone in meeting other people. But the fact is, they can't. They don't have the time. (Online instruction) is the only way they can squeeze in an education in the hours after they get home from work and after the kids have gone to bed."

The first time Lee typed her user name and password into the Rio Salado mainframe, she gained access to a system that contributes significantly to the college's 72 percent retention rate.

At Rio Salado, student assessment is another process that breaks through the traditional faculty-administration boundaries. "We were high-quality before there was a 'quality matters' movement," says Smith, the vice president for academic affairs. "We are constantly evaluating the performances of our instructors and students."

It's a "culture of assessment," he continues, one that never stops asking: "What are (students) learning and what do they know?"

One online mechanism notifies a faculty chair within 72 hours if an adjunct fails to respond when a student files an assignment. Another sends out an early alert should a first-year student start falling behind. If a student seems in imminent danger of failing, the system triggers a red flag which, without penalty, places the student in a preparatory college success course.

As assessment unfolds on the academic side, school officials are constantly turning to private and public institutions for other programs and ideas to increase educational productivity. "We see what works for them and take it back to see if we can do it, too," says Case.

For example, a visit to a major regional health center demonstrated ways to more effectively integrate communication between depart-

ments at Rio Salado. A leading computer manufacturer provided guidance on adapting the latest technology. Bustamante most recently huddled with Disney Corp. executives to see if his college could adapt any of the practices that help amusement parks run like clockwork and motion pictures come in under budget.

Meanwhile, Smith is nudging Rio Salado toward "predictive analytics reporting," a cutting-edge marketing tool borrowed from the business world. Supported by a \$1 million grant from the Bill & Melinda Gates Foundation, the predictive analytics process is now being tested by Rio Salado and five other schools in the Cooperative for Educational Technologies, an initiative of the Western Interstate Commission for Higher Education.

The institutions hope that predictive analytics reporting — a forecasting model that factors socioeconomic standing, age, family and employment status into the calculus of scholastic performance — will help identify factors that affect individual student success. Supporters are quick to note the powerful potential of such analytics, pointing out that, just eight class days into an academic term, the model is able to predict with 70 percent accuracy whether a student will drop a course. Tate says such innovations "have been a breakthrough for adult learners, particularly (when coupled) with (strong) student services. You can't just have the courses and nothing else anymore."

At Rio Salado, the student services component includes a 24/7 help desk able to point students toward the answers to vexing course-related questions. The college also features a proactive IT department that dis-

creetly fixes software problems in student-owned computers. But Rio Salado is most proud of the personal relationships that instructors forge with students — even though they interact with them solely through cyberspace. Adjunct sociology instructor David Searle, a former seventh-grade teacher, says Internet instruction trumps classroom learning hands down.

"(Teaching online) I get to know all of my students based on their ability to put thoughts into words, and that's a huge advantage," Searle says. "In a classroom there are always one or two students who steal the show, so to speak, while the others sit in the back and don't do a thing. Online, you have to speak up. A big part of it is that it doesn't matter what you look like or what you are wearing or whether you've showered or whether you're tall, short, fat or small. All I know is that you are

January Parkers Parker

For Jennifer Freed, an electronic-learning designer at Rio Salado and herself the recipient of a degree earned online, Internet instruction has been a revelation. She says it "removes barriers to learning" and, thanks to e-mail and texting, gives students greater access to instructors.

sharing ideas with me."

Jennifer Freed, like most instructors, took the traditional route to an undergraduate degree and continued as a classroom teacher at the outset of her career. But the Ph.D. she later earned online made her a true believer in Internet learning.

"Students are in class an hour, and then they leave. Very few show up for office hours, and they hesitate to ask questions during lectures," Freed says. "Online (instruction) removes those barriers to learning. They may not take advantage of office hours, but they certainly take advantage of e-mail and texting. And since you're more approachable, it's easier for them to ask questions. That helps address problems earlier so they

can use the feedback and apply it to their lessons."

Sometimes, the commitment of Rio Salado instructors to their students transcends subject matter. When a student recently informed Beatriz Cohen of the unexpected death of his wife, the longtime counselor, teacher and department chair (a Rio Salado fixture despite her "retirement" some years ago) went far beyond a simple expression of sympathy. After hearing the news, Cohen secured the student's schedule, tracked down his other instructors and arranged for tests and other assignments to be put on hiatus. She also interceded to ensure the widower had a proper amount of time to grieve and get his family's affairs in order before resuming his studies. "If there is a crisis, we take care of it," says counselor Melanie Abts.

