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Ohio's Brain Drain

Reform of public higher education is intended to change perceptions and retain graduates

By Jon Marcus

BOWLING GREEN, OHIO

HREE HANDS RISE tentatively into the air from among nine students in a lecture hall at Bowling Green State University in rural northwest Ohio.

That's the number of them—these three out of nine—who say that they expect to stay in Ohio when they graduate.

"Too cold," says one of the students who didn't raise his hand, as the others chuckle.

"Too boring," pipes in another, provoking more giggles.

"No jobs," says a third, much more seriously, eliciting a somber murmur of agreement.

Changing these students' perception of Ohio, and Ohio's about them, is at the heart of one of the most high-stakes and farreaching reforms of public higher education in America—more dramatic still for coming in a part of the country where the

economic recession is particularly severe, and at a time when even healthier states are shrugging off huge budget cuts to public universities and colleges.

Ohio's governor, Democrat Ted Strickland, has bucked the trend by making public higher education a financial and political priority, on the grounds that educated graduates and laboratory research with commercial potential are the lynchpins of an economic comeback. And the universities

The universities in Ohio—unusually independent of each other, and traditionally fiercely competitive—have slowly bowed to the pragmatism of collaboration.



Ohio State University, with its main campus in Columbus, is part of the University System of Ohio, which was created in 2007 and includes 13 public universities, a medical college, and 23 community colleges.

themselves—unusually independent of each other in Ohio, and traditionally fiercely competitive—have slowly bowed to the pragmatism of collaboration, steered by a chancellor who is not shy about using new financial realities to prod them into it (along with public scrutiny that risks embarrassing any campuses that fail to meet his goals).

"The University System of Ohio is going to be the model of the 21st-century university system," vowed the chancellor, Eric Fingerhut, a former state senator and con-

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Redesigning the Basics

Tennessee's community colleges use technology to change their approach to developmental reading and math

By Kay Mills

CLEVELAND, TENNESSEE

IFFANY WHITE, out of high school for 15 years, confesses that she was "really nervous" about taking algebra at Cleveland State Community College in southeastern Tennessee. "But

I've surprised myself by doing better than I thought I would," she said. She's motivated because she was laid off from a manufacturing job last May and wants to become a legal assistant.

And she is helped along by a redesigned math program that uses technology to focus attention on the skills students

Karen Wyrick, math department chairman at Cleveland State College in Tennessee, made the instructional videos that accompany the college's redesigned developmental math courses.

need for college-level courses and lets them move at their own pace instead of in lock-step with classmates. White also likes the idea that, while she is at the computer in the math lab, "all day long somebody is here if I need help."

"We've got 20 years
of data to show that
the lecture method
of teaching
doesn't work."

—Karen Wyrick, Cleveland
State Community College

White said that, while she had passed the writing placement test in about 13 minutes, after almost an hour she failed the math test. But halfway through the spring semester, she had already finished elementary algebra and had decided to move on to intermediate algebra.

Cleveland State, which is about 30 miles from Chattanooga, enrolled 3,471 students (2,329 full-time equivalent) this spring. Seven hundred students must take developmental math each semester because of gaps

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In This Issue



STEPHEN M. JORDAN, president of Metropolitan State College of Denver, meets with Adele Phelan, who chairs the board of trustees. The school's "Rightsizing with Technology" initiative is expected to save or even generate money, while improving the overall student and faculty experience. (See page 4.)

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EDITORIAL

Innovation and Public Trust

The public perceives colleges and universities to be unresponsive to their needs

Public SUPPORT for the educational missions of higher education is at unprecedented high levels. But confidence in the leadership and management of colleges and universities has deteriorated substantially.

These finding are from *Squeeze Play 2010*, a recent report on public views of colleges and universities from Public Agenda and the National Center for Public Policy and Higher Education. The erosion of public trust in the leadership and values of colleges and universities is not an anomaly of the recession but continuation of a trend that has been documented over at least a decade. Americans want higher education and recognize its importance in the knowledge-based economy—

Innovation is not a substitute for renewed public support, but it may be a precondition.

the proportion that believe college is "necessary for a person to be successful in today's work world" has increased dramatically, from 30 percent to 55 percent since 2000. But 60 percent say that "colleges today are like businesses and care mainly about their own bottom

line," while only 32 percent believe that "colleges care mostly about education and making sure students have a good educational experience." Sixty percent believe colleges could spend less and still maintain high quality. Almost two-thirds of Americans say that federal stimulus support that states and colleges received for higher education should have been used to hold tuition increases down.

Public opinion research measures perceptions, not realities. But perceptions are one part of political and financial reality. For example, even as the economy and eventually state revenues begin to recover, how likely is it that state appropriations for colleges will be a high priority if the public lacks confidence in the management of higher education and in its commitment to effective use of resources?

It is predictable that the responses of some higher education leaders to these findings will be that the public just doesn't get the severity of the budget cuts and the magnitude of the problems confronting colleges and universities. Similarly, the lay public may believe that state and college leaders don't understand or are indifferent to the financial hardships that families and students are experiencing. Both points of view may reflect realities beyond the purview of public opinion research.

But the series of studies of public attitudes towards colleges of which Squeeze Play 2010 is the most recent does suggest that what Americans are looking for is not a free ride but indications that colleges and universities share their concerns for protecting access and affordability to quality education and for using whatever resources are available for that purpose more effectively. Tuition increases and enrollment caps, as the public sees it, should be the last resorts, not the first. As difficult as institutional choices are, they are not as difficult as those faced by students and their families: Can I afford college at all? Must I select an institution based only on price rather than a fit with my interests and qualifications? Until colleges and universities realign themselves with public priorities and revamp the ways they serve students, including their costs and prices, the perception of unresponsiveness will only grow. Yet in the face of unprecedented and draconian budget cuts, most state and institutional leaders have relied on conventional approaches—raising tuition as much as the market or the politics permits, and emergency managerial strategies that implicitly assume eventual restoration of the status quo ante.

What is most striking and most disheartening is the absence of innovation. But there are exceptions, and this edition of *National CrossTalk* focuses on some significant programs, policies and proposals to improve college access, student learning and cost effectiveness, even in the face of trying economic cir-

cumstances. Each represents a challenge to conventional wisdom about policy and practice. Each has the potential for application on a scale that could have a major impact on the accessibility and performance of higher education.

There is, of course, no guarantee all these efforts will succeed, but there is much that can be learned from each of them about educational improvement and about policy and organizational strategies that stimulate, support and reward innovation. Commitment to innovation and to replicating successful experiments in the interest of educational improvement and cost effectiveness is a step on the road to restoration of public trust and public investment. Innovation is not a substitute for renewed public support, but it may be a precondition.

But the financial devastation that the economy and the freefall of many state budgets has visited upon higher education has not yet moved strategic consideration of public priorities or issues of productivity improvement and educational innovation to center stage for most public policymakers and college and university leaders.

—Patrick M. Callan

CENTER REPORTS

Recent Publications Released by the National Center

Policy Alert: Open-Access Colleges Responsible for Greatest Gains in Graduation Rates (February 2010)

This Policy Alert, which summarizes research at Vanderbilt University, finds that the largest gains in graduation rates over the past decade have been accomplished at open-access or nearly open-access colleges and universities. In addition, states could see even bigger increases if they directed their policies and supports toward improving graduation rates at these nonselective institutions.

Squeeze Play 2010: Continued Public Anxiety on Cost, Harsher Judgments on How Colleges Are Run

Are colleges and universities doing all they can to keep costs under control? According to *Squeeze Play 2010*, a new report from Public Agenda and the National Center for Public Policy and Higher Education, six out of ten Americans believe that colleges mainly care about their own bottom lines instead of making sure that students have a good educational experience. *Squeeze Play 2010* is part of a series of surveys, dating back to 1993, tracking public attitudes about college affordability and accessibility. More than half of Americans now say college is essential for success in the work world. Even more, 69 percent, say there are many qualified people who do not have access to higher education, up seven percentage points from two years ago and 22 percentage points compared to a decade ago.

States, Schools and Colleges: Policies to Improve Student Readiness for College and Strengthen Coordination Between Schools and Colleges (November 2009)

The authors examine what has been tried and learned about state policy leadership in bridging the divide between K–12 schools and postsecondary education.

For more information, visit the National Center's web site at www.highereducation.org.

NEWS FROM THE CENTER

Searching for Solutions

Recent Discussions of Key Higher Education Policy Issues

THE NATIONAL CENTER recently convened meetings of national and state policy leaders on college access, affordability and college readiness.

Symposium on State Policy for College Readiness This symposium was co-sponsored with the Southern Regional

Education Board (SREB)

Atlanta, Georgia



Conference participants (left to right) Janis Somerville, staff director, National Association of System Heads; Peter Ewell, vice president, National Center for Higher Education Management Systems; William Zumeta, professor, Daniel J. Evans School of Public Affairs, University of Washington; and Pamela Burdman, senior project director, WestEd



Stan Jones, president, Complete College America (left), and Glenn DuBois, chancellor, Virginia Community College System



James E. Lyons Sr., secretary of higher education, Maryland Higher Education Commission



David Spence, president, Southern Regional **Education Board**

Symposium on College Access and Affordability —

Cosmos Club, Washington, D.C.



Nancy Shulock, director, Institute for Higher Education Leadership and Policy, associate professor, Public Policy and Administration, California State University, Sacramento

Martha Kanter, undersecretary, U.S. Department of Education

Page 4 CROSSTALK

Investing the Stimulus

Metropolitan State College of Denver uses federal funding to reposition itself for the future

By Kathy Witkowsky

DENVER, COLORADO

ETROPOLITAN STATE College of Denver President Stephen M. Jordan didn't have to look far to find a playbook for dealing with the current recession. It sits on his bookshelf, in the form of a large black binder that contains materials from a graduate course he taught for seven years at Eastern Washington University, where he also served as president.

As part of the course entitled "Administrators as Change Agents," Jordan laid out two different strategies for coping with financial stress.

The first: Resist. In other words, continue, inasmuch as possible, to do business as usual. That, Jordan said, is the path to take if you think the financial crunch is short-term.

But if you suspect that the fiscal crisis you face is long-term, the better option, Jordan said, is the second of the two strategies: to "realign your institution." Translation: Suck it up and make the changes that are necessary to ensure your organization can survive in the new environment. That's the tack that Metro State is taking—or is trying to take, said Jordan, explaining why he chose not to rely on stimulus monies to backfill state budget cuts.

"I've had this philosophical construct in my mind for a very long time," Jordan said during a recent interview. But when the state of Colorado began to suffer from the economic downturn, the exercise was no longer an academic one. "Now I've found myself having to live it."

First, Jordan asked himself: How long is this recession likely to last? "I concluded that this was long-term, and that I really needed to realign the organization," he said.

Given that Metro State was already the lowest funded four-year institution in one of the nation's lowest funded states, making



Adele Phelan, who chairs Metro State's board of trustees, says that collegewide discussions about how to deal with cuts in state funding were a useful, if painful, exercise.

further cuts was not going to be easy. But Jordan didn't waver from his conclusion, even when he found out that federal stimulus funding would temporarily cover the entire shortfall from the state.

"I never had a doubt in my mind that we needed to do this," said Jordan. So the next question he asked himself was this: "How can we use the stimulus money to

Thirty-seven projects, ranging from creating a bilingual website to tracking student success, are now in the works as part of Metro State's "Rightsizing with Technology" initiative.

make investments that will leave this institution better off?"

One historical lesson Jordan had absorbed came from the recession of the 1970s, when, he said, higher education administrators missed an opportunity to substitute technology for labor because they didn't have the cash. With stimulus dollars at his disposal, Jordan determined that he was not going to make the same mistake.

Quickly, he set the wheels in motion to improve the school's use of technology. Thirty-seven projects, ranging from creating a bilingual website, to tracking student success, to creating an in-house call center for fundraising, are now in the works as part of the school's "Rightsizing with Technology" initiative. Some of the projects are expected to save or even generate money, while others are intended to improve the overall student and faculty experience, which, the thinking goes, should ultimately benefit the institution through improved retention and graduation rates.

Metro State is also using stimulus funds for an innovative retirement-incentive program for senior faculty, which will save money, and has fast-tracked plans to offer master's degree programs, which are expected to make money.

"Once this whole thing came down, and we started talking about the stimulus money, it didn't take long for Steve to say, 'All we, and every other institution, are doing is putting off the inevitable—because eventually the stimulus money is going to go away," recalled Robert Cohen, vice chair of Metro State's board of trustees. "So rather than take the money and do business as usual, and then fall off the cliff in a year or two, he said, 'Why don't we take this money and use it to retool ourselves?""

