

Improving Productivity Across Public and Private Campuses: A Close Look at Institutions in Indiana, Tennessee and Texas

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The Lumina Foundation's "big goal" is to increase the proportion of American adults with high-quality degrees or credentials from roughly 40 percent—where the rate has been plateaued for more than four decades—to 60 percent by 2025. Lumina has taken a multi-faceted approach to achieving this goal, including a number of initiatives with public state university systems, which enroll the vast majority of college students in the United States. The Master Class at the Forum's 2011 Aspen Symposium was devoted to highlighting and discussing efforts to increase productivity in Indiana, Tennessee and Texas. The political environment surrounding higher education and the demand for higher productivity were also discussed, as was the role of leadership in effecting change. Panelists included Nasser Paydar, chancellor of Indiana University-East, William Powers Jr., president of the University of Texas at Austin, and Paula Myrick Short, vice chancellor for academic affairs at the Tennessee Board of Regents. William Massy, Professor Emeritus of Higher Education and former vice president for business and finance at Stanford University, moderated the panel, excerpts of which are reprinted here.

William Massy

We have been discussing these last few days in Aspen a number of issues, including constraints on resources, the importance of more and better and deeper learning, and higher education's obligation to produce an informed citizenry—and we all can extrapolate from the importance of that.

Yet we know from our own experience, as well as from the discussions here, that much of what goes on inside our

institutions is still mired in tradition, that there is worn-out content, there's a high level of control by teachers, and there are one-off handicraft approaches still after all of these years. There is also bolt-on technology, albeit plenty more than there used to be—and plenty more expensive than it used to be. But there are relatively few instances where there's been a true transformation. And there's little knowledge of advances in how the cognitive sciences apply to higher learning.

TAKE AWAYS

- Much of what goes on in our institutions is still mired in tradition. There is worn out content and a high level of control by teachers. One-off handicraft approaches to increasing quality and productivity dominate. There are relatively few instances of true transformation of teaching and learning.
- Lumina Foundation's "big goal" is to increase the proportion of American adults with high-quality degrees or credentials from roughly 40 percent—where the rate has been plateaued for more than four decades—to 60 percent by 2025.
- If higher education doesn't produce productivity measures, we are not only vulnerable to external political attacks but we also lack the internal feedback we need to make changes. We need quantitative measures constructed from the record keeping currently in place, coupled with deep-dive looks such as academic and financial audits.
- The more the most visible institutions focus on increasing quality and productivity, the better. Other institutions around the country will note their efforts and want to imitate them. Such institutions have an important leadership role to fill in effecting transformative change.



I like to use this analogy: It was possible to build bridges in the 19th century without knowing a whole lot about statics and dynamics and strength of materials. We had to build everything much bigger than it needed to be so it had an acceptable chance of working. It wasn't until we really understood the science that we could start doing the job right. In higher education, teaching and learning are working "all right." The bridges by and large aren't crashing down, although more and more of us are saying that science-based design and the effective use of technology could produce better results with the same or fewer resources.

The Lumina Foundation has been focusing on developing, piloting and disseminating innovations to improve productivity. We heard about some of their projects during last year's Master Class. We are privileged today to hear from three additional speakers who have effected degrees of transformation on their campuses. They're going to talk not so much about the nuts and bolts of those initiatives, but rather about the role of leadership, and the role of politics, in getting things done. I hope that all the institutions represented here can also do something along these lines in the not too distant future.

First we'll hear from Bill Powers, president of the University of Texas, then from Paula Myrick Short, vice chancellor for academic affairs at the Tennessee Board of Regents, and finally from Nasser Paydar, chancellor of Indiana University East.

William Powers Jr.

We've been doing a lot on our campus at the University of Texas at Austin. I'll talk about that, but I want to start out with the politics on campuses, and the progress that's being made in politics off campuses as well.

This symposium is basically about what higher education is going to look like in the future. One of the things that we, and the campuses, need to embrace is, this is the future, right? There's a sense on some campuses that we're in an economic slump, budgets are down, there's a lot of pressure on things like productivity and efficiency. But then things will bounce back and we'll go back to life sort of as we knew it. I don't think that's going to happen. I think we're going through a seismic shift in attitudes around the country on higher education.