Regardless of its successes, and despite the praise from McKinsey and the support of the Gates Foundation, Rio Salado suffers from a bit of a Rodney Dangerfield complex. Some of the perceived lack of respect comes from the knowledge that some in traditional higher education continue to view online instruction with suspicion or doubt. "Online education is enormously promising, but it is not yet clear it is a panacea," says Terry Hartle, senior vice president with the

American Council on Education. "It can be a good way to stay in touch with students. But in that way it is also very labor intensive." Even more vocal are critics who question whether productivity can flourish in a system where adjuncts outnumber full-time faculty 56-1.

John Curtis, director of research and public policy for the American Association of University Professors, agrees that the use of adjunct faculty is certainly more efficient from a cost standpoint. But "whether that provides students with a sound learning experience is another question. Individual adjuncts just don't get the same support as (tenured and non-tenured faculty), and that does have consequences in terms of student learning."

To which Case says, in a word: bunk.

She points out that Rio Salado constantly evaluates its adjuncts. Adjuncts also are invited to participate in full-time faculty brainstorming sessions. Case reports that a fair number of adjuncts living in the Phoenix area regularly accept the invitation.

"I'm sure they do make an effort" to make adjuncts a part of the Rio Salado environment, Curtis responds. "But it's structurally difficult for (adjuncts) who are working full time."



Adjunct sociology instructor David Searle, one of scores of Rio Salado instructors who report to Patricia Case (right), is a fervid advocate of online instruction. "In a classroom," he says, "there are always one or two students who steal the show, so to speak, while the others sit in the back and don't do a thing. Online, you have to speak up."



"We were high-quality before there was a 'quality matters' movement," insists Vernon Smith, Rio Salado's vice president for academic affairs. "We are constantly evaluating the performances of our instructors and students ... (always asking) what are (students) learning and what do they know?"

Addressing another criticism, Rio Salado officials insist (and Searle, who has taught there 10 years, concurs) that the school doesn't simply send adjuncts to the front lines of learning with little more than a textbook for guidance and a slap on the back for luck. Rather, the full-timers see their mission as preparing the adjuncts for tasks that lie ahead. And they do so assiduously, passing along tips and advice on how to keep the material fresh and engaging for students.

"We don't just cut, paste and put stuff online," says Janine Adkins, the chair of humanities and history. "And a lot of (schools still do that)."

The dividend for its advance work with Rio Salado's core instructional staff is consistency: At last count, 80 percent of the college's adjuncts have been teaching five years or more. And that dividend, in turn, is passed along to the students.

For his part, Smith welcomes the barbs directed at the Rio Salado model. "There should be skeptics," he says, adding that criticism makes it that much sweeter "when the data comes in and there are gains that show we are efficiently moving students through the system."

And data do exist to support Smith's claim. The most recent annual IPEDS Data Feedback Report from the National Center for Education Statistics shows that, in 2009, Rio Salado's overall graduation rate was 48 percent. This compared with a 19 percent average among the 100 institutions in Rio Salado's peer group. Also, 45 percent of Rio Salado's 2009 graduates completed their programs on time (and thus, at minimum expense) — well above the 7 percent on-time graduation rate that was the average among its peer institutions.

And today, 16 years after its first forays on the Internet, Rio Salado continues to turn to technology for ways to be even more productive. For instance, the college's sign language course is now taught mostly via a YouTube feed. And it's only a matter of time before the iPad (or another tablet) is adopted as an instructional tool. But make no mistake; no gadget, be it iPad, Nook or Kindle, merits an automatic pass. "We try to leverage the existing technology," says Smith. "But it has to have a learning component."

Ironically, a school that has so enthusiastically embraced technology can't resist singling out a productive program that serves students in the most low-tech manner imaginable. It's the program that produced Lance Schulze, a May graduate who departed Rio Salado with two associate degrees, a 3.94 grade-point average and the highest honor a community college can confer: membership in the Phi Theta Kappa honor society.

To earn his degrees and accolades, Schulze received assignments via snail mail, met with an instructor periodically at best, squeezed in study time between shifts of a full-time job and completed his coursework, in longhand, with pen and paper.