In hindsight, Jordan's approach may seem like a no-brainer. But Dennis Jones, president of the National Center for Higher Education Management Systems, said it's a departure from what he has seen at other higher education institutions. Based on previous experiences, Jones said, college and university administrators seemed to view this recession as a short-term problem, and the stimulus dollars as a viable solution to it. As in the past, the prevailing attitude, said Jones, has been: "If we just hunker down for a year—at most two—the economy will come back."

That was the sense Jordan got from the leaders of other public Colorado institutions he encountered, who seemed "puzzled" by Metro State's response. "Clearly we were at variance with everybody," Jordan said.

In fact, Carl Powell, who as vice president of information technology helped design and implement Metro State's technology initiative, said that when he spoke with his peers from public Colorado institutions at one of their monthly meetings last summer, many didn't even realize the fiscal realities on their campuses. "A lot of them weren't aware that they'd been cut or had gotten federal money and that it was just used to make up for those cuts," Powell

When Powell described Metro State's Rightsizing with Technology initiative, he was met with blank stares. "It was like I was a Martian or something," said Powell, who has since taken a position at Eastern Michigan University. "They all just looked at me like I'd grown a third arm."

said.

By September, said Powell, those same information technology people, many of whom were being asked to terminate systems, clearly understood the seriousness of the situation. Their response to what Powell was doing at Metro State had changed from one of incredulity to one of interest. "But by then, the train had left the station, and they were all very much in react mode," Powell said.

Exactly how effective the initiative will be is an open question. But it will be answered. At the insistence of the board of trustees, Jordan has hired a consultant to track the investments and the results. Board member Ellen Robinson said that gave her the reassurance she wanted that the money would be well managed.

"Spending like this could be a deep dark hole and an excuse to spend lots more money if you get halfway through projects that don't get finished on time or go over budget," said Robinson. She speaks from experience: In the late '90s, she founded a startup company that didn't get past the software development phase.

"That was my education, in terms of the school of hard knocks, as it relates to how difficult it is to be on time and on budget with technology," Robinson said.

The proof, as the saying goes, will be in the pudding. But at this point, Jordan is being hailed as a visionary by both his faculty and his board of trustees. "I would have to say that he is brilliant at moving things forward—at seeing what the next step is, and moving there," said Lynn Kaersvang, fac-



Stephen M. Jordan, president of Metropolitan State College of Denver, chose not to rely on federal stimulus monies to backfill state budget cuts.

ulty senate president. "I am very grateful, as the chair of the board, to have an innovative, entrepreneurial, not-afraid-of-change thinker," said Adele Phelan, who chairs Metro State's board of trustees.

That was exactly what the board was looking for back in 2005, when it hired Jordan to rebuild the institution after years of budget cuts and administrative uncertainty. Founded in 1965, Metro State, which shares a campus in downtown Denver with the University of Colorado Denver and Community College of Denver, is not well known outside the city. But it is one of the nation's largest undergraduate-only institutions, with a steadily growing enrollment of

In 2005, Stephen M.
Jordan was hired as
president of Metro
State to rebuild the
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of budget cuts and
administrative
uncertainty.

just over 23,000, nearly a quarter of whom are minorities.

Jordan didn't waste any time as he set out to improve student and faculty morale and raise the school's profile. To date, he has added nearly 200 additional full-time faculty, 25 percent of whom are minorities; boosted faculty salaries; and become a strong voice for the school at the legislature and in the business community. He has set a goal to increase Metro State's Hispanic enrollment from 13 to 25 percent, a benchmark that would earn the school a designation as an Hispanic Serving Institution, thus rendering it eligible for millions of dollars in federal grants. And he has spoken frequently and without irony about improving the school's dismal graduation and retention rates and making Metro State the pre-

eminent public urban baccalaureate college, a western version of City College of New York.

And Jordan had no intention of letting a recession get in the way.

So in December of 2008, with the state facing a massive budget shortfall, Jordan and his team began drawing up a three-tiered plan that would allow the school to deal with an expected cut in state funding the following year.

They designed three options: one if, as predicted, their budget took a ten percent hit; another if the cuts were deeper; and a third for what administrators considered a worst-case scenario. Those were established "with impressively college-wide discus-

Given that Metro State was already the lowest funded four-year institution in one of the nation's lowest funded states, making further cuts was not going to be easy.

sions," said Kaersvang, who said Jordan has earned widespread respect for his commitment to both the institution and the faculty.

It was a useful, if painful, exercise, according to Phelan. "You learn where your priorities are," she said.

In May 2009, the school learned that the worst-case scenario had come to pass: Metro State lost \$9.9 million in state appropriations—about 20 percent of its state funding—for this fiscal year.

Yet even though they knew that federal stimulus funding would cover the shortfalls, Jordan and his board resisted the temptation to, as his academic model put it, simply resist. Instead, they followed their plan to absorb the cuts. The good news: The school managed to avoid layoffs. The bad news: It had to eliminate about 100 positions (they had gone unfilled due to a hiring freeze Jordan had imposed previously) and ax a faculty pay-for-performance system that had been in the works for three years.

But by doing so, Metro State has been able to allocate the \$10 million in stimulus money it has received this year to reposition itself for the future. Metro State is anticipating another \$4 million in stimulus funds for the fiscal year that begins in July

Federal Stimulus Funds Projects at Metropolitan State College of Denver

- An early-retirement incentive program
- Developing and implementing master's degrees programs that are expected to generate revenue
- Hiring additional grant writers
- Thirty-seven technology projects, including:
 - Creating a Spanish-language website
 - Software that will allow students and faculty to remotely access their courseware
 - Tracking student success to enhance retention
 - Phones and software for in-house fundraising
 - An online alumni tracking system
 - Integrating social media and networking for alumni and development offices

2010; if those come through, they will also be spent on these new programs. "It was, in some sense, an opportunity for us," said Jordan.

The Rightsizing with Technology initiative, designed to increase efficiency by saving time, money and resources, is receiving \$2.6 million in stimulus funds. (Because of restrictions on the use of stimulus funds, the school is spending an additional million dollars out of its general operating budget for associated hardware and software costs.) The ideas for the initiative's 37 individual projects came from faculty, staff and students. They were chosen from a list of nearly 100 submitted proposals based on two factors: ease of implementation, which was paramount, because the stimulus money has to be spent by July 2011; and projected benefits.

The latter are more difficult to quantify. "Some of these [outcomes] will not be clear for a number of years," said Robert Williams, who was hired to track the projects' implementation and results. "Savings is just one aspect of it. We're also creating new services and increasing efficiency."

The initiative itself is going well, Williams said, with about half a dozen projects already up and running, including one that makes 3,000 professional development courses available online, free of charge to faculty and staff. But its name was an unfortunate choice, because it led some to suspect the school was in fact planning to downsize. (In the fall, as faculty were just returning to campus and learning the details of the initiative, Williams became accustomed to hearing himself referred to in hushed tones as "the Grim Reaper.")

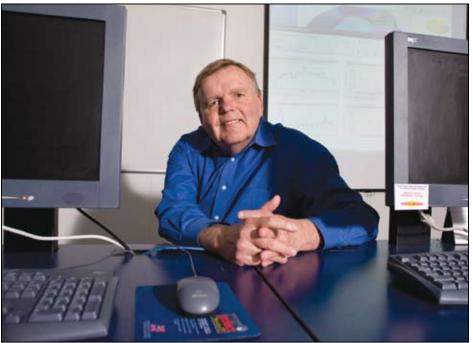
In addition, according to Carl Powell, the former vice president of information technology, the initiative faced political pushback from people who felt it was too time-consuming, and that Metro State should simply use the stimulus money as backfill. But Jordan's support helped minimize the criticisms. "Having the president as chief cheerleader on this helped cut some of the naysayers to the side," Powell said. "We always kept this as a presidential initiative and didn't let it slide into being an IT initiative. We always said that would be the kiss of death."

Jordan and his staff have also held numerous meetings to assure faculty and staff that, rather than reducing personnel, the initiative actually provides for additional hires. At least 17 of the projects will require one or more new employees. "What we did

right was being very public about it," Jordan said.

Now that those concerns have been addressed, Kaersvang said, many faculty members are excited about the addition of new technology, such as a system that will allow them to remotely access their work files and software. "At this point, I think faculty are pleased about the process," she said.

Faculty are also happy that Metro State has earmarked stimulus funding for a retirement-incentive program, the idea for which originated from the faculty. The voluntary program, called Capstone, allows senior faculty who want to retire by July 2011 to shift out of the classroom and work on



"Savings is just one aspect of it," says Robert Williams, a consultant for Metro State's "Rightsizing with Technology" initiative. "We're also creating new services and increasing efficiency."

special projects that will be of long-term benefit to the school. Meanwhile, their salaries will be paid out of stimulus funding—the total cost is anticipated to be between \$1 million and \$2 million, depending on the response—and Metro State can hire less expensive faculty to fill their tenure-track positions.

Anne Hatcher, professor of human services and co-director of the school's Center for Addiction Studies, is one of three faculty members who have signed up to participate. Thanks to the stimulus funding, Hatcher has been able to drastically reduce her teaching load and devote her time to designing a master's program in her field that she hopes will be approved and implemented within a few years.

"I'm pleased to have the opportunity to do this, because I worked really hard to build this program, and I think this will just make it stronger," said Hatcher, adding that many people have told her this is the best legacy she could leave the school.

Metro State also spent stimulus money designing curricula so it could fast-track plans for its very first master's degree programs. Pending final approval by the North



Lynn Kaersvang, president of Metro State's faculty senate, says many faculty members are excited about the addition of new technology.

Central Association of Colleges and Schools, all three programs—in teacher education, accountancy and social work—are slated to be offered starting in fall 2010; they are expected to generate income within three years.

Other uses of the stimulus monies include hiring grant writers, who are expected to be self-supporting, and paying for scholarships and some adjunct faculty, which frees up money from the general operating budget for different expenditures, such as replacing outdated equipment.

"At the very time when you would expect the institution to be contracting at all levels, we've used this as an opportunity to re-look at ourselves and make ourselves better," said Cohen, the board vice chair.

Indeed, on the Metro State campus, there is a sense that the school is gaining rather than losing ground. In addition to the stimulus-funded projects, Metro State is proceeding with plans to construct both a new student services building and a hotel where students majoring in hospitality will train. It is working to better serve and recruit Hispanic students en route to its goal of earning Hispanic Serving Institution designation. It is laying the groundwork for its first-ever capital campaign. And, in the interest of branding, it is exploring the idea of changing its name to something less generic

"Despite everything going on around us, it feels like we're really moving forward," said Sandra Haynes, dean of the school of professional studies.

If there is a downside to Jordan's entrepreneurial leadership, said Phelan, it's that Metro State may wind up being a victim of its own success. "My worry is that if you present yourself as too self-sufficient, the politicians will latch onto that," she said.

Lynn Kaersvang, the faculty senate president, shares that concern. She gives Steve Jordan credit for going to bat for the college, and for making the most of scarce resources. But she wonders: "At what point does it become impossible to do more with less? At what point does the infrastructure get thin enough so that it just breaks?" •

Kathy Witkowsky is a freelance reporter in Missoula. Montana.

Page 6 CROSSTALK

New Teacher Education

Woodrow Wilson National Fellowship Foundation program brings change, one state at a time

By Susan C. Thomson

PRINCETON, NEW JERSEY

RTHUR E. LEVINE is a hurried man on a big, bold mission. His goals, he says, are to dignify classroom teaching, attract exceptional people to it, transform the college and university programs that prepare them, and create the teacher-education models of the future. He's thinking nationally, but he's acting a state at a time, starting with Indiana.

There, 56 high-achieving, handpicked

When Arthur Levine came calling about Indiana's possible interest in Woodrow Wilson teaching fellowships, Governor Mitch Daniels was thrilled.

men and women are rounding out a transformative year, earning master's degrees while spending long hours in classrooms, learning to teach by watching and doing. Come late summer, when the bells ring in a new school year, they will begin new careers teaching science and math in some of the state's lower-income public secondary schools

As teaching recruits, they're a decided breed apart—and above. Each brought to

JOE GUERRIERO, BLACK STAR, FOR CROSSTALK

JOE GUERRIERO, BLACK STAR, FOR

"We don't have a 'Woodrow Wilson model,'" says Constance Bond, a foundation vice president. "We don't go in and give them a program that they must implement."

this challenging year at least a bachelor's degree, typically in math, science or engineering. More than a quarter came with advanced degrees—Ph.D.s and MBAs included—as well. They range from fresh college graduates to 60-something retirees returning to the workforce. More than half are career changers with resumes that include jobs like laboratory technician, medical technologist, respiratory therapist, veterinary assistant, wildlife manager, pharmaceutical researcher and bench scientist.