A lot of people have real doubts about higher education, and there's some political animosity toward higher education. I think this is going to be a long-term project and that brick by brick we're going to have to build more productivity into a lot of what we do: things like getting faculty to change the way they teach, and getting departments to bring their Ph.D. students up to speed on the learning sciences. Whatever it is, these productivity issues need to occupy a bigger space on our

campuses. I think that over the last five years or so, tremendous progress has been made.

I go to the AAU meetings and talk to presidents there. It is not the case that those presidents are saying this isn't part of what we do. We're hearing a lot more about this on campuses. I think we need to keep that momentum going. There are people at this symposium who are very high up at their institution. These concerns used to be at a different level, with technical people doing a lot of the work on it. The issues are creeping up to be more a part of the DNA of a lot of institutions, certainly our institution. I think that as part of this political debate surrounding higher education now, that is going to be important as well.

I also think that the more we see the most visible universities focusing on productivity, the better. Other institutions around the country are going to look at that and want to imitate them. Take the smaller, more undergraduate-oriented liberal arts colleges—Williams, for example, or, in our state, if Trinity is doing it—then it has a certain sort of panache to it.

So I actually see some good news. We don't quite know how to build in more productivity yet, and we need to keep working on it. But I think the political debate both on and off campus is actually better than it was four or five years ago.

But let me talk about some challenges in the political realm that we have to recognize and address. They will be terribly important—both on and off the campuses—in public universities, in the legislature, and in the political environment.

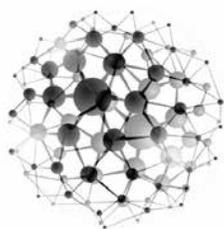
People talk about productivity and the reaction very often—and certainly the reaction five or ten years ago—was, we're not businesses. We ought not be talking about productivity, that is anathema to what education is about. You've heard that on your campuses. It is nonsense. And faculty can come to understand it's nonsense, if the issue is handled appropriately.

Most advances in human civilization have come through productivity gains. The three-crop rotation in the Middle Ages was a huge productivity gain, as was the harness on the horse so you can plow fields better, and computers. There should be nothing about productivity gains that should be anathema to campuses. On our campus, our faculty now talk openly about productivity gains. So what's the issue? Productivity is looking at inputs and how effective they are at producing the desired outputs. Well, what are the outputs that we want? The debate, the vitriol, the resistance, I think, is about having a very careful, enlightened and thoughtful view of the outputs that we're looking for.

Most of the debate in the outside political arena is simply about how many degrees are being awarded around the state, how many student credit hours are being earned, and,

frankly, how can we reduce the labor costs associated with those. Discussions focused just on reducing labor costs lead to things like just putting everything in distance learning, online, although there may be some value in some of that. Or, for example, let's get faculty to teach three courses per semester instead of two. Or just increase class sizes to 400.

You can imagine that thoughtful faculty have a very different view. We've been working on curriculum reform on our campus for the last six or seven years, and one of the things



It's easy to measure student credit hours. It's easy to measure cost-to-degree. ... But are our graduates fulfilling the role of enlightened and engaged citizens, and applying their knowledge in whatever field to improve it? Well, we'll know that when they're 40.

we've done is start a small "signature seminar" taught by a single faculty member for freshman, to get them acclimated to college, do a lot of writing, and do a lot of critical thinking.

If the debate about productivity says those outputs are not important, then you're going to get resistance on the campuses. Again, it's not productivity, it's defining the outputs that we're looking for that is the issue. That's where the controversy comes from. Faculty get upset when they see a banal view of the outputs that we're looking for. Quality is a broad term that talks about that. But it's a variety of aspects of quality—critical thinking, writing, all of those things that we think are important at graduation and beyond.

Another point about this political debate. There's a student assessment, metrics-oriented cottage industry out there. And as you know, this isn't unique to higher education. It's relevant to lots of areas where we're trying to measure outputs. The first thing to do is go find the facts that we know and measure them. Well, it's easy to measure student credit hours. It's easy to measure cost-to-degree. It's easy to measure other kinds of things that we're starting to measure and, frankly, ought to be measuring. But are our graduates fulfilling the role of enlightened and engaged citizens, and applying their knowledge in whatever field to improve it? Well, we'll know that when they're 40. Those are very hard outputs to measure. We probably ought to be doing a better job of measuring those more longitudinal outputs.