Yet Schulze still managed to complete the degree requirements in just 2½ years — the length of his stay at the state-run Florence West Correctional Facility 65 miles southeast of Phoenix.

Attending college, Schulze says, was the farthest thing from his mind when he dropped out of high school in the 11th grade. "I just wanted to make money," he says.

For nearly 20 years Schulze did just that, carving out a decent living as an automobile mechanic and the owner of a landscaping firm. In fact, he did that right up to the day that a judge sentenced him to 35 months in Florence West after his fourth offense for driving under the influence.

"I wanted to use my time wisely," he says of the sentence that began in October 2008. The Rio Salado Incarcerated Re-Entry Program gave Schulze, who had earlier earned a GED, the opportunity to follow through on that desire.

"These are people who are committed to doing something with themselves and are using their time to do something constructive," says Mike Pattarozi, director of community development and a coordinator of a program that serves nearly 1,100 inmates in nine Arizona penitentiaries. "They know education will change their lives."

Melanie Abts insists that it does. One of her finest moments as an educator, Abts says, was the day a paroled re-entry student told her: "If it wasn't for these courses, I'd be dead ... education is freedom."

Just like the judge who sentenced him, Rio Salado cut Schulze no slack. He was held to the same academic benchmarks as any other Rio Salado student. While his classmates were absorbing knowledge over the Internet, Schulze's path to a degree unfolded in a cramped, minimum-security prison library. His mother supplied the textbooks. Schulze, somewhat to his surprise, supplied the brainpower.

"I was really focused on that first class, I really had to channel myself to get through it," he recalls. "It was a lot easier once I got over that hurdle." Inspired to learn even more, Schulze hopes to move on to nearby Arizona State University to pursue a four-year degree in business.

But first there's the matter of getting reacquainted with life on the outside. Schulze was paroled April 25, and on his first full day of freedom, he and girlfriend Penny Randel spent part of the day meeting with a journalist on the first floor of the Rio Salado headquarters. The occasion marked the first time that Lance Schulze, age 37, had ever set foot on a college campus. Another milestone came just a week later, when President Bustamante handed him a diploma, making Schulze the first person in his family to earn a college degree.







It may not look like a college campus, but this retail shopping area in Rochester, Minn., is the site of a fascinating experiment in higher education. The University of Minnesota-Rochester is designed to operate with limited state funding and to capitalize on partnerships with major local employers such as the Mayo Clinic.

It's interdisciplinary, it's innovative, and it's ... uh ... in the mall

The phrase popped out at Kelsey Metzger as she scoured the help-wanted ads of an academic website in 2009: "Center for Learning Innovation."

Metzger, who was then finishing her Ph.D. in biology from Idaho State University, couldn't exactly define the term. However, "it definitely piqued my interest." She later learned that the Center for Learning Innovation technically didn't exist when that ad was posted. Moreover, the institution that had posted it, the University of Minnesota-Rochester, had yet to teach a single student.

Well, the center and the university are operational now. And two years away from graduating its first class, UM-Rochester is still piquing a lot of interest — and not only because it's the nation's only fully accredited, four-year institution whose campus is in a shopping mall.

Terry Hartle, senior vice president with the American Council on Education, points out that the economic downturn has spawned "a lot of new structures in higher education." The goal of nearly all of them, it seems, is to create innovative, productive learning models ones that provide effective, high-quality instruction in this new era of dwindling financial resources.

UM-Rochester is doing just that — from the top two floors of the Shops at University Square, a retail center in downtown Rochester, Minn. There, alongside such unconventional "campus" neighbors as Chico's, Talbot's and the Healing Touch Spa, UM-Rochester is staging a fascinating educational experiment, one powered by the infectious energy of faculty members who look to be barely older than their students.