They are the inaugural class of a new Woodrow Wilson National Fellowship Foundation program for would-be teachers—the above-average kind that the high-energy, highly persuasive Levine had in mind when he became the foundation's president in 2006.

He arrived on the job after a dozen years as president and professor of education at Teachers College, Columbia University, where he had established himself as a vigorous advocate of greater, research-based rigor in teacher education.

Then came a timely convergence of his and the foundation's priorities. The foundation, famous since its founding in 1945 for providing stipends to prospective college and university teachers, was looking for a new direction. Levine, at the same time, was wrapping up *Educating School Teachers*, a 148-page report that offered an unflattering assessment of the nation's 1,206 schools, colleges and departments of education.

"At the moment, teacher education is the Dodge City of the education world,"

Levine wrote in the report. "Like the fabled Wild West town, it is unruly and disordered. The disorder is increasing as traditional programs vie with nontraditional programs, undergraduate programs compete with graduate programs, increased regulation is juxtaposed against deregulation, universities struggle with new teacher education providers, and teachers are alternatively educated for a profession and a craft."

Levine led the team that did the underlying research, which included case studies of 28 departments or schools of education, plus surveys of thousands of education faculty, deans and department chairs, as well as teachers and principals. The report, published under his name alone, faulted teacher education in general for, among other shortcomings, low admissions standards, overemphasis on theory at the expense of practical, classroom experience, and, for beginning teachers, a lack of follow-up and on-the-job support.

Levine concluded by advocating, as a new standard in the field, five-year, research university-based training that would allow teachers-to-be to both complete an academic major and get plenty of classroom practice. To attract the most promising teacher candidates, he suggested a new scholarship, equivalent in prestige to the Rhodes, created by, for instance, the federal government or a philanthropy.

Or, as he recalls proposing in his job interview, perhaps such a scholarship could be created by the Woodrow Wilson National Fellowship Foundation. What better sponsor than an organization

with decades of experience working with colleges and universities, and with several dozen Nobel laureates, MacArthur fellows and Pulitzer Prize winners among its 20,000 alumni? The foundation seized on the idea and hired Levine to implement it.

Levine hit the ground running. The teaching fellowships he had in mind would be competitive, limited to outstanding students who had already earned their undergraduate degrees, typically not including education courses. Successful candidates would receive \$30,000 stipends for a fulltime year at a university, where they would divide their time between study toward their master's degrees and equally demanding "clinical" work in schools, where they would be accepted and mentored more like medical interns than old-school student teachers. In exchange, the fellows would commit to then teach three years in "high-needs" middle or high schools. And their universities would continue to mentor them on their jobs.

As Levine concedes, none of these ideas originated with him or the foundation. If not in widespread use, all had been strongly endorsed by research, and they added up to "a collection of best practices," he said. "We just put them together in ways you don't usually see them."

Taking early shape along the lines Levine envisioned was the foundation's Leonore Annenberg Fellowship, funded by the Annenberg and Carnegie foundations, with places for 25 fellows each at Stanford University and at the universities of Virginia, Washington and Pennsylvania.

Levine was pleased—up to a point. "It was a good strong program, but it didn't have enough leverage," he said. In other words, he didn't think it would go far enough fast enough to accomplish his farreaching goals. He foresaw greater, quicker,



Arthur Levine, president of the Woodrow Wilson National Fellowship Foundation, hopes to spread the foundation's teaching fellowship programs to all 50 states.

more lasting impact if the states could be engaged as fellowship partners and champions.

States could offer the fellowships high visibility. States could build supportive coalitions of leaders to sustain them. Plus, as Indiana Governor Mitch Daniels pointed out, states are uniquely positioned to take down barriers to teaching, making way for non-traditional candidates.

When Levine came calling about Indiana's possible interest in Woodrow Wilson teaching fellowships, Daniels was "thrilled" by what he saw as an opportunity "for real improvement in our time," espe-

Under the guidance of university faculty and carefully selected inschool mentors, the fellows assumed more and more classroom responsibilities.

cially in the subjects where Indiana students were coming up the shortest on state tests—science and math. So he suggested that the fellowships be restricted to those fields

Having won Daniels to his idea, Levine followed up by getting buy-ins from the state's movers and shakers in education, business, government, labor and philan-

The Woodrow Wilson Indiana Teaching Fellowship in math and science, funded by a \$10 million grant from the Indianapolis-based Lilly Endowment, and the Annenberg fellowship were announced together, in December 2007. Consistent with

Levine's state theory, the bigger headline-maker by far was the Indiana version, with openings for 20 fellows each annually at the University of Indianapolis, Purdue University, Ball State University and Indiana University-Purdue University Indianapolis (IUPUI), starting with the 2009-10 school year.

Constance Bond, a foundation vice president, said that the four universities were chosen because all were already offering graduate degrees in teacher education, and all were open to change.

The foundation insisted that each university come up with an entirely new curriculum for its fellows, developed by a committee made up of faculty from math, science or related disciplines, as well as from education. The result had to be an integrated mix of the academic and the clinical, graduate school and classroom, theory and practice. Otherwise, the universities were free to design their programs. "We don't have a 'Woodrow Wilson model,'" said Bond. "We don't go in and give them a program that they must implement."

The work proved burdensome enough that Ball State decided early on to take an extra year to prepare. The three other universities proceeded.

The University of Indianapolis designed a master of arts in teaching degree consisting entirely of new courses solely for its fellows

IUPUI created a hybrid of new courses and borrowings from its Transition to Teaching program for non-education graduates, and then combined them into three different tracks, each leading to a different education-related master's degree.

Purdue tailored its curriculum to its School of Education's emerging, special mission to prepare teachers for poor rural schools, coming up with a master of science degree in education made up of existing courses, and new fellows-only ones in rural education.

Given the long distances between the campus and its focus schools, Purdue's fellows began by spending one day a week in

classrooms, working up to full days in their last ten weeks. Their population-center location allowed IUPUI and the University of Indianapolis more flexibility in scheduling their fellows' clinical work.

The foundation took sole responsibility for recruiting and selecting the fellows, and it wasted no time in doing so, inviting applications in July 2008. To amass the largest possible candidate pool, it sent personal invitations to qualified college seniors, advertised on radio and in newspapers and magazines, and notified college alumni offices, state unemployment offices and downsizing employers.

One of those ads, and a newspaper column about the fellowship, grabbed the attention of Laura Cummings, who had "been teaching one thing or another"—including college biology and pre-school mu-

Longer term, the fellowship program as a whole will be evaluated on its success in bringing change to teaching and teacher education.

sic—and loving it for 20 years since earning her master's in biochemistry. "The fellowship came at just the right time," she said, because her four children were newly in full-time school. And she was persuaded by "the fact that the foundation was adding some prestige to teaching."

Hers was among 318 applications—each consisting of a resume, transcripts and three letters of recommendation—for the 60 possible slots. She became one of about 130 finalists, selected for a day of interviews and other exercises, including reading, writing and teaching a five-minute sample lesson. She and 58 others—20 each for IUPUI and the University of Indianapolis, and 19 for Purdue—made the final grade.

All started flat-out. with summer school courses. In some of the career changers, some observers sensed a certain culture shock—as the fellows became students again, and then as they started working with this new and challenging generation of students. "The demographics are obviously different," said Ed Kassig, a biology teacher who mentored fellows at the Indianapolis Public Schools' Broad Ripple High School, where more than 80 percent of the students are African American, and 60 percent qualify for free or reduced-rate lunches. As children of the video-game age, all are visual learners, used to immediate gratification, Kassig said. "Everything happens quicker. Everybody—students and teachers—needs to be able to adapt quickly to change."

That is no problem for Cummings, whose year included clinical work in 11 different schools, such as suburban Indianapolis' Ben Davis High School, where half the students are minorities, and half qualify for free and reduced-rate lunches. For her, what took the most getting used to was "a lot of little things," like taking attendance on a computer.

Gradually, under the guidance of university faculty and the experienced teachers carefully selected as their in-school mentors, Cummings and the other fellows assumed more and more classroom responsibilities. By spring, they were teaching most, if not all, of their mentors' schedules.

All this while, the fellows were continuing their graduate courses. "I knew this wasn't going to be a 40-hour-a-week program," Cummings said. But the 12-hour days of school followed by evening classes were "very hard." The combination added up to "a lot of work, more work than had been anticipated," said another of the fellows, Hwa Tsu, who had to put

aside his work on a Ph.D. in biomedical engineering.

Traci Schath, once an IBM engineer, said she learned to get by on about four hours of sleep a night. The demands frazzled even Tim Devlin et 25 one of the

zled even Tim Devlin, at 25 one of the youngest fellows. "Every day at 9:30 (p.m.) I'm barely keeping my eyes open, because I'm so tired," he said.

Along the way, three of the original 59 fellows dropped out. "We feel OK about that, given that in all three cases it was for personal reasons," Bond said.

For the remaining fellows, the learning curve was steep, but they scaled it quickly. "I think their transition from when they walked into the program was huge," said Kathi Walton, an instructional coach who observed fellows at Decatur High School in suburban Indianapolis. "They showed great development quickly."

Kassig said the fellows he mentored stood out among the two dozen or so student teachers he has had in his 36 years of teaching, exceeding all three of what he sees as the profession's basic requirements: "If you're going to teach, you have to have something to say, and you have to care about kids, and you have to have classroom management skills."

Come spring, the fellows came under the added pressure of looking for the jobs they pledged to do for three years in exchange for their training and \$30,000 stipends. Many are anxious because, in the wake of state funding cuts, the news from schools across Indiana is less about hiring than laying teachers off. Bond is confident, and she pointed out that math and science teachers are always "in huge demand," and that many schools delay hiring until summer, when they know exactly what openings they have. "We don't have any indication at this point that these fellows are going to have trouble finding jobs," she

The fellows are at least assured that,



When Indiana Governor Mitch Daniels learned about the Woodrow Wilson teaching fellowships, he saw an opportunity "for real improvement in our time."

once on the job, they won't be abandoned to sink or swim as so many first-year teachers are. The foundation has seen to that by requiring their universities to continue mentoring them for their three-year classroom commitments. As they firm up their different plans for doing that, the universities are considering, besides the expected one-on-one coaching by school and university faculty, such innovative add-ons as online discussions and video critiques.

The fellows are achievers, accustomed to success—academic and professional. In what will doubtless be a first for many, they will be judged as teachers, in part, by the success of others. Levine said their first measure will be their students' scores on next spring's state assessment tests, due for

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release before the school year is out.

Longer term, he said, the fellows will be followed to see how long they last in their new profession. And the fellowship program as a whole will be evaluated on its success in bringing change to teaching and teacher education.

It was in hopes of improving on the U.S. Department of Education's depressing statistic that half of all U.S. teachers leave the profession within five years of entering it that the foundation made closely supervised clinical work a must in the fellows' programs. Research has linked lack of supervision to teacher burnout as well as low

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"The fellowship came at just the right time," says Laura Cummings, of Indianapolis. She credits the program for doing "a great job of immersing us in schools from day one."

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TENNESSEE

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in their background. But in the past only 54 percent of them moved on.

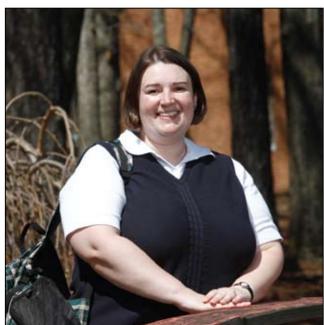
"We've got 20 years of data to show that the lecture method of teaching doesn't work," said Karen Wyrick, math department chair. "We had too many kids failing. We had too many kids dropping out before they got through. This approach is quicker and saves money." It also helps students complete the courses at higher rates. For example, the completion rate (that is, achieving a C or better) for elementary algebra was 50 percent before the redesign, 68 percent afterward. The intermediate algebra completion rate increased from 57 percent to 74 percent.

In addition, the overall college reten-

Much of the action concerning developmental education is occurring at the community college level, as states work to shift these courses out of four-year institutions.

tion rate increased by seven percent in spring 2009. "That's due to the math department," Wyrick said.

Cleveland State's redesign and several others in Tennessee occurred with the support of the National Center for Academic Transformation (NCAT), headed by Carol Twigg, its president and CEO. Starting in fall 2007, the Tennessee Board of Regents (TBR) staff convened meetings to familiarize its schools with the NCAT approach to delivering instruction by taking advantage of technology and measuring student learning, all with the aim of serving more students better and at less cost. Supported by an \$8.8 million grant from the Pew Charitable Trusts, NCAT had previously



"I've surprised myself by doing better than I thought I would," says Tiffany White, who took algebra at Cleveland State Community College in Tennessee 15 years after finishing high school.

awarded grants to 30 colleges and universities to reorganize large classes, such as the Psychology 201 course at Cal Poly Pomona.