To me, this political debate is about having either an enlightened or banal view of the outputs. Again, I think the

leading universities in each tranche need to get out in front and say, we're coming up with the solutions to this. We've got to get out in front of the issue or we're going to lose the funding battles and all of the other battles. The research that we do is under threat. The debate is why are people off doing research and not spending more time on something else, namely, teaching. We have to get that balance right. We can't ignore the undergraduate teaching mission. But we've got to do a better job of saying that research is part of the productivity calculus, or else we'll be in political trouble on our campuses. When someone asks, why is this person writing yet another article on Shakespeare that's read by 30 people, they misunderstand how research works. Those 30 people across the board add up each time, and then 20 years from now we have a better understanding of Shakespeare for our culture. And in the sciences, breakthroughs are the tip of the iceberg that rest on small advances at many institutions and in many countries over a long period of time. Nobody thought the double helix structure of DNA was going to have any practical or useful value when it was discovered. It's discovery like that over and over and over again that moves both science and the social sciences and the humanities forward. But we've got to somehow come to grips with how in our output mix that is going to be both balanced against and integrated with teaching.

Finally, the way states fund public higher education is hugely counterproductive. We will never have productivity gains if we don't let the dollars chase the most productive institutions. Most of us on campuses and certainly in state funding look at the problem campuses and spend resources on bringing up the problems. Egalitarianism and productivity are enemies. Of course, there's a great deal of good to be said about egalitarianism and fairness, but we are going to have to be more ruthless—and states and democracies are not very good at that—about putting our resources into our most productive institutions. It could be community colleges that are more productive than others. But across the board, we are simply not being serious about productivity if we don't let our social resources chase our most productive institutions.

Paula Myrick Short

I'd like to lay a little context out so that you have some understanding of why things are happening in the state of Tennessee, and how and why the institutions are responding in the way they are. Tennessee is in a fairly unique situation in that a very concerted discussion about state funding began in the state about three years ago.

Higher education had been cut substantially in Tennessee. Conversations began among the institutions of higher education, and with the leadership in the legislature and our state

higher ed commission about what we were going to do in response. In the political arena, the issue of why the state should give higher education more money if we're not more efficient and effective in what we do became a real issue in Tennessee.

And so about three years ago a group of politicians and higher ed officials began meeting, and did so over a year's time, to talk about how we might establish a public agenda for higher education in the state of Tennessee. And in what we call the "extraordinary session" of the state legislature in 2010, our general assembly passed the Complete College Tennessee Act, which established increased educational attainment as the state's primary need relative to higher education. The act mandated certain fiscal, academic and research policies in service of educational attainment. So the landscape was set for us legislatively and we have as a state, and as a system of higher education, responded in some fairly dramatic ways.

One of the things that the public agenda for higher education sets out in writing is that we are to increase the number of degrees awarded 3.5 percent annually so that undergraduate degree production—and that's associate as well as baccalaureate degrees—grows by 26,000 by 2015 and 210,000 by 2025, bringing us up to the national average for undergraduate degree attainment.

To some extent, the legislation actually has been an interesting policy lever to help us begin to refocus what we do around our effectiveness not only in the classroom, but also in the policies that we establish in the academic and other arenas. The litmus test is always, "How is this helping us move the state forward to meet the public agenda that's been established for higher education?"

Another piece of that public agenda is to improve the time-to-degree and graduation rates while also increasing the overall number of degrees. The legislation also mandated that we target underserved students and undersupplied occupations. So it's more than just increasing the number of degrees. It involves conducting an audit of our state economic development needs, and doing an analysis of whether the institutions of higher education in the state of Tennessee—again, this includes community colleges all the way through research universities—are working with our public industries and our economic development agency, and whether we're being sensitive to their needs as we plan and move forward.

The legislation also includes a mandate to improve quality. So to a large extent, Tennessee has for a number of years led the way in performance funding as a state. About 6 percent of the state budget has always been held back and awarded based on quality performance measures. We implemented an academic audit in 2004 with Bill Massy's help, which applies a continuous quality improvement model in the academic arena

and plays a part in performance funding statewide. So we've been working on these issues for some period of time. But it's interesting to see what legislation does in terms of helping us turn an almost laser-like focus on what we need to do.

