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It's Time to Improve Academic, Not Just Administrative, Productivity

By WILLIAM F. MASSY

Events since September leave no doubt that the American economy is in the midst of a major restructuring. While the consequences are not yet fully apparent, two powerful implications for higher education have become clear.

First, because solutions to the nation's problems will require a highly educated work force, the demands on colleges can only increase. Second, because of the financial meltdown, colleges will have to meet those demands in an environment characterized by constrained state and federal support, more resistance to tuition increases, greater need for financial aid, and reduced returns from endowments. Meeting such challenges will require colleges to get the best possible results from what they spend — that is, to maximize their productivity. Few would disagree with that basic notion, but the "how" can elicit great controversy.

Clearly we will continue to seek productivity increases in administration, facilities management, and other areas. That's good, but it doesn't get at the core productivity question: What is happening on the academic side of the enterprise? We simply can't afford to dodge the hard questions of academic productivity any longer. Continuing to do so will lead to an accelerating decline in educational quality, not to mention dereliction-of-duty charges by our critics.

I visited a campus recently that has been subject to chronic shortfalls in state appropriations and that, so far at least, has

continued business as usual in terms of learning formats. Administrators have boosted efficiency and increased enrollments in order to garner tuition revenue but still have had to cut faculty positions. In one department, for example, regular faculty numbers have declined from 42 to 28 over the past 10 years — even as the number of credit hours taught has increased. The department continues to use the same teaching paradigms, so what has had to give is small class sizes, courses taught by tenured professors (replaced by largely unsupervised adjuncts), the number of writing assignments (which require grading by faculty members), student advising, and other key drivers of quality. That is what we can look forward to, writ large, if we try to meet the coming challenges with business as usual.

Let me emphasize that I'm not talking about how hard professors work or about institutions' commitment to research. Faculty workloads can be debated endlessly, but the questions we in higher education should be asking aren't "How hard is hard?" or "Is the right balance being struck between teaching and research?" Rather, we should ask, "Are we analyzing the real drivers of quality and cost and then vigorously exploiting the opportunities that we've unearthed?" My experience with colleges, along with my training as an economist, convinces me that, too often, the answer to the last question is "no."

To see why, just consider the time and effort most faculty members and academic leaders spend on understanding the activities and cost structures for teaching and learning, studying best practices inside and outside the institution, and organizing innovative ways to use technology and human resources. Of course one can point to such programs — and to the real gains that they have achieved — but the examples are not at all widespread.

What is needed is for most, if not all, colleges to mount systematic and well-resourced programs for analyzing and continuously

improving the processes of teaching and learning. Because the "devil is in the details" at each institution, one can't know in advance how much such programs will contribute to cost savings and the overall quality of educational offerings. But one thing is certain: We won't find out if we don't look, and looking requires faculty time. Until that time commitment is forthcoming and well supported by institutions, the improvement of learning productivity will remain a slogan rather than a reality.

Whether faculty members use some of the time that they would normally use for research to work on ways to improve learning productivity is an important but not fundamental detail. That's because, in the end, a policy of shortchanging an institution's teaching responsibilities in favor of research would be disastrous intrinsically and politically. The issue is not how hard professors work (I believe most work very hard) or whether they engage in research (most do and should), but whether they are tackling learning productivity in a meaningful way.

What faculty members can do to improve teaching and learning productivity is no longer a mystery. What is missing, besides time on task, is a passion to shed old ways and attitudes. Professors who engage in the change process report that the quest is eminently worthwhile and the work satisfying. Yet most campuses lack the incentives and resources to achieve critical mass. Building momentum will require concerted action by presidents, provosts, deans, department heads, and senior faculty members.

Three examples demonstrate the efficacy of such action and illustrate how it can be initiated. First is the course-redesign program conducted since 1999, initially with support by the Pew Charitable Trusts, by the National Center for Academic Transformation. The center works with teams of faculty members to analyze the activities associated with teaching and learning in large courses on campuses, to document course objectives and develop assessment measures for them, and to identify and test

alternative formats that promise to improve cost-effectiveness. The center's results have been impressive. For example, the 30 initial Pew-financed projects reduced per-student cost by 37 percent on average, with a range of 15 percent to 77 percent, while improving learning performance in 25 of the 30 projects (with the other five showing no significant difference). Similar positive results have been obtained in subsequent course-redesign programs conducted by the center.

The new formats often involve information technology, but technology is a tool rather than an objective. Carol A. Twigg, the center's founder and chief executive, describes the approach as movement toward a more activity-focused and assessment-driven pedagogy, usually accompanied by applications of technology.

The focus on activity deals directly with the learning process — one that pushes students to take a more active role — while assessment supplies faculty members with the feedback necessary to diagnose and correct learning problems. Technology allows such active learning processes to be expanded to large courses and, as learning software and databases become better, to use faculty time more effectively.

At Rensselaer Polytechnic Institute during the 1990s, for example, professors used simulation and problem-solving software to achieve learning increases in physics, chemistry, and calculus with significantly fewer faculty and teaching-assistant hours. That "studio" approach to teaching has been adopted by institutions around the world.

Another example is a program that the University of Minnesota at Rochester is developing through its Center for Learning Innovation: a bachelor's degree in health sciences that reflects the application of such principles on a curriculumwide basis. The university will offer the curriculum in a distinct format in which faculty members engage students in structured, integrated ways

that illustrate key connections among biological sciences, quantitative sciences, life sciences, social sciences, and the humanities.

The goal is to personalize the learning experience — students are supported through one-on-one peer mentoring, for example — while being cost-effective by using scalable, technology-facilitated pedagogy and deploying faculty members in innovative ways. Rather than assigning professors to individual courses, for example, so-called "design faculty" organize and monitor the learning experience while "student-based faculty" (a type of adjunct) operate learning centers in the various subject areas to provide personalized assistance when the software falls short.

As a third example, department-level audit programs also illustrate what can be done to improve productivity within the context of traditional academic departments. I have worked with Steven W. Graham, director of the President's Academic Leadership Institute at the University of Missouri system, and Paula Myrick Short, vice chancellor for academic affairs at the Tennessee Board of Regents, to help put such programs in place in their state systems. In both cases, academic leaders began by working with willing departments to self-study their teaching and learning activities, identify evaluation measures, and propose changes designed to improve quality and contain costs — which then were reviewed by peers from within the system.

The academic-audit process is well positioned to encourage the introduction at various campuses across the country of more course redesigns using technology, like those of the National Center for Academic Transformation. The juxtaposition of self-study with peer review assures the effort's integrity, imposes useful deadlines, and propagates best practices across the institution through the experience of auditors. Auditors and those being audited both give the process high marks. The 20 campuses within Tennessee reviewed some 143 programs between 2005 and 2008,

with an additional 37 scheduled for 2009. The state now accepts academic audit as part of its performance-accountability program.

Tennessee's experience shows that people outside academe can support the development of sophisticated academic-quality work within institutions. The impetus for improvement came from within the Board of Regents, but the state provided a major boost by embracing the results — thus avoiding a duplication and dilution of quality-improvement efforts.

I fervently hope that this historic economic crisis will spur the creation of more systematic and well-resourced programs for analyzing and continuously improving teaching and learning productivity. Without doubt, in the longer term, the colleges that provide exemplary education will be those that have learned how to harness learning technology for the benefit of their students. To paraphrase the reflections of President-elect Barack Obama's new chief of staff, Rahm Emanuel, and other observers on how our nation should respond to the current financial difficulties, "A crisis is a terrible thing to waste."

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http://chronicle.com Section: Commentary Volume 55, Issue 18, Page A26