Representatives from all the community colleges and universities—the University of Tennessee system does not come under the Tennessee Board of Regents—had to attend the first sessions. After that, participation was voluntary; 17 of the 19 TBR schools submitted 28 applications for redesigns. NCAT awarded six grants of \$40,000 each to Tennessee schools, using money from the Fund for Improvement of Postsecondary Education (FIPSE). Five were community colleges; the sixth was Austin Peay State University. Two redesigns covered remedial reading or writing courses, and four involved math.

NCAT reported that the redesigns at four of the schools improved course completion rates and school retention rates while reducing costs. Financial savings at the community colleges ranged from 19 percent to 51 percent.

Nationwide in this round of grants, NCAT has also worked with campuses in four other states: Arizona, Mississippi, New York and Maryland. Most of the schools involved are four-year institutions, but Niagara County Community College in Sanborn, New York, received a grant to redesign its introductory statistics course.

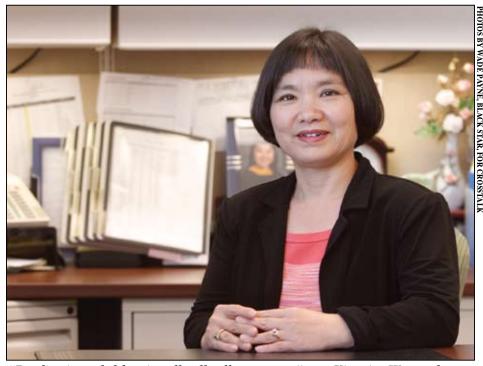
Much of the action concerning developmental education is occurring at the community college level, as states work to shift these courses out of four-year institutions. The Education Commission of the States (ECS), based in Denver, Colorado, which worked with Tennessee in preparing its FIPSE grant application, sponsors the "Getting Past Go" project through which it helps states develop policy and model practices to improve developmental education, thus increasing college retention and graduation rates.

Among the states working in this area is California, which has a Basic Skills Initiative, begun in 2006 through the community college chancellor's office. It helps colleges to improve their developmental courses and faculty training to teach them. High schools are also getting more directly involved. In Florida, for example, the state

is working with high schools to assess students' abilities and provide any remedial help needed before they get to college.

Bruce Vandal of the ECS says that across the country there is "greater recognition that there needs to be a more customized approach in our delivery of developmental material." One size does not fit all. "What's exciting about Tennessee's work is that it is focused systemwide," Vandal said. "Tennessee is far and away ahead in that approach."

At Northeast State Community College, in Blountville near the Tri-Cities area of Tennessee, the redesign effort centered on the developmen-



"Reading is needed for virtually all college courses," says Xiaoping Wang, who was the lead staff member on the redesign of Northeast State Community College's developmental reading course.

tal reading course, considered the gatekeeper for other classes. "If you can't read for information, you don't do well in other classes," said Xiaoping Wang, dean of Northeast's behavioral and social sciences division and lead staff member on the redesign. "Once students fail this reading course, they disappear."

Work in the redesigned reading course is divided into 20 modules. All students take sections on note taking and highlighting as well as test taking. The next eight units are considered priority: vocabulary, reading for the main idea, supporting details, patterns of organization, purpose and tone, inference and critical thinking. There are ten extra units that can help students not only to read better but also to increase their grades if they complete them satisfactorily. These include active reading strategies, outlining and summarizing, and time management.

Northeast's program uses a lab and web-based learning materials. MyReadingLab, a product of Pearson Education, Inc., gives students diagnostic tests, various reading assignments, tips on areas such as identifying slanted language or supportive details, and tests to determine whether the student is ready to move on. Readings include such topics as planning a trip to the Getty Center in Los Angeles, or the emergence of jazz; practice tests might involve readings about a presidential advisor meeting the press, or about human cloning.

"We made quite a few changes as we went along," Wang said. "There has been a learning curve for the faculty." Wang explained that it was understood from the outset that the lab work must build into the course because "community college students aren't going to stay to use the lab" as some at four-year schools might do. The planners added a reading group meeting after the first semester of the pilot project because many students felt lost, with no connection with each other or the faculty. In that reading group, the instructor covers the concepts involved. Then students work independently.

In one of the labs, instructor Jimmy Henson was providing individual help, and checking students' course notebooks—another addition after the pilot project began. "We were struggling with the whole monitoring process," Henson said. "Students didn't know how to keep course materials organized." Henson added that faculty were "just relying on verbal assurances but often found the students hadn't really mastered the material." The notebooks include sheets recording whether students have worked on various concepts, and their scores on practice tests.

Almost ten percent of Northeast's 5,841 students (3,975 full-time equivalent) take this course, and they cannot advance unless they finish it. "Math is only a prerequisite for math and science courses, but reading is needed for virtually all college courses," Wang said. The student success rate for traditional reading courses at Northeast was 58 percent, while the success rate for redesigned courses averaged 60 percent over three semesters, and significantly more students had A's and B's in the redesigned

After revising its three developmental courses, Cleveland State's math faculty found that the number of students in college-level classes increased.

course than in the traditional one. When the redesign was fully implemented, students averaged 86 percent on the final exam, compared with 81 percent in traditional classes.

The redesigned course also saved \$41,119, a 51 percent reduction, by enlarging class sizes and using fewer adjunct faculty. Using the lab approach allowed one faculty member to provide more attention to more students, Wang said. "Success is the main thing," she added. "If we save money but don't do well, then we don't do this. The savings are icing on the cake."

At Henson's Friday morning lab ses-

sion, students of varied backgrounds were working on practice tests, moving at their own pace. Chelsea Anderson, who graduated from high school in 2007, is a first-year student who wants to become an x-ray technologist. "I goofed off" in high school, she admits, but says now she is learning how to apply herself. Bo Bellamy, 38, was laid off from construction work in December, so he enrolled at Northeast State to study electrical technology in order to get the certificate he needs for better jobs. "It's a whole different world now," he said.

C.H. Charlton, the other full-time developmental reading instructor, was in favor of the redesign from the beginning. He had been concerned that when students were at different places in their learning in traditional classes, some were slowed down

However, Henson was skeptical at first. "I didn't think technology could be as effective as me, with a degree in teaching reading," he said. He became a convert once he had hands-on experience with the program. "I said, 'Wow, this is great." He saw students grasping material where previously he would not have known whether they got it or not. "They may do well on a quiz or on a test, but I don't know whether they really have mastered it," Henson explained. "Once I see them interacting with the modules, I see whether they are comfortable with the material. I saw their 'aha' moment more often than I saw it in the traditional setting.'

Likewise, Karen Wyrick said that she "just wanted to lecture. I thought that if I was not standing up there in front of them, teaching them, they weren't going to get it." So John Squires, the department chair at the time and lead person on the Cleveland State math redesign, asked her if she wanted to make the videos that accompany the course. Students can watch those CDs and use the modularized material on computers. Last year, Wyrick said, one of her colleagues had a student who completed elementary algebra, intermediate algebra, college algebra and statistics in one year. "That student would have been bored out of his brain if he'd had to sit there in a lecture class."

After revising its three developmental courses, Cleveland State's math faculty found that the number of students in college-level classes increased. "Prior to redesign, we had about 400 students per semester in college-level math courses," Wyrick said. "We now have 500 to 600 in these courses per semester." As a result, the faculty redesigned eight college-level courses. "We had seven full-time faculty, and otherwise it would have been hard to field the load."

Betty Frost, associate professor of math at Jackson State Community College in west Tennessee, was initially a naysayer as well. Now she has been named as one of six NCAT scholars who will help teams

The Community
College Futures
Assembly, based at the
University of Florida,
gave its Bellwether
Award to both the
Cleveland State and
Jackson State
redesigned math
programs.

from 50 schools prepare redesigns under the organization's new program called "Changing the Equation." Some of those schools will receive \$40,000 grants for math redesigns, with funds from the Bill & Melinda Gates Foundation.

"This is my 35th year of teaching at Jackson State," Frost said. "I'm kind of old-school. I thought the students needed some classroom instruction. Some others were that way, too, but I was probably the worst one." The faculty decided to have focus groups where they could go over some of the material, then students could talk about it and ask questions. One day Frost took her students across the hall from the lab to a classroom and was talking about something—equations perhaps—and asked if



"You can't just stick a student at a computer," says John Squires, who led Cleveland State's math course redesign and is now chair of the Chattanooga State math department.



"I didn't think technology could be as effective as me," says Jimmy Henson, an instructor at Northeast State Community College, who was skeptical of the new reading program, but has become a convert.

there were any questions. "A young man put up his hand and asked, 'Can we go back across the hall?' And I've never had a focus group since."

The Jackson State program is called SMART Math, an acronym for Survive, Master, Achieve, Review and Transfer. When the college began its redesign, Frost said, they surveyed the math faculty to see what competencies, or skills, were involved in their courses. That helped them decide how many modules to include in the redesigned course. Then they took the list of the competencies to be developed to all the departments and asked them which of those skills students absolutely needed to complete their classes.

"Previously, students whose goals were

to be a registered nurse, an elementary school teacher or a rocket scientist had to pass, or test out of, the same developmental math courses before enrolling in the courses and programs they came to college to take in the first place," according to the college's description of its math program. "Traditionally, developmental math courses required students to learn competencies not necessary to be successful in their chosen career." That is no longer the case at Jackson State.

Overall, redesign students increased their average post-test scores in all courses by 15 points, according to the math department. The percentage of students passing developmental math courses has increased by 45 percent. The SMART Math program reduced the cost per student by 20 percent, by increasing the maximum class size from 24 to 30, providing the chance for students to complete the developmental work more quickly, reducing the number of sections taught by fulltime faculty from 78 percent to 58 percent, and by using tutors at lower cost per hour than faculty.

The Community College Futures Assembly, based at the University of Florida, gave its Bellwether Award to both the Cleveland State and Jackson State redesigned math programs, the former in 2009 and the latter this year. These awards "recognize outstanding and innovative programs and practices that are successfully leading community colleges into the future."

Two of the Tennessee programs—a reading and writing redesign at Columbia State Community College in the center of

continued next page

CAT, The National Center for Academic Transformation, is an independent non-profit organization dedicated to the effective use of information technology to improve student learning outcomes and reduce the cost of higher education. NCAT provides expertise and support to institutions and organizations seeking proven methods for providing more students with the education they need to prosper in today's economy.

Today, many organizations and companies offer technology-based solutions for streamlining academic and administrative systems, as well as products that enhance the educational experience. However, NCAT is the only resource recognized for translating its vision for achieving improved learning outcomes at a reduced cost into a proven track record of success. NCAT furthers its mission of creating lasting change in higher education through a number of initiatives designed to provide research-based solutions, expertise and support to educational systems interested in improving quality, increasing access, and using resources more effectively.

To learn more about NCAT, please visit: http://www.theNCAT.org

The National Center for Public Policy and Higher Education has published additional information about technology-based higher education programs, available at our website: www.highereducation.org. This includes the following: *Policy Alert: Course Redesign Improves Learning and Reduces Cost*, by Carol A. Twigg (June 2005); and "Technological Transformation: An Ambitious National Effort to Use Technology More Effectively in Large Introductory University Classes," by Kay Mills, *National CrossTalk* (Summer 2002). ◆

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the state, and a math redesign at Chattanooga State Community College—were considered less successful. Nonetheless, said Treva Berryman, TBR's associate vice chancellor for academic affairs, "what we learned from them may have made a huge difference systemwide. It's not that they failed if they saved other campuses from similar problems. A pilot's a pilot. Give it a try."

Communication is often a problem in redesigning courses. If a leader in a pilot



"Redesign may appear piecemeal because we're not finished. It will be systemwide," says Paula Short, vice chancellor for academic affairs for the Tennessee Board of Regents.

program thinks it isn't going to work, "you can forget about the rest of the people," Berryman said. "You have to be willing to fail. And presidents have to give support so that people aren't punished if they do fail."

NCAT's Carol Twigg has her own assessment. The Columbia State redesign failed to incorporate a lab where students could work, she said, and did not offer them enough support in the technology they did have, which can be a big problem in a rural area. As for the math redesign at Chattanooga State, "the math faculty didn't want to do it," Twigg said bluntly. But the aca-

demic vice president did, she added, and has hired John Squires, who led Cleveland State's redesign, to chair the Chattanooga State math department. He and the math faculty there are now creating mini-lectures students can attend, bridging the gap until they can prepare CDs with the course material similar to the ones Wyrick and others made at Cleveland State.