The public agenda and the legislation also have components to enhance the research capacity of institutions. Significant funding is going toward establishing research consortia across the state, and specific initiatives that, based on statewide needs, our state legislature would like to see accomplished in our research universities have been set in policy.

The legislation also established mission distinctiveness for each of our institutions. That ties to our outcomes-based funding formula, which we now have rather than enrollment-driven funding. Each institution developed an institutional profile, within certain criteria from the state, that had to address who it is, who it serves, and how it does so—all tied to Carnegie designations. Each individualized institutional profile was approved by our governing board, and decisions such as approval of doctoral programs and the funding formula tie in to it.

We've been very involved in Tennessee with both the Lumina Foundation and the Bill and Melinda Gates Foundation's goals to increase the number of Americans who have high-quality degrees. It is one of the bases of our public agenda. We also participated in the Lumina Foundation's Making Opportunity Affordable grant for which we conducted a higher education policy audit across the state, which allowed us to gather data and take a look at who we are and who we're serving and how we could do that better.

I'd like to share specifically with you, as a case study, one of our academic quality initiatives. One of the things that we have completed across the state is the development of a 41-hour general education core that is fully transferable among all of our institutions. If a student completes that core in the community college, it's fully accepted at any of our universities as the general education core requirement being completed. Faculty and institutions were deeply involved in this effort.

The core was established based on very specific student learning outcomes—many of which Bill Powers just mentioned—that we wanted every student who completes a degree in Tennessee to acquire. And one of the ways that we went about doing that was by holding forums where we listened to business and industry to learn what they expect students to know and be able to do—namely, critical thinking, problem solving, and teamwork. Many of the things that we know are critical to an educated person are incorporated into our 41-hour core as well as the humanities and foreign languages, for example.

Six years ago, we cut the credit hours to the degree statewide to 60 at the community colleges, and 120 at the

universities (except for areas like engineering and some other fields such as music that require additional credits). But students who completed the community college degree often, in transferring to our universities, faced the problem of not having taken the right courses in those first 60 hours for which-ever major they chose. And so they eventually would graduate with 140 to 150 credits.

Recently, with funding from the Gates Foundation, we brought 450 faculty together from each of the disciplinary areas to hound out just what that 60-hour curriculum should be for students to go into specific disciplines. We now have 49 pathways in 28 disciplines. We are creating a web portal to make this information widely accessible. We believe that this may be one of the most effective things to help students reduce their time to degree and help them be more focused on a seamless pathway to that degree.

We've also implemented dual admissions, probably not new to you. We believe that if we can dually admit a student to a community college and a university at the same time—meeting very specific standards and criteria—that the connection we're making between that student and the university creates a mindset that they can do it, they can earn a baccalaureate degree, rather than feeling like the light at the end of the tunnel will never appear.

The community college students have access to advising from the university faculty in the program to which they plan to transfer. They have access to the facilities, the library, and other resources at the university. We're quite excited about what the impact will be on improving the pathway for students and enabling them to complete the degree in an efficient and timely manner.

One more thing I might mention is that once every three years we review with the regents the low-producing programs within our system. One of the things that we're committed to doing is either to help faculty in certain disciplines to develop plans to increase enrollment and productivity, or we look at eliminating that program and then using those resources to put behind programs that are producing graduates, that are needed, and that are important to that university or that community college.

And so we've tackled something that I think is often very difficult to do and that is, if we're going to approve new degree programs for our institutions, then there needs to be the expectation that those programs will graduate a sufficient number of students in a quality manner that warrants the resources the institution is devoting to them. It's a continuous improvement model, where we review data on these programs on an annual basis and then make decisions with the campus, involving the faculty, every three years. It's amazing how we've been able to turn around programs that were not producing as

they should. We've gotten people out of their sense of complacency to agree that maybe this is something we need to look at; maybe we need to look at marketing, maybe we need to look at the way we're sequencing courses, and maybe we need to look at advising or we're going to lose this program.