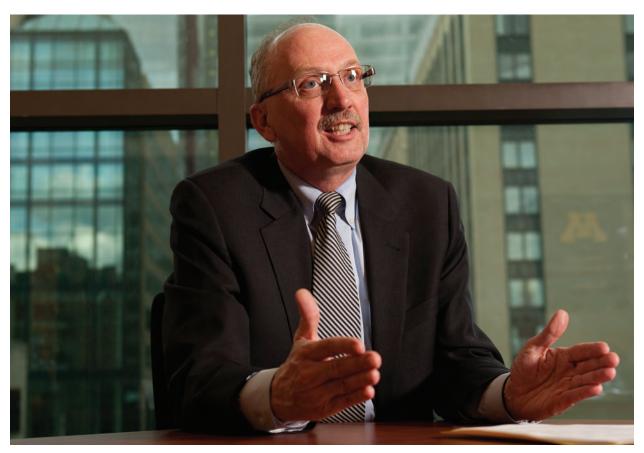
The experiment began in 2007, when Stephen Lehmkuhle, a former top administrator in the University of Missouri system, was named UM-Rochester's chancellor and took on a once-in-a-lifetime challenge: build, essentially from scratch, a fourth branch of the University of Minnesota in the state's third-largest city. (Though UM had previously offered classes in Rochester, it had no official campus there.)

Perhaps the biggest part of that challenge: UM-Rochester would have to commit to paying its own way. When state legislators approved the new campus, they did so with the understanding that UM-Rochester would grow its enrollment without increased state subsidy; in other words, it would fund its growth solely through tuition revenue. In 2010-2011, UM-Rochester enrolled 522 students and had a state subsidy of \$7.4 million. This coming year, officials look to enroll 600 students, even though the subsidy has been cut to \$7 million. And by 2015, Lehmkuhle and his colleagues hope to serve 1,500 students with no increase in state appropriations.

Despite the challenges inherent in this postsecondary startup, Lehmkuhle and Vice Chancellor Claudia Neuhauser, a former math professor on UM's main campus, were eager for the opportunity to build something new in Rochester even though the chance came during a deep recession.

Surprisingly, Neuhauser believes the economic downturn worked to UM-Rochester's advantage. "It probably is easier to build during a recession when you don't have a lot of money because it forces you to identify your priorities," she says. "You can be very clear what you want. You can stick with the big-picture priorities and not deviate from them."

Lehmkuhle, an experimental psychologist by training, has never wavered in defining UM-Rochester's big-picture priorities. "What we've had the opportunity to do here is rethink learning, not just from the perspective of coursework, but from the total curriculum," he says. "Learning is about making (interdisciplinary) connections."



UM-Rochester's chancellor, and essentially its founder, is Stephen Lehmkuhle, a former administrator in the University of Missouri system. Lehmkuhle, an experimental psychologist by training, says the mall-based campus is taking a whole new approach to educating its students. "It's about active learning," he says. "It's not memorizing to learn; it's learning through understanding."



Lehmkuhle's blueprint brushed aside the "mass production" underpinnings that have supported higher education since the GI Bill kicked off the post-World War II boom in college enrollment. He banished the academic silos that create departmental fiefdoms. Gone, too, was the instructional template of lecture, recitation, quizzes and exams. The main idea was to redefine the role of the faculty, to move as far away as possible from the traditional, sage-on-the-stage approach to instruction.

"It's about active learning now," Lehmkuhle insists. "It's not memorizing to learn; it's learning through understanding."

The final piece in the Lehmkuhle plan was a concerted effort to prevent construction of the town-gown wall that typically arises in college towns. With UM-Rochester's

emphasis on the life sciences, it was imperative that the university cooperate closely with the world-class medical complex synonymous with Rochester itself the Mayo Clinic. Rochester and the UM campus bearing its name would function interchangeably, Lehmkuhle insisted.

"The ingredients were here," he says, referring to Mayo as well as the massive IBM facility on the edge of the city. "We just had to cook them in the right way."

The recipe that Lehmkuhle used — proactively forging local partnerships with major employers — is increasingly common throughout the nation as colleges and universities focus on boosting productivity. Such partnerships can generate huge benefits for everyone



involved. At UM-Rochester, for instance, students in the health sciences gain access to Mayo's state-of-the-art labs and clinical facilities while the college avoids much of the cost of providing those facilities. Meantime, the hospital keeps its labor pool stocked with a steady supply of homegrown job applicants — applicants who, because of Mayo's close involvement with the university, are much more likely to fit the clinic's needs and employment standards.

It's a practical approach, and one that has defined the UM-Rochester experiment from the beginning. To help him implement that approach, Lehmkuhle turned early on to Neuhauser, and the math professor needed little persuasion to come aboard.

In fact, she gave Lehmkuhle a point of reference on the importance of interdisciplinary learning. In 1996, the Twin Cities math department assigned Neuhauser the task of teaching calculus to a classroom of biology majors. She struggled. They struggled. Then came an epiphany. "I realized I knew how to teach math to mathematicians. But the kids in my class weren't mathematicians. I needed to understand how they think," says Neuhauser.