"You can't just stick a student at a computer," Squires said. Chattanooga's earlier attempt "just didn't work," he added, pointThe Tennessee Board of Regents is expanding its redesigns for developmental courses, and by 2013 all its community colleges must have such programs in place.

ing out that Cleveland State "had a semester of planning and a semester to create the program. Chattanooga is in the midst of it. We're having to push the reset button and build it as we go. We have ten faculty working on course materials, and ten doing the mini-lectures. They will be developing the videos over the summer. We have much more flexibility at Chattanooga." Demand at Chattanooga State is greater as well. Of 9,427 students (5,988 full-time equivalent) last fall, about 2,000 had to take developmental math.

The Tennessee Board of Regents is expanding its redesigns for developmental courses, and by 2013 all its community colleges must have in place programs that have technology as an integral part and must focus on helping students master the subjects at their own pace. Developmental work was already a major focus in TBR's strategic plan for 2005–2010 after the state legislature told the system it needed to do more with

less, said Paula Short, vice chancellor for academic affairs.

Tennessee worked with NCAT because it had "a proven record in creating change," Short said. NCAT provided training for applicants and helped follow the pilot programs to see what worked and what didn't. "We saw this as systemwide. We offered training to everyone. We wanted them all to have the benefit of that training," she added. "Redesign may appear piecemeal because we're not finished. It will be systemwide."

As the colleges prepare their redesigns, Berryman said, "we're asking them to start with a blank slate. Take what you know about how students have changed, how careers have changed, how technology has changed. If developmental studies didn't exist, what would you need to carry our students over the next 25 years?"

"We are not trying to fix what was broken in the past," Berryman added. "We are trying to teach whatever competencies they need for careers they are going to choose. That really is a different philosophy."

Betty Frost knows that from her own experience. She recalls a student years ago who wanted to enter the nursing program but was struggling with intermediate algebra. "She just never got it, and she disappeared. Today we see she didn't need intermediate algebra for nursing." •

Kay Mills is the author of "This Little Light of Mine: The Life of Fannie Lou Hamer" and four other books.

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student achievement, a point underscored by a policy brief issued in March by the 800-member American Association of Colleges for Teacher Education (AACTE).

Cummings credits her program for doing "a great job of immersing us in schools from day one." "That has been critical," she said. And she considers herself ready to teach until she retires.

Devlin, who said he spent the year between his college graduation and his fellowship living in his van and pondering his future, is also into teaching for the long term. "This is the first time I know what I want to do with my life," he said.

The fellowship has been a learning experience not just for the fellows but also for the three universities that took them on, and they are changing their other teacher-education programs accordingly. "It has reinforced our move to more site-based junior-year methods classes for elementary and secondary programs," said Kathy Moran, dean of the University of Indianapolis' School of Education. "It has allowed the traditional faculty to think outside traditional models."

IUPUI will add more mentoring to its Transition to Teaching program, having learned from the fellowship how valuable that is, said Patricia Rogan, dean of the university's School of Education.

Purdue has been encouraged to increase the clinical content of its secondary education program, said Sidney Moon, an associate dean of education.

Levine said he has heard from still other

colleges and universities that have learned about the fellowship, and are adding elements of it to their teaching degrees.

Daniels has been so impressed that he is talking about expanding the Indiana fellowships to history and perhaps special education. Math and science are just "the place to start, not to stop," he said.

Levine's strategy is to proceed state by state, as, one by one, they find the money and the structure to support their own fellowships.

Earlier this year, the foundation announced that Ohio and Michigan will be next up. The W.K. Kellogg Foundation has pledged \$16.7 million to the fellowships in Michigan, where the foundation has chosen as its partners the University of Michigan,

Levine presses
enthusiastically on.
His goal is to spread
the Woodrow Wilson
Teaching Fellowship
program to
all 50 states.

Michigan State University, Eastern Michigan University, Western Michigan University, Grand Valley State University and Wayne State University.

In Ohio, financing is coming from a combination of state and foundation funds, and fellowship sites will be Ohio State University, the University of Cincinnati, John Carroll University and the University

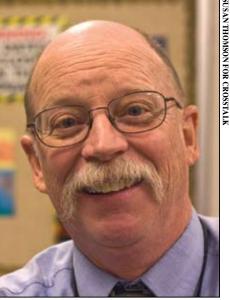
of Akron.

The two new states will welcome their first fellowship classes for the 2011-12 school year.

Levine happily did some elementary school math: Add 20 more fellows from Ball State University beginning next school year, and Indiana will be producing 80 Woodrow Wilson teachers, increasing the state's total supply of secondary science and math teachers every year by 20 percent. In Michigan, six universities times 20 fellows each equals 120 fellowship graduates a year—enough to fill all of the math and science vacancies in Kalamazoo, Detroit, Battle Creek, Benton Harbor and Grand Rapids. "Extraordinary!" he exclaimed.

Still, Levine presses enthusiastically on. He's in conversations with several other states (no names, please!) about possibly starting Woodrow Wilson Teaching Fellowship programs of their own. And yes, he said, his goal is to spread the fellowships to all 50 states. To that end, he sees spreading the word—getting attention for the fellowships from the media, policymakers and practitioners—as a major part of his job.

He has succeeded in getting notice in some influential and high places. In its March policy brief, AACTE cited the Woodrow Wilson teaching fellowship as one of five "clinical preparation programs that are emerging as potential models." The brief said the programs are "based on the best research and professional judgment," are "innovative and inspiring," and hold "great promise for success." Unlike the Woodrow Wilson model, each of the other four programs is offered exclusively at the college or university that created it.



Ed Kassig, a high school biology teacher, says the fellows he mentored stood out among the student teachers he has had in his 36 years of teaching.

The highest notice of all has come from no less than the nation's influencer-in-chief. In January, announcing his Educate to Innovate campaign, aimed at getting more U.S. students to study and excel in math and science, President Barack Obama lauded the Woodrow Wilson teaching fellowships as one of "several new partnerships launched that will help meet our goal of moving American students from the middle to the top of the pack in science and math achievement over the next decade." ◆

Susan C. Thomson is a former higher-education reporter for the *St. Louis Post-Dispatch*.

OTHER VOICES





Changing the Subject Costs, graduation rates and the importance of rethinking the undergraduate curriculum

By Robert Zemsky and Joni Finney

PALPABLE EDGINESS now swirls about much of higher education. While business as usual still holds sway—at least most of the time and in most institutions the specter that haunts is a future of escalating risk: for public institutions, more, perhaps even draconian, budget cuts; for private institutions, new worries about where their students are going to come from and whether those students can continue to afford the tuitions they must charge; and for the nation's richest and most selective institutions, a humbling sense of false pride and broken promises.

Not surprisingly then, just two issues now dominate discussions of higher education: costs and outcomes. American higher education today is an expensive enterprise that frequently lacks both the will and the know-how to do things differently. It is also an enterprise in which an embarrassingly large number of students start but do not finish a baccalaureate educa-

tion—that, and the fact that completion rates all too often track the wealth, location and ethnicity of enrolled students.

What surprises us is the fact that two concerns—escalating costs and disappointing attainment rateshave long been treated as separate issues.

What does surprise us, however, is the fact that these two concerns—escalating costs and disappointing attainment rates—have long been treated as separate issues. It is a division of responsibility as well as blame that mirrors higher education's view of itself as having a hard side where monies are concerned, and a softer, more nurturing side when helping students achieve their academic ambitions.

Over the last year we have increasingly come to ask: Are we sure these concerns have either separate causes or separate consequences? Is it not possible that controlling costs, encouraging more adaptable and nimble institutions, and achieving higher

graduation rates each requires the same rethinking of a collegiate production function that has become both too expensive and too cumbersome to achieve the academic purposes for which it was originally designed?

...and spend all the money they raise

Since the 1980s, the dominant explanation for how and why colleges and universities cost so much has been Howard Bowen's telling observation that "universities will raise all the money they can and spend all the money they raise." The way to excellence and reputation lies principally in having more money to spend on the good things colleges and universities want to achieve. Just as clearly, the quickest and easiest way to make colleges and universities cost less is to starve them of revenue—a proposition that the recession and state budget shortfalls are now testing with a vengeance.

Given the near absence of new monies and the looming presence of more economic bad news, higher education's leaders have come increasingly to portray themselves as being caught in what John Immerwahr of Public Agenda has described as an "Iron Triangle." Somehow they must find ways to simultaneously control costs, increase quality and improve access—and that, they argue, is simply not possible.

State policymakers, less persuaded by the presidents' arguments and newly frustrated by their universities' reluctance to change, have begun to experiment with strategies that use the power of the public purse to exact greater efficiencies on the part of their states' public systems of higher education. And yet the result can best be described as an operational cul-desac. Rhetorical tough love hasn't worked. Budget incentives have not yielded changed educational processes. Reducing state appropriations, along with limiting tuition increases, has

yielded public colleges and universities that spend less money without becoming either better or demonstrably different. Salaries can be reduced, positions left unfilled, perks and amenities eliminated, all without impacting the basic production functions that shape the enterprise's teaching and research missions.

The tragedy of the commons

It is this dismal prospect that has led us to search for a different set of strategies for controlling and perhaps even lowering the cost of a college education. Here, the question we asked ourselves was simply, What costs the most money? And our answer: the curriculum!

We start, then, with the curriculum, invoking a concept economists use to illustrate how perfectly rational actions on the part of individuals can, when summed, produce unintended and devastating consequences. The "tragedy of the commons" tells the story of what happens when a community-owned pasture (or commons) is at or near its capacity in terms of the size of the herd that can be fed without destroying the pasture itself. Even then it remains in the interest of each farmer to increase the size of his own herd since he, like each of his neighbors, has a right to feed all the cattle he acquires on the same pasture where his, as well as his neighbors' cows graze. The problem occurs when the total number of animals exceeds the pasture's grazing capacity, and the pasture begins a near irreversible cycle of decline. For economists, the moral of the tale is that a perfectly rationale act (the individual sending just one more animal to graze on the commons) can have a devastating impact on the system as a whole (the withering of a productive pasture).

In many ways the dilemma now facing higher education reflects the tragedy of the commons. Three decades of constantly adding new programs and more choices to the undergraduate curriculum have yielded colleges and universities that are economically unsustainable and educationally dysfunctional. To understand how this came to pass, we need to revisit a piece of curricular history that dates back to the 1960s. Sparked by student revolts in Europe and a wave of student-led political protests in this country, American colleges and universities responded by granting students more personal freedom and by adopting curricular changes that reduced both general education and graduation requirements. In time, the faculty, who had at first opposed student demands that they be allowed to "do their own thing," discovered that what was good for the goose was even better for the gander. Few faculty enjoyed grading senior theses

American higher education today is an expensive enterprise in which an embarrassingly large number of students start but do not finish a baccalaureate education.

or comprehensive examinations, or teaching the required course sequences that comprised many major and pre-major programs at most institutions.

What took hold was a laissez-faire environment in which nearly every possible subject was admitted to the collegiate curriculum, provided the new course was taught by a fully qualified member of the faculty. Whole new disciplines and concentrations were similarly added, often in response to demands that full recognition be granted to specialties that previously had been considered outside the accepted canon. At the same time, except in the sciences, most courses became stand-alone experiences not requiring prerequisites or, in fact, much if any coordination among the faculty who taught similar courses in the same department or discipline.

For those of us on the faculty the lessening and then the elimination of most requirements proved a bonanza. We could teach what we wanted—principally our own specialties—when we wanted, without having to worry too much about how or what our colleagues were teaching. Each course became a truly independent experience, and our principal responsibility was to absorb our fair share of the enrollments, thus ensuring our department would not lose valuable faculty lines.

For students, this commitment to unfettered curricular choice proved more than appealing—a chance not only to do their own thing, but to change their minds, not just once but frequently. The curriculum became a vast smorgasbord of tempting offerings. Faculty seeking to insure adequate enrollment were careful to tailor their requirements and expectations to meet student tastes. Students could design their own majors and concentrations. But as has become increasingly obvious, too many students also got lost, unsure of what it took to graduate, on the one hand, or, on the other, unsure as to what was actually being asked of them in terms of either subject mastery or learning skills.

Institutions faced even greater problems—and here is the core of the financial side of our argument. The more open-ended the curriculum became—the more faculty and students were free to set their own schedules—the more resources, both financial and human, the institution required to meet its educational obligations. Adding more courses and majors to the curriculum forced the institution to spread its current faculty resources ever thinner, to increase the number of full-time faculty, or, as has proven most often the case, to hire more ad-

The result was an almost endless series of undergraduate curricula in which "almost anything goes." That observation was supplied by the Association of American Colleges (AAC)'s Integrity in the College Curriculum: A Report to the Academic Community (1985). The report went on to complain, "We have reached a point at which we are more confident of the length of a college education than its content and purpose." What was true then is even more so today. Repeated calls for greater efficiency and the more parsimonious expenditure of public funds and tuition receipts have been rhetorically responded to and then largely put aside. In the meantime the fragmentation of the undergraduate curriculum continues unimpeded.