This approach has produced some significant gains and significant discussion across the campuses about how to keep a program vibrant and responsive to our student population.

Nasser Paydar

I've been with Indiana University for 25 years. Before I crossed completely to the dark side, I was a very active researcher, and worked with a number of universities here as well as in Europe and Asia. I helped Indiana University establish a university in Malaysia, in Kuala Lumpur, a number of years ago. I have been in administration for a number of years now, and at no time have I seen this much interest, attention and pressure on universities.

Four years ago, I was appointed interim chancellor of one of the Indiana University campuses—IU East. My task was to be there for one year to bring some order there and then go back to my home campus at Indiana University. IU East had enrollment drop for six consecutive semesters and as a result the university had developed a major financial problem. Given the financial situation of IU-East and underlying pressure on universities, it was clear to me that we had to make major changes on that campus to be able to survive, and even increase our reach to affect more people and assist with the economic development of our region. So, I went to the faculty. I said, "We've got to look at this. We've got to change. We have to do it very quickly. We don't have much time." They said, "That's fine, let's form a committee first to make sure that we understand there is a need for a change, and then we will form appropriate committees to look at this thing."

Nevertheless, as an immediate first step to bring order to our finances, both administrative and academic organization charts were restructured. Savings from reducing the size of administration were used to strengthen the academic mission of the campus. Two vice-chancellor positions were eliminated and the faculty workload was realigned with the new strategic vision. Funds from the two vice-chancellor positions were used to add new faculty positions.

I also realized that we had an opportunity to cut more by outsourcing, not to China but to our community college. The community college, by the way, is a new concept for the state of Indiana. In Indiana, in fact, technically our community college wasn't formed until 2005. That year state legislators established one community college with over 20 campuses, called Ivy Tech Community College.

In 2008, every university offered a number of associate degrees and remedial courses. That year we decided we wanted to be the first university to eliminate all of our associate degrees and all of our remedial courses. We entered into an agreement with Ivy Tech that emphasized not competition, but rather collaboration in educating students and efficiency of operations. We eliminated admission to associate degrees and all of our remedial courses. To emphasize the importance of this strategy we signed our partnership agreement at the Indiana State House.

By this time the faculty really were concerned that I was crazy because we had a deficit and we just cut over 10 percent of our incoming revenue, from associate degrees and remedial courses.

To further increase our reach we expanded our partnership with Ivy Tech by establishing a number of off-campus centers in their buildings. For about \$5,000 a year, we got a suite of offices, hired faculty to work there and began offering a number of bachelor's degree completion programs (third and fourth years) in partnership with these campuses. They created the cohorts at those sites and pushed them to our baccalaureate degrees and all of a sudden in a year we were able to increase by huge numbers at these sites. We now have six or seven sites where Ivy Tech works with us.

To make a bigger impact in our region we needed to bring in more students, including non-traditional students, and keep them. Physically, it's very difficult on our campus to continue expanding the number of students without building more buildings. So we said, why not online, why not do some of our programs at the upper baccalaureate level—meaning only third and fourth year—online. And we moved in that direction. We put in all the infrastructure that is needed—tutoring, mentoring, advising, everything—and then encouraged faculty by offering summer support, bringing in designers, and investing heavily in quality delivery of online programs, because the degrees are IU degrees and had to meet certain requirements.

The faculty embraced the approach and now, four years later, we have a large portfolio of online baccalaureate degree completion. The programs are popular, as IU East is now the leader within Indiana University in the online delivery of undergraduate programming.

Retention of students also became an important area of emphasis. We invested in creating offices that when I went to college did not exist. We have a large number of advisers, but

we also created what we call student coaches. These people are there to make sure that students see an adviser, and to make sure that they are doing the right thing. We reached out to students through social media. We embraced it about four years ago. By the way, I'm the first chancellor/president in the whole United States to use Twitter. I'm very careful in my tweets—never sent pictures! Actually, try it. It's very difficult to put 140 characters together to make sure that you don't offend legislators, community members, and parents or students.

So social media is something that the student coaches use. They become friends with the students from day one. We have coupled our early warning system with the coaches, and in three years we went from the lowest retention rate, first to second year, among all eight campuses of Indiana University to the highest retention rate of all the regional campuses of Indiana.