Fifteen years after Neuhauser's readjustment, Kelsey Metzger and a group of other readjusted instructors the UM-Rochester faculty — gathered in a conference room to discuss the many ways their institution sets itself apart. "One thing's for sure," guipped Marcia Nichols, an assistant professor of literature, "I never had a biology professor as a neighbor before." Metzger not only occupies the adjoining office, she also is constantly comparing notes with Nichols and the rest of the "design" faculty in a group exercise designed to integrate learning across the UM-Rochester curriculum.

It's a process that Bijaya Aryal, an assistant professor of physics, describes as "passing the baton" that is ultimately handed off to the students. "I love how all the professors talk to each other, how they are always looking for feedback," says freshman Rachel Nguyen. The system works because — as Neuhauser discovered in the mid-1990s — effective learning cannot exist in a vacuum.

"Knowing what my colleagues are doing in other classes isn't just part of the culture," says Molly Dingel, an assistant professor of sociology. "It's the bureaucratic structure that helps me integrate my own teaching."

Metzger picked up on that theme: "A conversation on, say, bioethics can only go so far," she explained. "But if you carry it over to another course, you can continue the conversation from another perspective. The conversation here doesn't end with classroom walls. Here, the whole campus is a classroom."

With that approach, a philosophy course that asks students to ponder the moral and ethical aspects of the human condition can be a precursor to first-year gross anatomy. The science team then passes the baton to the liberal arts team charged with guiding the lessons of gross anatomy into the written word.



Claudia Neuhauser was a math professor on UM's main campus in the Twin Cities when she got the call to come to Rochester and serve as vice chancellor. She says the economic downturn has actually aided UM-Rochester's development because it forced officials to stick to their priorities.

"It has spawned a lot of innovation," Lehmkuhle says. "(The faculty) learns more about their own fields as they learn about the fields of their colleagues. The philosophy professor learns from the biologist, the biologist from the philosopher, the biologist and the philosopher from the English professor. This is what happens when you have people willing to work together. We have created a support system for them to do exciting things."

Metzger's introduction to what lay ahead came shortly after UM-Rochester opened its doors in late summer 2009: an exercise requiring first-year students to compose haiku poems corresponding to each of the chemical elements in the periodic table.

It was this penchant for "thinking outside the box" that persuaded freshman Melissa Erlandson to choose UM-Rochester's pre-med program over schools closer to her home in a Minneapolis suburb. UM-Rochester immediately rewarded her expectations with an organic chemistry assignment that required her to write an essay paralleling Alice in Wonderland and the chemical principle known as chirality. As Twiddledee mimicked Twiddledum, chirality is the mirror image of molecular structures created in certain compounds. (The most common analogy is that of the human hands.)

The Lewis Carroll project, Erlandson says, dispelled the minor misgivings she initially had about the efficacy of interdisciplinary instruction. "We have no math department, no science department, no English department," she says. "It's just one piece."

Even the layouts of UM-Rochester classrooms are atypical. Some instructors place the chairs in a star pattern; others prefer to lecture in a rectangular seating arrangement ("during what little time they do actually lecture," Erlandson deadpans). Encouraged by the administration, the teaching that unfolds in each UM-Rochester classroom is unorthodox, if not downright radical. Whatever it's called, the students say it's effective.

Biological science has a term for the style of instruction that Metzger brings to her biology lab: energy flow. Step into Metzger's class, and for a full hour she'll demonstrate the definition of the term. It means darting nonstop among the students, peppering them with questions and perpetually challenging the depth of their understanding. No student is spared the Metzger inquisition. It's biology as performance art.

Her teaching assistant is Andrew Petzold, another young person who knows how it feels to hang a Ph.D. on the wall. Petzold's doctorate is in comparative and molecular biology. Petzold and Metzger certainly work together, but in the UM-Rochester structure they play distinctly separate roles. Metzger, with the support of the 19 other associate professors, designs the course-



The physical layout of UM-Rochester classrooms is designed to enhance the interdisciplinary approach — an approach that Molly Dingel finds key to her success. "Knowing what my colleagues are doing in other classes isn't just part of the culture," explains Dingel, an assistant professor of sociology. "It's the bureaucratic structure that helps me integrate my own teaching."

work while evaluating the effectiveness of UM-Rochester teaching, including her own. Petzold's function is to ensure that Metzger's lessons reach the students. In UM-Rochester parlance, he is a member of the "student-based faculty," and that is not, by any stretch, a secondary role.

