Teaching vs. Research

Norman Hackerman, ex-president of Rice University and former chairman of the National Science Board, has become a "grenade thrower" on the subject of the need for better teaching (as opposed to merely better research) at U.S. universities, according to a government aide who heard him speak recently. Hackerman knows the terrain well. He's a research chemist at the University of Texas who won an early federal research grant in the 1940s from an agency then known as the Office of Inventions, later the Office of Naval Research. Back then, he says, the reason for providing research funds to professors was to maintain faculty members at the "peak of their creative powers," in the hope that this would "induce the same thing in their students." The government's goal was to improve education, he claims, and "the bonus was the science that was produced." Today, the objective of federal support is to produce science, "and the education is looked on as a bonus. That's all wrong," Hackerman argues.

"The current process leads to a belief that you shouldn't deal with people who are more ignorant than you are—that if you don't have the absolute best students in front of you, you're wasting your time." This is perverse, Hackerman says. He thinks it's essential that faculty reach out to the other 99.9% of the students, who are, after all "the ones who support us." He hears "constant complaints" that faculty members regard education as a chore; "they're off in all directions seeking support and fame," ignoring the "reason for them being there."

Richard Atkinson, chancellor of the University of California (UC) at San Diego, shares Hackerman's concerns. "We have let the concern for undergraduate teaching drift," he says. In the days when he was an undergraduate, says Atkinson, "the superstars of the faculty taught the big undergraduate classes.... At the University of Chicago I took undergraduate chemistry from [Nobel laureate] Harold Urey."

But Atkinson warns that there is a faulty argument being advanced by research universities about their role as educators. "If the research universities want to argue that they are the ones to provide the best quality undergraduate education, then they are going to endanger their future existence," he says. The reason? "It says to all the other schools, 'If you're not doing research, you're not providing a quality education'...and that is a great mistake that we've perpetuated."

UNIVERSITY OF CHICAGO ARCHIVES

The way it used to be. Nobel Prize–winning chemist Harold Urey lectures at the University of Chicago.

The underlying problem is that the system is overwhelmingly geared to reward research. "The best teacher in the world is known only to the perimeter of his campus," Hackerman says, "while a mediocre researcher is known around the world." He would like to see every major proposal for a center or large science project accompanied by a campus "educational impact statement" telling how it would benefit students.

Some universities have begun to take their teaching requirements more seriously. Last month, David Gardner, president of UC, announced that he was implementing several of the changes recommended by a university-wide task force chaired by UC Santa Cruz chancellor Karl Pister on faculty rewards. The report called for balancing "the contributions of teaching, research, and public service" in evaluating faculty, and rewarding faculty who act in a mentoring or advisory capacity to students. The university will also consider student evaluations of teachers when weighing faculty for promotions.

Atkinson says he is confident that universities around the country are beginning to pay more attention to their teaching responsibilities. But so far, that may not be the view from the faculty trenches. "They're just paying lip service to teaching," says a young faculty member from a research-intensive university. It may be a while before publish or perish passes from the scene.

–E.M and J.P.

erful strings to funding for research, to the manner of its distribution," and even to the selection of the research itself.

Charting a new course

Ask just about any researcher or university administrator what remedies are needed to cure the ills now afflicting the academic enterprise, and after the inevitable "more money" you will get a wide range of answers. That's not surprising, since the problems vary according to types of institution, and even among apparently similar schools. There is a growing sense, however, that the remedies will largely have to be found within the universities themselves.

Certainly the federal government is unlikely to ride to the rescue with large infusions of cash. Indeed, it is in the process of redefining what its responsibility to university-based research should be. "It was accepted for years that the federal government would pay the full cost of research to universities," says NSF's Massey. "That was fine as long as there was enough money and there was general agreement to do that. But in the last several years, the resources haven't grown as fast as the needs, and there hasn't been the common understanding to guide allocation of resources."

So universities will have to find their own way. One simple proposal comes from Robert Rosenzweig, president of the Association of American Universities, the Washington voice of 56 top research schools. Calling for "intellectual honesty," he said he would urge universities to "come clean" about what they really do and don't do. They are excellent at "honing the intellect to its highest level," Rosenzweig argued, but they are not so good—despite the wishes of many politicians—at creating local prosperity. His prescription: drop the economic sales pitch that many people have used as a means of winning political support for basic research. Rather than promote higher education as a boon to local industry, he would endorse education for its own sake. If there are still too many competitors for scarce funds, according to this remedy, the solution is to apply tougher standards through peer review and reward only the best.

But this recommendation may strike others as self-serving. "We have become too defended in our positions and we're not looking carefully enough at what our innovative responsibilities are," says Brandeis president Thier. Thier argues that the structure of universities may be too rigid to keep pace with changes in science, let alone the changes in the world. Thier's suggestions for short-term remedies—some of which Brandeis is considering—would be bitter medicine for many schools:

- Cut the size of the faculty, and reduce the number of programs the university offers.
- Share facilities with nearby schools.
- Require faculty to teach more courses, relieving some of the pressure to raise tuition