And as before, worries about the escalating cost of an undergraduate education, on the

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from preceding page

one hand, and, on the other, the large numbers of students who begin but do not finish a baccalaureate education have remained separate concerns. Those who focus on costs talk about outmoded work rules including tenure, presidential salaries and perks, the avariciousness of athletic departments, and higher education's commitment to research always trumping its commitment to teaching. Those who worry about the curriculum continue to focus on its fragmentation, on a corresponding devaluing of the liberal arts, and on the continued sense, to use *Integrity's* phrase, that "almost anything goes" when it comes to approving new courses, new majors, even new disciplines.

Curricular change as the solution

The way out of this box, we believe, is to change the curriculum to productively constrain both student and faculty choice. We would start by having students choose not among an expanding menu of courses, but among a much shorter list of curricular pathways—that is, an ordered sequence of courses linked together by faculty design. This curricular structure would yield a much more efficient match between student needs and institutional resources. There would be fewer underenrolled courses and, not so incidentally, more courses taught early in

the day as well as on Mondays and Fridays (perhaps even on a Saturday morning).

We would also use a cohort model in which sets

Three decades of constantly adding new programs to the undergraduate curriculum have yielded colleges that are economically unsustainable and educationally dysfunctional.

We would also use a cohort model in which sets of students take most, perhaps even all of their courses together. Faculty responsible for remedial and developmental educational programs using a cohort model report important learning advantages leading to substantial increases in student attainment. At the University of Pennsylvania we teach in a graduate program that employs a fixed curricular pathway (no electives at all) and a cohort model in which peer learning is a constant, and faculty discussions of what and how each of us is teaching occur regularly.

Several other innovations would be made more likely by this restructuring of the curriculum. A changed curriculum that employs well-defined

pathways through the curriculum could also award credit for demonstrating competence in the subject without having the student sit through a particular course. In general we believe a changed curriculum could take greater advantage of technology, both to achieve better learning outcomes and to verify that specific competencies have been mastered. In the process of recasting the curriculum it should also be possible to take greater account of the large numbers of students who will earn their undergraduate degrees while attending several, rather than just one, undergraduate institutions. Finally, it is even possible that such a curriculum would allow students to graduate in three rather than four years.

The kind of reform we have in mind has one final distinguishing characteristic—it cannot be accomplished without full faculty engagement. Only the faculty can design the curricular pathways we have in mind—a lesson that those who constantly prattle about greater efficiency and more learning productivity need to keep in mind. ◆

Robert Zemsky is the founding director of the University of Pennsylvania's Institute for Research on Higher Education and current chair of the Learning Alliance for Higher Education.

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Access and Opportunity This is a critical moment for public higher education, one that requires new approaches

By Matthew Goldstein

HE CHALLENGES facing higher education, and the threats particular to public institutions, such as The City University of New York, are very real. And this is happening across the country.

Let me start with some basics. Public colleges and universities educate almost 80 percent of our country's students. They include the well-known research powerhouses that we're all

familiar with—the University of Texas, the University of California, the University of Wisconsin—but they also include smaller four-year institutions and two-year institutions. In fact, community colleges are the largest and fastest-growing sector of higher education in the nation. They enroll almost half of all undergraduates. Last year, the share of young people attending college in the United States hit an all-time high, and that increase was driven solely by

The decline of support for public higher education, and the stagnation that results from neglect, is nothing less than a national security crisis.

two-year colleges—CUNY's six community colleges among them. I call community colleges the sleeping giants of higher education.

In New York State, the two public university systems, SUNY and CUNY, together serve well over 650,000 students—at research institutions, liberal arts colleges and community colleges. When we talk about college students and college faculty, this is whom we're talking about. And all of these students and faculty are experiencing the results of a freefall of state support for public higher education.

Across the country, between 1987 and 2006, the average share of public universities' operating

revenues from state sources dropped from 57 percent to less than 41 percent. (In New York, it dropped more than 13 percentage points.) And since 2006, the country's recession has prompted even greater cuts by states.

You've seen the headlines about California this year. The University of California system saw its state support reduced by nearly 20 percent in 2009. Since 1990, state funding per-student for education at UC has dropped from 78 percent of the total cost of education to 58 percent.

But California is not an isolated case. Without the contributions that have come from the federal stimulus package, the total state support for public higher education across the country would have dropped 3.5 percent this year (2009-10) and 6.8 percent over the last two years.

Of course, there is variation among states. Some, including small-population states like Montana and North Dakota, but also larger states like Texas, showed increases. But eleven states had significant one-year declines of more than five percent—even when we include the federal stimulus funds. These include California, Michigan, Ohio, Washington and Virginia—all home to celebrated public research universities. At UC Berkeley alone, research has led to almost 2,000 inventions, and its alumni have founded 250 companies. The University of Michigan has licensed close to 50 startup companies in just the last five years.

As James Duderstadt, the former president of the University of Michigan, has said about state funding, public universities have gone from being "state-supported" to being "state-assisted," then "state-related," and now "state-located." I would suggest that we are sometimes "state-assaulted."

Complicating the decline in state support are two factors: One is unprecedented enrollment growth, largely spurred by the country's recession; and the other is a growing need to prepare more students to a higher skill level.

The recession is largely the cause of the most recent growth. But CUNY's decade-long increases are the result of our long-term focus on raising academic standards and burnishing our academic reputation. With that comes more students, and better-prepared students, who are retained in higher numbers.

At the same time, I hope students across the country are recognizing that they live in a world in which a college education is more important than ever. We've all talked about the country's evolution from a manufacturing economy to a knowledge economy, one in which advanced skills are increasingly necessary. Secretary of Education Arne Duncan has pointed out that 30 of the fastest-growing fields require a minimum of a bachelor's degree. In this economic environment, going to college cannot be a privilege for the fortunate few. We need more highly skilled graduates.

So, our situation is clear: Public higher education is asked to do more with less. Enrollments climb, state funding drops, and the pressure mounts to raise tuition and deepen cuts. Examples abound: Students at the University of Washington absorbed a 14 percent tuition hike. The University of Illinois ordered furloughs and warned students of the possibility of a high tuition hike later this year. The University of Florida is looking to reduce enrollment by 4,000 by 2012. The University of California had to raise tuition by 32 percent in November.

As University of California President Mark Yudof and I—and so many others—continue to say, we cannot simply fill in revenue gaps with tuition. Keeping college accessible is critical to public higher education's core mission. The Morrill Act of 1862, which provided land to states for colleges, codified the importance of accessible public higher education for Americans. It enabled the development of the University of California, Pennsylvania State University, The Ohio State University, the University of Wisconsin, and so many other stellar public institutions. That is a tradition we cannot abandon.

Public higher education simply can't compromise on access or on academic quality. So we must be creative and entrepreneurial. Public institutions must take responsibility for ever-escalating and legitimately incurred costs; they cannot ask students and government to foot the bill. Whether through reorganization, an expansion of revenue sources, or improved efficiency and productivity generated by sometimes difficult and unpopular decisions, state universities must step up to the plate. We need to emulate some of the approaches long embodied by private institutions: building

Community colleges are the largest and fastest-growing sector of higher education in the nation. They enroll almost half of all undergraduates.

endowments, finding entrepreneurial opportunities, monetizing the use of physical assets.

Let me offer an example. A few years ago I proposed a new financing model for public higher education, one that spreads the responsibility for funding. It's called the CUNY Compact, and it delineates a partnership between state government and the university—with state government supporting basic operations, and the institution itself, through tuition, productivity measures and philanthropy, supporting investments at the university.

The compact recognizes that states are spread thin financially but should support public higher education at a base operating level. And it calls for modest, predictable tuition increases, based on economic indicators. Students and their families shouldn't be hit hardest during economic downturns; they need to be able to plan for col-

It also emphasizes the need for increased philanthropy, something that would have been unheard of at one time. But in 2004, CUNY launched its first-ever university-wide campaign, and we met our \$1.2 billion goal four years early. We're now in phase two, working to reach \$3 billion. Support from friends and alumni, along with

In this economic environment, going to college cannot be a privilege for the fortunate few. We need more highly skilled graduates.

innovative public-private partnerships, is vital to our ability to invest in the university: to build sophisticated research centers, to attract the best faculty, to improve our technology infrastructure, to ensure that students have the programs and services they need. CUNY alumni include 12 Nobel laureates, and that's a tradition we are committed to expanding.

Public institutions must also be willing to reorganize when necessary. We need to focus on restructuring strategies that best reflect our institutional strengths and opportunities for growth. When I began as chancellor in 1999, the university was under some political pressure to establish a couple of flagship colleges. This is the model in most states, which have one or two flagship public institutions (with the exception of California, which has several). Instead, we took the approach of building up and re-imagining several disciplinary areas in a collaborative way—fields like photonics, the biological sciences, computer science and new media, teacher education and foreign languages. This was done in a very deliberate fashion, with the intention of raising the level of quality and productivity across the university in selected areas. The CUNY system's geographic density is unique among public systems, and it allows us—in fact, almost compels us—to work as a more integrated system.

Reorganization also entails rigorous program review and assessment. All of us are tempted to be like the institution across the street. If they have a particular Ph.D. program, we wonder if we need the same one. But public institutions have to look carefully and honestly at their offerings. At CUNY, we have some world-class graduate programs in the arts and humanities, and we must retain their prominence. In the past, we gave less attention to very

Public institutions have to be willing to cut, reshape and grow, in order to ensure academic quality and make the best use of resources.

promising areas in our science and technology graduate programs, and we are focused on building them up now. But there are still other programs that, frankly, give me cause for concern. We have to be willing to cut, reshape and grow, in order to ensure academic quality and make the best use of our resources.

Public institutions also need to be more aggressive about strengthening research efforts and cultivating an entrepreneurial spirit in order to commercialize those efforts. But while some public institutions have developed renowned research programs, others need to further develop targeted areas that reflect the institution's strengths and

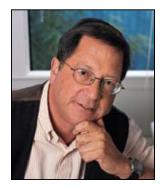
potential. That's part of the reason that I created what we call the "Decade of Science" initiative at CUNY. We are working to strengthen our science programs, but we are doing so in a way that reflects our integrated approach. For example, rather than building world-class research facilities on a number of campuses, we are constructing a CUNY-wide Advanced Science Research Center that will house researchers pulled from several CUNY campuses. The center will focus on selected areas—photonics, nanotechnology, environmental sensing, structural biology and neuroscience—and will be located in Manhattan, on the City College campus, for greater accessibility by all.

There is much that public institutions can do to meet their growing funding challenges. But I would also suggest that when even the modest funding goals of the compact idea become difficult for states to meet, the federal government may need to assume a larger role in public higher education. A sustained period of decline in state funding can be very difficult to recover from, even for well-established universities. In fact, my colleagues in California have proposed a 21st-century version of the Morrill Act to encourage federal investment in the operation of the country's great public research and teaching universities in order to maintain their core mission: access and opportunity.

In my view, the decline of support for public higher education, and the stagnation that results from neglect, is nothing less than a national security crisis. Our economic and social well-being, and our scientific and technological leadership, rely on our country's universities.

Our future will be defined by the public investment we make in higher education and, at the same time, by our institutional ability to innovate and stay nimble. This is a critical moment for public higher education, one that requires new approaches. We simply must not squander the truly remarkable power and potential at our public universities.

Matthew Goldstein has served as chancellor of The City University of New York since September 1999, and is the first CUNY graduate (City College, class of 1963) to do so.



E-Barbarians at the Gates?

Can an Internet-based education compare academically to a campus experience?

By David L. Kirp

HEN THE UNIVERSITY OF ILLINOIS Global Campus, the school's ambitious online initiative, crashed last spring, old-guard faculty reacted with undisguised glee. The university trustees pulled the plug because, two years and \$7 million after its launch, the venture, intended to turn a profit, had enrolled only a few hundred students.

The fiasco in Urbana, like the earlier, much-publicized belly-flops at such institutions as Columbia and NYU, confirmed the naysayers' belief that a university couldn't deliver a top-quality education by relying on a nimble online for-profit model. Indeed, many academics persist in believing that instruction which makes substantial use of the Internet is by definition worse than the classroom version; they also think it's vulgar, if not immoral, to treat education as a profit-making enterprise.

In a decade or so, however, this ill-starred venture won't be seen as a decisive defeat for the e-barbarians at the gates but as a \$7 million learning experience.

Despite the fond hopes of many academics, "back to the future" isn't a realistic option in 2010. There's no returning to the era when public dollars floated cheap-tuition higher education, for neither the money nor the political will to raise it exists. And for universities to keep on doing the same thing, only less of it, is a surefire recipe for obsolescence. The drastic recent cuts in public funding, though occasioned by the recession, are not an aberration but the acceleration of a quarter-century of public disinvestment in higher education.