"I like interacting with people, I like to talk to people, and I like to see that spark when somebody actually understands something," Petzold explains. "This job allows me to do that at a more personalized level. The school encourages active learning that is self-directed, so the students are doing most of the learning by themselves. Rather than listening and trying to absorb as much information as they possibly can, they are asking for help. As a result, we can focus on the students who need help ... while those students who do excel can work at their own pace and continue to challenge themselves."

The mission to keep students moving efficiently through the pipeline extends to a third level — literally, to the third floor of the mall. There — in a heavily trafficked corner of the campus aptly named the Just Ask

Center — UM-Rochester has assembled a team of "student success coaches" who intervene if classroom instructors find themselves otherwise occupied (though UM-Rochester students say they can't recall that ever occurring). So far, this threetiered instructional model has been almost as efficient as Lehmkuhle hoped. The integration of curriculum, coupled with the delineation of responsibilities at each level of teaching, in the chancellor's opinion, has allowed UM-Rochester to deliver a quality education to its students - without busting the budget. And that, he says, is as it should be.

"You don't want structures to drive up administrative costs," Lehmkuhle says. "It is the function (of learning) that needs to drive up administrative costs."

The design faculty, the student-based faculty, success coaches and Just Ask Center are the tangible aids to learning that UM-Rochester students encounter. Less obvious are the assessments the school is gradually rolling out to assure continued productivity.

When it comes to student success, nearly every detail is considered. Academic and socioeconomic backgrounds, performance in the classroom and on tests, faculty evaluations, progress, shortcomings — officials monitor anything and everything that can point the university toward "where we need to intervene to make (students) successful," Lehmkuhle says.

The Intelligent System for Education Assessment for Learning (ISEAL) adopted by UM-Rochester serves as a complement to the interdisciplinary learning. Let's say ISEAL flags a student who is in jeopardy of failing biology.

The subsequent data analysis pinpoints chemistry as the student's strong suit. By examining the data, the staff should be able to identify some of the factors that contribute to the student's ability to grasp chemistry. And in those factors may lie the secret to helping that student unlock the same doors in biology.

"We want to assess the outcomes they've achieved," Lehmkuhle explains. "But not in one course."

The question hanging over UM-Rochester as it grows from around 500 students is whether the school can sustain its success when it reaches a projected enrollment of 1,500 by 2015. Officials believe UM-Rochester's future success hinges on its ability to attract quality faculty and students in equal proportion; and the trends look good on both accounts.

Applications for teaching positions have increased dramatically as word of UM-Rochester's approach has filtered through the ranks of national academics. In fact, UM-Rochester is bringing in more potential hires who are, as was Kelsey Metzger, intrigued by the possibility of

> teaching at a Center for Learning Innovation. It's a far cry from the days when UM-Rochester was on the drawing board, Lehmkuhle says with a laugh. "Everyone said: 'You will not find faculty willing to do this," he recalls.

Nor does anyone foresee a decrease in the number of selfstarting students willing to take a chance on a new school in a downtown shopping mall. "The students here are pioneers," says literature professor Marcia Nichols. "They are willing to change the system."

Still, UM-Rochester officials admit they expect to attract comparatively few students who are the

first in their families to pursue a degree. "If you've never been to college, would you be willing to risk sending your child to a new university?" Neuhauser asks rhetorically.

As UM-Rochester moves into its third year, Lehmkuhle and Neuhauser are clear that the institution is very much a work in progress. Some of the programs that were embraced at the beginning of year one were jettisoned before year two.

Lehmkuhle expects that trial-and-error process to continue for years to come as UM-Rochester turns the once-predictable enterprise of higher education on its head. For Lehmkuhle, a willingness to go with the flow ranks second only to the importance of interdisciplinary learning. After all, he points out, the world beyond floors three and four of the Shops at University Square is anything but predictable.

"We are preparing them for jobs that don't yet exist," Lehmkuhle says. "They have to be able to ask, 'How do you do that?' and then think critically, learn and adapt."

Stephen Lehmkuhle, Chancellor, UM-Rochester



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