Among other initiatives in 2008, to improve productivity on campus, IU East implemented a new business model, which was designed to increase efficiency and productivity of all campus units—Responsibility Center Management (RCM). This business model empowers the schools to generate new revenues and sets incentives for cost-control strategies. Its budgeting system ties school budgets to their performance in areas of importance to the state (retention, graduation, successful completion of courses, partnership with community college, etc.). As a direct result, the campus has accumulated significant reserves since the implementation of RCM. Importantly, leaders of operating units have a newly developed appreciation of the value of productivity improvement.

So the system seems to be working. In the last four years we have increased our student body by around 65 percent. The revenue has increased. We have added more faculty and added a large number of undergraduate and graduate degree programs.

And in this biennium, when the state of Indiana enforced performance-based funding, when most universities lost money, IU East was in a rare position. We gained 5 percent in our state appropriation because of the successful completion from first to second year, and as a result of a number of other factors such as graduation rates and so forth.

Discussion

Mr. Massy: Thank you very much, to all the panelists. There are some very clear take-aways: First, it is possible to do things that matter. It is possible to do things to boost the kinds of



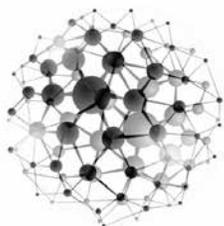
It is possible to do things that matter. It is possible to do things to boost the kinds of outputs we all agree that we want. And it's possible to do these things in the not-for-profit sector.

outputs we all agree that we want. And it's possible to do these things in the not-for-profit sector. It takes leadership, amongst other things. We've seen three examples of that. Now the floor is open. Yes?

Q: I read that Texas is experimenting with a \$10,000 degree program or something like that. Where is that coming from? How does it work?

Mr. Powers: Well, the governor has talked about it. After a lot of inquiry, it is still unclear whether that means the cost to the student is \$10,000—that's easy, right? We already have 20-some percent of our students on that kind of program with financial aid and Pell grants. So if that's what it means, it just takes financial aid. If it means the actual social cost of a degree is \$10,000, that is so far beyond our ability, without just having a site at a mall with videotaped courses and calling that a degree. That, as you can imagine, is getting a lot of resistance. There's a lot of momentum, though, for bringing the cost—both the social cost and the cost to the families—down. In any case, though, that idea was just raised in a speech. As you might imagine, it's been pretty controversial and debated in the press and on the campuses.

Q: To take this just a bit wider, if somebody owns a manufacturing plant and the demand for that good goes up, rather than building another manufacturing plant right next to it,



There's concern that when you focus on productivity, the easiest way to increase productivity is to limit access. ... if we take students who are underprepared out of the equation, we're going to have better success rates.

they start a second shift and if demand goes up again, they might even start a third shift.

In higher education, the physical plants are getting much more specialized and much more expensive. And parents are having a terrible time trying to afford all of this. But we're still generally stuck in the 14-week, two-semester program where we really are utilizing the physical plant—for teaching at least—only 28 weeks a year.

If we went to three 14-week semesters, the students and the faculty would still have 10 weeks left over a year which, while less than they do now, is certainly more than the average participant in society has. And why won't the world consider the three-semester program and targeting three-year undergraduate programs instead of four- or five-year undergraduate programs?

Ms. Short: One thing that has just been passed in the Tennessee legislature is an opportunity for students to use lottery scholarship funds for summer enrollment. It really did force students who had these scholarships into exactly what you're talking about. I think that may open things up.

Also, some of the work we're doing in our community colleges gets at this. As long as we retain a high-quality standard in what we're doing, I think there will be some lessons learned from these new pathways that allow a student to complete the full degree in an accelerated period of time. And so I think that discussion is on the horizon for us.

We've looked at the Bologna Process, too, but basically it doesn't include general education—that piece of the degree that we believe is important. Again, when you look at a three-year degree, we're struggling with where the cost saving is for the student if they're paying for the same number of credit hours. But I'm with you on it. It is something that we are discussing.

Mr. Powers: Southwest Airlines doesn't want to leave its planes on the ground, right? It wants them up flying. We want our capital assets to be productive, absolutely. Higher education, generally, and our on campus, we're not using the physical plant in the summer in a way that could increase productivity, at least of the capital plant. An issue we face is not use of the facilities, it's the teachers. So you've got to get those in sync. But as a general proposition, you do not want your capital plant to lie fallow.