Changing demographics, the disruptive technology of the Internet and fiscal realities all point in the same direction—greater reliance on the Web is the only feasible way to expand access to higher learning. This isn't simply a bow to economic necessity: When the potential of the Web is intelligently harnessed, it's also the best way to improve the quality of instruction. What's more, despite the baleful Illinois experience, Web-based instruction represents higher education's most promising source of new revenue. Community colleges, second-tier universities and extension programs have recognized this; it's the elites that are the laggards.

The novel of manners draws its material from the divide between rhetoric and reality, which is why so many of those novels are set on college campuses. When professors at top-

drawer colleges talk about the "ineffable experience" of the classroom, you know they're mostly blowing smoke; and when they sneer at online instruction as turning their institution into another University of Phoenix, a familiar refrain among the *ancien regime*, they're talking rubbish.

To be sure, there's no substitute for the giveand-take of the seminar, with a professor at the top of her game engaging ten or 15 students in verbal gymnastics, but except at liberal arts colleges such experiences are rarities. Undergraduates

When the potential of the Web is intelligently harnessed, it's the best way to improve the quality of instruction.

are mostly taught by graduate students, who are at the beginning and not the top of their game. The lecture, the usual mode of instruction at Stanford and Slippery Rock alike, is better seen as an economic necessity than as a pedagogical strategy—it's distance learning that begins in the tenth row.

A decade ago, Internet-based education consisted of posting lectures online. That approach served the useful purpose of allowing students to absorb the material at their own pace and pepper their instructors with querying e-mails. While this is still the dominant approach, the courses have become considerably more sophisticated, the talking head augmented by a host of visual aids. Now, instructional materials being developed at Carnegie-Mellon and a handful of other schools are incorporating tutorials that flag students' problems and help them learn from their mistakes. Increasingly sophisticated interactive technologies permit students to talk among themselves, work together on projects and, as in an approach pioneered at MIT, carry out sophisticated lab experiments online. Constructing this kind of course requires far more attention to the connection between medium and message, far more intentionality about the nexus between learning objectives and ways of achieving those objectives, than professors are used to.

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Can an Internet-based education compare academically to a campus experience? The faculty lions at the University of Illinois didn't think so. They effectively killed the Global Campus by subjecting its courses to microscopic review—just as, in the late 1990s, regional accreditation agencies destroyed U.S. Open University, which offered a more rigorous, varied and inventive course of study than most universities can boast of, by postponing approval until the university's money ran out. Those Illinois professors apparently constitute a majority nationwide: A 2009 Sloan Foundation survey, *Learning on Demand*, found that more than two-thirds of college provosts and deans do not believe their faculty accept the legitimacy of online education, a figure that hasn't budged since the survey was first conducted in 2002.

This persisting hostility to e-learning is an article of faith as well as a reminder that the professoriate, widely regarded as liberal in its politics, is Burkean when it comes to pedagogy. Academics attend with microscopic thoroughness to seemingly everything under the sumeverything, that is, except what makes for effective teaching. Most professors aver, in "Lake Wobegon" fashion, that they are above-average instructors, but what transpires in all too many classrooms gives cause for heartburn. (If you're skeptical, check out "Declining by Degrees," John Merrow's 2005 PBS documentary about the innards of college life.) Faculty don't have a clue about when seminars or labs are pedagogically most valuable, whether

Many academics persist in believing that instruction which makes substantial use of the Internet is by definition worse than the classroom version.

short-answer tests are worth the paper they're printed on, or even whether asking students to show up at lectures is better than simply handing them the lecture notes; it's a sobering experience, for those who think the answer is obvious, to have a look at the notes that students take in class—when they're not surfing the Internet.

On the relative merits of online and classroom instruction, there are data. A 2009 U.S. Department of Education meta-analysis of matched-sample studies found that instruction conducted wholly online was actually more effective in improving student achievement than purely face-to-

face teaching. Though that is a controversial conclusion—for one thing, students who take classes on the Web are considerably more likely to drop out—it is reason to take seriously the claims made for Internet-based learning. The best pedagogy, the study shows, involves blending online and face-to-face instruction. That result confirms the experience of researchers at Carnegie-Mellon, who have done the most sophisticated work in this field. There, students who took statistics classes online, using a tutorial program developed by the faculty, did as well as those who attended class. When instructors were given the opportunity to build on the online tutorial, digging more deeply into the material, students progressed twice as quickly.

At some point, persisting professorial hostility to online instruction must bend to the mounting evidence of its effectiveness. What's left to the opposition is insecurity about becoming obsolete, the instructor largely replaced by an online tutorial and a chat room, reduced to answering e-mail. While this fear is understandable, especially for adjunct faculty, quality-minded universities will leave coverage of the basics to the Web, relying on professors to nurture students' critical thinking in ways no machine can, at least as yet, hope to emulate.

"Not enough [institutions] have thought stra-

When professors at top-drawer colleges sneer at online instruction as turning their institution into another University of Phoenix, they're talking rubbish.

tegically about [online education]," said Frank Mayadas of the Sloan Foundation, in *U.S. News and World Report*. "There's still a gap between the reality of online learning and the strategic thinking across the board." Is an elite online university an oxymoron? The University of California may be the test case. Financially, the institution is up against it: Last year, an \$813 million budget cut led to a cap in enrollment and a 39 percent tuition hike, a move that prompted statewide protests. With no financial relief in sight, and no other way to expand access, Christopher Edley, dean of Berkeley Law and advisor to UC President Mark Yudof, floated the idea of a virtual eleventh campus, in a *Los Angeles Times* op-ed.

Can California succeed where Illinois failed? Virtual UC would open the doors to thousands of qualified California students who have been shut out of the system; and because of the university's reputation, it could attract students from around the country and across the globe. Lesson learned from Illinois: Virtual UC would be built from the bottom up, with faculty designing and approving the courses, a trust-building exercise as well as an assurance of quality.

One thing's for sure: A new crop of students will be pressuring the University of California, or another top-ranked school, to take the plunge. Last year one-quarter of all U.S. undergraduates took an online course—that's a 17 percent jump in a single year. Cost was one major consideration; familiarity with the technology was another. This generation has grown up wired to learn online. They're waiting for leading institutions of higher learning to follow their lead.

David L. Kirp, Professor at the Goldman School of Public Policy at the University of California, Berkeley, is the author of "Shakespeare, Einstein, and the Bottom Line: The Marketing of Higher Education" (2005), and "Healthy, Wealthy and Wise: Five Big Ideas for Improving the Lives of Children" (forthcoming).

OHIO

gressman who ran against Strickland in the Democratic gubernatorial primary and is now the point man on one of the governor's most high-profile issues.

It's a tough job. Even though Ohio produces more bachelor's degrees per capita than the national average, it ranks a distant 36th in the proportion of adults with at least an associate's degree, 35th in the proportion with a bachelor's degree or higher, and 26th in the proportion with a graduate degree. That's because, like the students in that Bowling Green lecture hall, nearly two-thirds of graduates—and half of those with graduate and professional degrees—leave the state

"In Michigan, and I think it's becoming true about Ohio, the joke has always been that the biggest export is college graduates," said David Jackson, a political science professor at Bowling Green. "Why do they leave? Because they need a job."

Even before the current economic recession, manufacturing-dependent Ohio lost 236,000 jobs between 2000 and 2007, the sharpest decline in any state since the Great Depression. Only neighboring Michigan fared worse. Since then, as the recession took hold, Ohio has seen another 13.5 percent of its manufacturing jobs disappear, compared to the national average of 9.5 percent. Of the top ten American cities with falling populations, three are in Ohio. By the time Strickland took office, the resulting decline in tax revenue had forced, among other things, years of double-

digit increases in public university tuition, which became the fourth highest in America. Two-year tuition was the seventh highest.

But rather than having the worst possible timing for their higher education strategy, which was launched just weeks before the start of the recession, Fingerhut and Strickland may have had the best, since hard times have provided an effective argument in Ohio to drive support for public higher education: unabashedly linking it to economic prosperity.

"If you were trying to impose a system like this in better economic times, it wouldn't be received as well," said Ben Anthony, student government president at Ohio State University. "We wouldn't particularly care about brain drain. We wouldn't need to."

Students get it, Anthony said. "The argument behind education has always been that you're going to get something out of it. If you put that in economic terms, it's more concrete. And I don't see why they shouldn't make that argument, because it's true."

Yet it's a connection universities left to their own devices have often failed, or been reluctant, to make. "There is an attitude, and I hope it's fading, that universities are largely responsible for thinking and not necessarily doing," Strickland, who once was a professor of psychology at Shawnee State University in southern Ohio, said with a chuckle.

Fingerhut encountered that attitude, too, he said, when he was the ranking Democrat on the state Senate Finance Committee, entertaining funding requests.



"The University System of Ohio is going to be the model of the 21st-century university system," says Chancellor Eric Fingerhut. "Our obligation is to drive the economic prosperity of Ohio."

"I would sit there and one university after another would come in and tell us how well they were doing," he recalled. "All of that was certainly plausible. And yet we were 38th in the nation in terms of educational attainment. We weren't seeing the startups and tech transfer. Something was not adding up."

The onetime director of economic development education and entrepreneurship at private Baldwin-Wallace College near Cleveland, Fingerhut compared this to a businessperson trying to recruit investors by lamenting, "You've got to save me," ver-

sus another saying he's got a great opportunity to offer and there's still room to get in on it. "For too long, higher education was on the Chicken Little side of this, not the, 'We're going to succeed and here's how we can help you' side," he said.

Persuading the public and its elected leaders that the universities are here to help is effective politics, Fingerhut said—something else that public higher education hasn't necessarily been good at. "Yes, this is a campaign, because campaigns are communication tools," said the chancellor, who joked that, within five minutes, he can turn

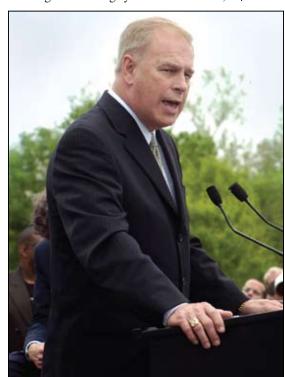
any conversation about higher education into a discourse on economic development. The message of the campaign is this: Ohio's public universities were built and are maintained by the state's taxpayers, and, therefore, "Our obligation is to drive the economic prosperity of Ohio. It's a planned and sustained strategy for building support within all the constituencies that matter," Fingerhut said.

Preeminent among those constituencies is the Republican-dominated General Assembly. There, legislators including Jon Husted, a former Republican speaker of the House who was elected to the state Senate in 2008, had so soured on the competition among the universities that they finally resisted increasing their funding even enough to keep pace with inflation.

Although in name part of a statewide system, Ohio's universities had only slightly less testy relationships with each other than they had with the General Assembly. Ohio's universities, like Michigan's, are highly independent, in a state that is stubbornly parochial, divided as it is into vastly dissimilar regions ("pockets of city-states," as Bowling Green President Carol Cartwright calls them). The most prosperous regions are on a diagonal from the traditional manufacturing centers of Akron and Cleveland in the northeast to corporate Cincinnati in the southwest and white-collar Columbus in the center, while the northwest on the border with Michigan is industrial, and the southeast is a part of Appalachia.

Each university has its own board of trustees and lobbyists. Each submits its own budget. Described by at least one Ohio newspaper as fiefdoms, the public universities (they prefer to call themselves "state assisted," to the annoyance of legislators) spun off 24 regional branch campuses, squandered scarce resources on redundant programs, and battled with each other not only for money, but for students.

"In the past those board assignments were basically political payoffs, and there were people who were more interested in getting access to football tickets than in advocating for a strong system of education,"



Ohio's governor, Democrat Ted Strickland, has bucked the trend of huge budget cuts by making public higher education a financial and political priority.

Strickland said. "It really prevented the needs of the state from being recognized."

The business community thought so too. "That's been one of our biggest problems, that we have these competitive silos, not only in our universities but in our metro areas," said Dorothy Baunach, special advisor to the Ohio Business Roundtable and president emeritus of the Northeast Ohio Technology Coalition. "Each campus is pretty insulated. It's hard for them to think systemically. There's still a lot of work to do to break down those walls."

Elected leaders tried in vain for years to coax the universities into shedding programs that were poorly rated or redundant, in at least one case cutting off state funding in 1995 to get the University of Cincinnati, the University of Toledo, Bowling Green State University and Kent State University to drop their low-ranked doctoral programs in history. Instead, the universities simply found independent sources of money to continue them. In 2003, Strickland's predecessor, Republican Bob Taft, appointed a commission on higher education and the economy, but the universities largely ignored its recommendations.