Just one other follow-up on the use of capital assets. The notion that the capital plant is lying fallow is way overstated. The faculty are still in their offices. They're in their labs. The classrooms are lying somewhat fallow, but we have a pretty robust summer course. But if the notion is that faculty will teach all year round, we'd be at a competitive disadvantage with other places recruiting faculty, like Harvard or Williams or where ever.

If we hired the teachers to teach those courses, they'd need offices, they'd need labs, so it's an overstated notion. Nevertheless, it is absolutely correct that as part of a productivity analysis, you want to make sure you're getting the ROI out of your capital plant in a way that produces outputs.

Q: We have already decided to reconfigure our academic schedule so that we'll have three semesters—summer, spring and fall—so there will be no difference. And we're also moving toward looking more at outcomes-based assessment education so that it's not so time dependent, which is a really, really hard thing to do, but ultimately I think it has some implications for productivity.

But I wanted to follow up on something Bill Powers said. I think your point that research universities—institutions that

have research as part of their mission—have to have that be part of the calculus of their productivity is really important. As you said, we may not have students in our classrooms all the time, but research universities are going 24 hours a day, 365 days a year.

Q: I just want to comment on what our output is, which is not just a quick throughput of students. What we're trying to do is fund our students to be in the labs, because two-thirds go on to graduate school. So we are using our own money to fund them in labs. Also students in arts and humanities work with faculty or work with groups around the city, so during the summer they can apply what they're learning during their two semesters on campus.

That's the output that we want. We don't want just a quick throughput. We need to be sure that people understand what education is and that even at large state institutions the goal is not just to get kids through quickly. That's not what we're trying to produce.

Q: I'm really struck by the fact that we've not had conversation about the public perception of how insular our institutions are and the crisis that's going on in K-12 education. There are things that we should be doing not necessarily to draw students out of high schools earlier but to push college-level material into the high school so that the students show up college ready, and so that we're not viewed as insular institutions that criticize high schools without being willing to do very much to try to improve the situation there.

Mr. Powers: I think that is an absolutely critical point. And as part of our course transformation, we have a project going with Lumina and Carnegie Mellon. It needs to grow. We're working with 16 high school districts to align their senior year curriculum with what they'll need to know to be successful in college and to start to solve this problem. We haven't solved it yet but I could not agree more that we ought to be seen as taking the lead in helping—not supplanting, not talking down to—but helping with college readiness. I think that is a critical point.

Mr. Paydar: We did one very interesting thing in that particular area. We've taken two school districts and we provide test results of students in the freshman year back to their high schools—not names—but they see exactly how they're doing. And that guides them in deficiencies that they have in preparing students for the next level. The school districts really appreciate seeing how their students are doing and knowing exactly where their deficiencies are.

Q: The National Research Council (NRC) has a panel that's trying to define how to measure productivity. We're not trying to increase it or enhance it or do anything else. We're just trying to measure it. And we're floundering. It's a tough problem to try to put forward something and hope that it works. I'm

just curious: I wanted to ask President Powers about one of the more shocking attempts at this, which was at Texas A&M, the racking up of a cost-benefit analysis on every faculty member. I'm just curious for a political update on that. Is that actually going anywhere or is it going away?

Mr. Powers: Well, we're in the midst of that now. It's spread beyond Texas A&M too, not at our doing but at the regents' doing. It didn't quite come out as a red and black balance sheet. But it came out close to that. I think that is for us the most acute example. I think part of it was just to embarrass faculty.

The issue isn't productivity. It's what you define as the important outcomes that you're looking for. I think there's some problem with looking at it at the individual faculty level. We look at it at the departmental level. But even beyond that, any ledger that defines the outputs as simply student credit hours, and the tuition and general revenue that comes in because of that, and commercialization income, is misguided. That is a banal view of the outputs that we're looking for in higher education.

Q: Politically, has that much publicized effort thrown your faculty into a more defensive mode? Does that cloud the whole productivity conversation and make it harder?

Mr. Powers: It's the kind of political debate that makes productivity something we can talk about. Our faculty, our administration, and our huge alumni base have come out totally opposed to that kind of approach, even though they all are entirely behind the kind of productivity stuff that we're talking about here.

Mr. Massy: Part of the problem is that we need some measurement of productivity, and it's not quite clear even to the members of the NRC panel. We've been struggling with this, as was said a moment ago, for a year-and-a-half. It's a very tough problem, but we're going to get a report out—so stay tuned.

On the one hand, anything that is really simple is going to be banal—maybe worse than useless. Even some of the data we use regularly, the Department of Education statistics, for example, on cost per credit hour and credit hours per faculty FTE, aren't necessarily the answer. Look at a department that's, let's say, high on credit hours per faculty FTE. I looked at one institution and I found that they were high because they had stopped assigning essays in English classes because it was easier to grade without them. The classes had 200 students in them, but is this what we mean by "productivity"?

If we don't have any measures, however, not only are we vulnerable to external political attacks, we don't have the feedback we need internally to make changes. What's needed are measures that are meaningful and manageable. I think the answer is to expand the base of quantitative measures somewhat, starting with something that can be constructed from the data systems currently in place at institutions. The

new system should be able to track the relation between inputs and outputs and, importantly, flag potential exceptions of the kind I mentioned a moment ago. The quantitative data should be coupled with deep-dive looks, on a regular basis, as Paula was discussing with regard to the academic audit and its derivatives in Tennessee. Taken together, the two approaches will provide the feedback we need for internal improvement. They will buttress our position in the political arena. Until we can do that, we're going to keep getting problems like the one in Texas.

Q: There's concern that when you focus on productivity, the easiest way to increase productivity is to limit access. I mean, if we take students who are underprepared out of the equation, we're going to have better success rates. And I know that, Paula, there are many things in your plan that try to abate that.

But I'm curious from the panel as to whether you think in your heart of hearts that our drive towards productivity, particularly with the current economic climate that we're in, is ultimately going to limit access both in the absolute sense of more students to higher ed but also to quality higher ed, for low-income and minority students.

Mr. Paydar: Well, clearly if I limit the intake to people with perfect SAT scores, I'm going to have outstanding graduation rates, except my campus and many, many, many comprehensive campuses that are not as selective as others, can't afford doing that. So financially I can't do that even if I really wanted to do.

But at the same time, we have a job to do. We need to balance two things: these pressures for more productivity and our values for higher education, why we are here, and all the things that we stand for. Given that purpose, I'm not sure if any university will really move there. But in my case, I can't even go there.

Ms. Short: Well, we can't, at least in our community colleges. In fact, we've had that discussion. When this legislation was passed, our shared governance groups were very concerned that we were going to lose quality and limit access. But for the community colleges in Tennessee, that's not possible. They're open access.

That has forced us to look at ways to work with the students that come to us. That's why we've implemented dual admission. We've also undertaken a huge redesign of our entire developmental studies program. It's now competencies-based and highly technology-driven. We looked at the data over four years and realized that we were losing these students. The more remedial courses they take, the more likely they are never to complete. We've been doing a lot of work looking at how to align curricula so that students in high school know

clearly what they need to be college ready when they come to the university or the community college. But your point is an excellent point. We don't have that option. Therefore we've got to focus on how we work with these students.

Mr. Powers: We need open access institutions. We need highly selective institutions. I think we need much more sense of mission differentiation. If you go back 40 years, the percentage of people going to four-year colleges was much lower and often based on criteria that were pernicious—wealth, ethnicity, etc.

But that doesn't mean that it's productive for America to have 60 percent of the population going to colleges that are modeled like the traditional college was 40 years ago. Some people ought to be going to those. Some people ought to be going elsewhere. I think we've neglected our community colleges. I think we've neglected our technical institutions.

I do think a very hard issue that we have not stepped up to is the idea that college completion rates are so important that we're putting people into colleges who might be much better suited for a high level, rigorous, but narrower technical degree. I think we probably have gone overboard in thinking 50, 60, 70 percent of our population ought to be going to what we used to think of as college. Again, we need a lot more mission differentiation and then need to make sure that the criteria for getting into the traditional, selective institutions are fair.

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