When Strickland became governor in 2007, one of his first acts was to call the university and college presidents together. Expecting a brief meet-and-greet, they were surprised to be kept in a conference room by the governor for six hours.

"I said to them, 'I am not your enemy. I am your friend," Strickland recalled. "And I expressed some dismay that in the past higher education had become the target every time there was a budget problem. I said, 'We're going to bring an end to that. But in order for us to be successful together, I'm going to have to ask for your cooperation."

He told the presidents that if the state was going to support them, it had a right to expect that they would operate more efficiently. He urged them to collaborate. Then he held up his side of the bargain by increasing the state allocation for the universities by 3.2 percent in his first budget, and by 8.8 percent in the second. He also backed a tuition freeze that had begun in 2006 and

would endure until summer 2009. Even after the economy began to slide, causing state revenues to fall \$1.9 billion short of projections, Strickland mostly shielded the universities from funding cuts. In the last round of \$640 million in statewide cuts, only \$25 million came from universities and colleges—about one percent, compared to losses of as much as 30 percent suffered by some other state departments

That got the universities' attention. And if it didn't, newspaper editorial pages were happy to help. The schools "must put away the daggers and one-upmanship," warned the Cleveland Plain Dealer. They had to "become team players in a way that they haven't before," wrote the Columbus Dispatch. Nor did Strickland rely entirely on good intentions. On August 2, 2007, he signed an executive order creating the University System of Ohio, which includes the 13 public universities, one medical college, and 23 community colleges. Adult career centers and adult basic literacy programs previously run by the Department of Education were added later.

Responsibility for appointing the chancellor was shifted from the often unresponsive board of regents to the governor, and the position was raised to cabinet level, making Ohio one of only a few states-including Colorado, Maryland, Minnesota and New Mexico-where the chancellor answers directly to the governor. Under the old system, Strickland would have been two years into his term before he was able to make even a single appointment to the board of regents; now the chancellor was directly accountable to him.

The universities chafed, and still chafe, at any hint of the kind of centralization that exists in many other states. They want to be cost-effective, said Bruce Johnson, a former lieutenant governor and now president of the Inter-University Council of Ohio, the universities' lobbying arm. "They want to be collaborative. And they don't want to be run from Columbus," said Johnson in his office near the statehouse in Columbus. Ohio's universities prefer to be part of a system with a small "s," Johnson said. "The universities themselves know how to run universities. No one here in Capitol Square does."

Still, with his changes in place, the governor began to lay out new expectations. Less than a year after the university system was established, Fingerhut delivered a ten-year strategic plan. Before releasing it, he said, he spent a day reviewing it with William "Brit" Kirwan, a former president of Ohio State and now chancellor of the University System of Maryland, who had helped transform the higher education landscape in that

Fingerhut's strategic plan called on the universities to graduate an additional 230,000 students over ten years by increasing enrollment from 472,694 in 2008 to 702,694 by 2017, and by boosting the number of degrees awarded at all levels from about 73,000 to 100,000 annually. They would also attract enough federal research spending per capita to move from 30th to the top ten in that category. The General Assembly agreed to base state funding for the four-year universities on outcomes, rather than enrollment; by 2012, some 30 percent of funding could be determined by such things as graduation rates.

The blueprint also gave the universities the role of measurably improving the economy. This got the newspapers comparing Fingerhut's job, as *Crain's Chicago Business* put it, to Tom Cruise's character's in *Mission Impossible*. "This is easy," Fingerhut said, pointing to a dog-eared, loose-leaf copy of his strategic plan for an objective titled, "Graduate more students." "But this," he said, pointing to the next objective, "Keeping graduates in Ohio," "this is all new to higher education. Isn't this the mayor's job, the chamber of commerce's job? No, it's our job, and we have ways to do this."



"When each institution does well, all of Ohio does well," says Carol Cartwright, president of Bowling Green State University.

Fingerhut promises to persuade 70 percent of graduates to stay in Ohio—roughly the same percentage that now leaves. "We own this metric now, and that's a radical departure," he said. "Sure, there's a huge risk. The pushback I got on this was, 'My gosh, do we really control the economy? Do we control that the hot cities are Chicago or Seattle?' Yes, we can control enough of this to make a difference about it."

In a sector known for endless deliberation and interminable process, the universities have been comparatively quick to catch on to the popularity of this idea. Presidents now speak of making contributions to Ohio—"When each institution does well, all of Ohio does well," said Bowling Green's Cartwright, for instance. And they rattle off statistics about how they are meeting their targets, as if they're reading from a common set of talking points.

"My impression is that they enjoy the respect that they are getting and the recog-

Ohio produces more bachelor's degrees per capita than the national average, but it ranks a distant 35th in the proportion of adults with a college degree.

nition that I and others are showing them," said Strickland. Added Fingerhut: "It is a powerful communication strategy, and I believe the universities are starting to understand that."

Bringing the universities together hasn't been entirely without problems. Fingerhut's plan proposes weeding out poor programs by rewarding good ones—designating the strongest programs as "centers of excellence" that can especially contribute to the state economy, in exchange for which they get special funding and attention. "I noticed that previous chancellors spent a lot of capital trying to shut down programs," Fingerhut explained. The centers-of-excellence idea

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leaves the decision at the university level "and empowers people on campus who wanted to do this but were hampered by internal resistance."

Almost immediately, some presidents started jockeying to make sure their universities were given favored status. The president of the University of Akron, with Fingerhut in the audience, said in a speech that it should be designated northeast Ohio's public research university, even while Kent State's president was telling reporters almost the exact same thing about his school. The two public universities are only 20 minutes apart.

Persuading everyone on campus to chant the mantra of economic development proved tricky, too. Some faculty members worried aloud that the liberal arts would be neglected. It was the job of politicians to worry about the economy, not the job of universities, they said.

"For a long time universities in general just didn't think of economic development as part of their mission," Baunach said. "It was basic research and teaching." Even now, she said, "You might have an enlightened president, but then the provost is still old line, and the old-line professors are still there who think there ought to be a demarcation between industry and academia. Boy, it still goes back to that academic purity."

But collaboration has been taking hold. A new Advisory Committee on Efficiency, made up of regents, students, faculty, the universities and colleges, and business representatives, meets in public and produces

Hard times have provided an effective argument in Ohio to drive support for public higher education: unabashedly linking it to economic prosperity.

monthly reports for legislators and the media about which universities are meeting goals based on projects pioneered at one campus or another. For example, when Lakeland Community College piloted new energy-efficiency standards, all the universities were given the job of meeting them.

"Do you really want to be the campus that's the least energy efficient in Ohio?" Fingerhut asked, smiling. "That's not what you want to be. This in my view is the purpose of the central office. I'm trying to structure this so that the public pressures and competitive juices of people kick in."

The universities and colleges collectively claim savings of \$250 million, after pooling purchasing of everything from office supplies to power. A new joint information-technology purchasing program, which also involves school districts, is projected to save another \$130 million over three years. A purchasing-card agreement with JP Morgan will provide cash rebates estimated at about \$6 million in five years. And Ohio is one of seven states to receive a grant of nearly \$1 million from the Lumina Foundation on Education to find still more ways to consolidate administrative operations such as hu-

man resources and payroll services across campuses.

Individual universities have also gotten into the spirit of things by striking deals with each other. The University of Akron has agreed to manage technology transfer for Cleveland State University. Ohio State and Ohio University teamed up with the state retirement system to save a combined \$4 million a year on their prescription drug plans.

In northwest Ohio, joint degree programs have been hammered out among Cleveland State, the University of Akron, Cuyahoga Community College and Lorain County Community College, under which some students never have to leave their community-college campus to earn a bachelor's degree. Columbus State Community College and Ohio University have reached a similar agreement. Columbus State students can take Ohio University courses toward their bachelor's degrees without leaving the Columbus State campus—at a total cost for the degree, said Fingerhut, of as little as \$15,000.

The paths to these kinds of deals have been smoothed since general-education courses at every Ohio public university and college were guaranteed to satisfy basic or general-education requirements at every other Ohio public university and college. University students quickly figured out that they can use these transferable credits to satisfy degree requirements, and that they can earn them much more cheaply between semesters at community colleges, which saw a 19 percent spike in enrollment during last year's summer session.

Even the University of Akron and Kent State have reached détente. The University of Akron is a partner in an innovation park west of Akron and, in the middle of the city, a polymer innovation center and a biomedical corridor in partnership with Northeastern Ohio Universities Colleges of Medicine and Pharmacy, while Kent State is redeveloping a former bus garage east of Akron into space for startup high-tech firms

The universities are reaching some economic development milestones, too. The Ohio Skills Bank, a regional workforce initiative meant to link university degree output with economic needs, found that more licensed practical nurses were being turned out than are needed, but not enough registered nurses, so several community colleges and four-year universities teamed up to give LPNs the training they need to become RNs. After Fingerhut gathered every engineering school dean in the state to make a presentation, the private aviation company NetJets announced a \$200 million expansion in Ohio, over other states that had competed for the prize, which came with 800 new jobs. Cincinnati-based consumer-products giant Procter & Gamble (whose Swiffer duster was developed by university researchers—in Japan) reached an agreement to underwrite research at Ohio's public universities statewide, after the system cut through red tape that had previously held up research contracts by as much as 18 months.

"Even if I could order everyone to do what I wanted to do across the system, you and I know that wouldn't happen," Fingerhut said of these successes. "If somebody wants to frustrate it or slow it down, they can do that." Gesturing toward Capitol Square, 36 stories below his office in Columbus, he added, "I am under no illusion that I can drop a missive out this window, and by the time it flutters to the street everyone is going to follow it. It's much more an approach of strategic leadership."

Increasing enrollment to meet Strickland's target has been slower going. That is in part because, after 14 years of going up, the number of high school graduates has started to decline, and won't rise again in Ohio until 2015two years after the rest of the country. Enrollments are creeping higher at the public universities, though the number of students has risen 23 percent in three years at the community colleges. To lure more. Ohio has done such

things as announcing it will charge in-state tuition to any veteran from any state attending on the GI Bill, and has started a program under which 305 high school seniors are enrolled in freshman university classes and can matriculate to the universities as sophomores.

On the campuses, there is palpable optimism. At Bowling Green, a new center for the arts is going up, along with a 5,000-seat arena, and new residence halls. The library at the center of the Ohio State campus has been elegantly renovated, there's a gleaming new recreation center, and the student newspaper spent much of this academic year breathlessly counting down the days until the huge new student union opened.

"Students have just come off three years of no increase in tuition," said Anthony, the Ohio State student president. "It's very hard to not be grateful, compared to 40-something percent in California. When you look at the big picture, it's really hard for us to be upset."

Well, not that hard. The tuition freeze ended last summer, and students have been hit with two cost increases since, capped by the General Assembly at 3.5 percent. Their tuition is still among the nation's highest. Ohio faces another \$7 billion state budget shortfall over the next two years. And the \$724 million in federal stimulus money that has helped protect the universities from deeper cuts is running out. Bowling Green imposed unpaid furloughs on most faculty and staff, 149 of whom took euphemistically named "voluntary separation benefits" to retire early or to resign. Fingerhut cut his own pay by nearly five percent.

As the recession has deepened, some initiatives have had to wait. A \$50 milliona-year proposal to vastly increase the kinds of student internships and co-op programs that keep graduates from leaving has been put on hold. So have plans to boost the number of science doctoral degrees and basic research.

Nor has the employment picture changed perceptibly—especially as students see it. "You can't just wave a magic wand and suddenly there are jobs in Ohio,"



Ohio's universities "want to be collaborative, and they don't want to be run from Columbus," says Bruce Johnson, president of the Inter-University Council of Ohio.

said Danni McConnell, a Bowling Green sophomore from Columbus.

But the interest groups that sometimes divide higher education seem to be warily embracing their new roles. "There's some logic" to eliminating duplication, said the Bowling Green political science professor, David Jackson, who is president of the Faculty Association there. "How many Ph.D. programs do you need in one state?" As for contributing to the economy, he said, "Hopefully, that's not all that people think we're good for, but I don't have a problem with that being some of what we're here for."

Meanwhile, of the news from states like California, which are slashing the same types of higher education funding he's been trying to preserve, Strickland said, "We are disarming ourselves in terms of being able to compete in this increasingly competitive global economy. And I believe, as I say over and over, that there is an unbreakable con-

Even after the economy began to slide, causing state revenues to fall short of projections, Governor Strickland mostly shielded the universities from funding cuts.

nection between economic growth and prosperity and educational achievement. Those states, and I hope Ohio is one of them, that have protected education and nurtured education, will be the states that will lead the new economy."

If any of his fellow governors asked him why he has made the choices he has, said Strickland, "I would tell them that it's entirely out of selfish motivation." ◆

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