

The Role of Assessment At the University

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The external demand for accountability requires Universities to make a commitment to improving our assessment capability. It's important to understand those pressures--the push--toward assessment. I think it's always important to talk about the other side; to talk about the pull. We'll talk about the attraction, the intellectual appeal to improve the way we assess performance in our environment. So I want to set the stage by thinking together about this strange circumstance in which we find ourselves in our contemporary society, a circumstance in which we academics are judged by external constituencies to be resistant to assessment; resistant to accountability.

We don't have to get very deeply involved in the political process to realize that we tend to be stereotyped as a community resistant to evaluation. The irony in that is that there are few walks of life in which assessment is more deeply embedded than our walk of life. We measure every step of the way. We take tests and are constantly involved in evaluating the fine structure of learning on the part of our students.

In fact, for most students it is a great relief to finally graduate and get out in the world and find that assessment is not an incessant, continuous monitoring process that -unless you are a football coach or a door-to-door salesperson, you don't get a weekly accounting of your performance. In most jobs, you find your way and you develop a kind of qualitative feedback that enables you to understand how you are performing and adjust your performance to receive a more positive reinforcement, and that's the way you make it through your professional life. But in student's lives, getting measured, getting a number, getting a grade is part of their daily experience. So, from our own perspective, we seem to be about as committed to assessment of student learning as anyone in any profession.

We are even committed to assessing faculty performance through the peer review system that we are so deeply involved in in our culture. It involves a great deal of time and effort for all faculty in evaluating critically the work of other faculty, whether they are doing the review for purposes of the publication of scholarly work or for a research proposal, it is a continuing part of our process. And we have our annual quantitative but still quite useful review of our performance, and in some cases even post-tenure review. We do an awful lot, even in faculty assessment, much more than most institutions do. In most institutions there is a hierarchical responsibility for assessment, but not such a pervasive responsibility throughout the system. So we look upon ourselves as deeply committed to a culture of assessment and we might wonder why it is that the outside world sees us differently.

I would submit that there are two characteristics in what we do that make us vulnerable to this misunderstanding. We are both discrete and discreet. We are discrete in the sense that we tend to measure discrete, identifiable, local learning experiences. We measure what you learned in class this week, or at the end of this course. Until we get to the Ph.D. level, we don't tend to measure the comprehensive learning experience. We believe in measurement, but it is very fine structure measurement that we normally engage in. We need to understand that that does differentiate from societal expectations.

We're also discreet in the sense that we think that all this measurement is a private activity; from grades in individual courses to transcripts faculty evaluations are not posted on the internet. In contrast, football scores are. Coaches are subjected to a very public continuous process of quantitative performance evaluation. Most other measurements in our academic culture are discreet. The result is that we don't communicate what we do very well to the outside world.

We need to be careful to guard against the tendency to say, "We're actually perfect; we just haven't explained it." Our commitment to discrete measurement is a problem and requires not simply better explanation to the external constituency, but actual change in the way we assess performance. That's what

this is about-this movement in higher education-is not just about measuring more. It's about more difficult, more challenging measurements; measurements of learning in a broader and deeper sense, not simply in the discrete learning sense, and we are, as a culture, very resistant to that. We are resistant to the notion that we should try to measure the whole learning experience.

Some of you have become quite expert at measuring such concepts as critical thinking, but for the most part, historically, we've expected those capabilities to converge implicitly as a product of a learning experience in which we measure rather specific performance skills in particular courses. This can get to be fuzzier as to become meaningless, so let me put this on a more personal level.

I remember a very very long time ago when I was teaching dynamics courses at UCLA. These are courses that every engineer in that engineering program would take, independent of their discipline in engineering, and it had to do with understanding certain hypothesis that were presented as laws of motion and physical systems and then developing the capacity to use those laws of motion to project or control behavior. That was fundamental to every engineer's education and that was part of my teaching responsibility. Because every student had to learn this, there were many professors teaching the same material.

But every professor teaches the same material differently. And in those days, as now, every professor wrote his own exam. I developed the instruments to measure whether my students were learning my material. Other professors teaching (theoretically) the same material were writing their tests to measure how well their students were performing. Some brilliant soul decided that there ought to be one examination to measure the performance of all students who were taking what was presented as the same course; the dynamics course.

I resisted stoutly. I felt, as a very young professor, that I was teaching it better than the old guys. Now I'm one of the old guys, so I have to assume that all that has changed and now the old guys teach it right. You'd think that everybody was teaching 18th century science -- because that is what it was--the same way, now that we had entered the space age.

In my youth, when I was learning that material, we progressed through a series of special cases. A special case of motion is rest. That's status, so of course you have a status. Then you learn about rectilinear motion: motion in one direction. Then you learn about planar motion: motion in two directions. If you have time at the end of the course, you learn about three-dimensional motion. That was the way I was taught, and that was the norm in that era.

I, as a civil engineer, was thrust into the space business in 1958 when there were no spacecraft engineers, trying to learn how to apply the same laws that had been taught to me in a new environment. It just didn't work because I didn't understand that in the space business, the normal circumstance was three-dimensional motion. I had to relearn as a young doctoral student and professor how to think three-dimensionally; not just progressing from one-dimensional to two-dimensional and then getting into something complicated like gyroscopic motion. I became persuaded that the way to teach this stuff was to teach three-dimensional dynamics to begin with, and then to address special cases of rest, rectilinear motion and planar motion.

That was the way I taught the stuff. And different professors taught it differently, so when you develop a measurement, you can't develop a single instrument. That is an example from my very narrow experience, but I'm sure it's the same in every domain: different professors teach the same material differently and we value that because that's how we get better.

You get better because sometimes younger faculty have an insight that senior faculty don't have, and that senior faculty are not likely to develop on their own, because it's just easier to teach the way you've been teaching. We count on innovations and new perspectives coming from younger faculty breaking the molds and improving the way we teach everything. As long as we believe in that, it's very difficult to commit

ourselves to comprehensive instruments that somehow bind us to all doing it the same way. The senior faculty dominate the development of the measurement tools, so you've got a locked up system.

There are problems, intellectual obstacles, toward comprehensive testing. That's true whether you are just testing dynamics or whether you are testing learning in the broadest sense, so we must be careful not to allow our assessment instruments to become restraints on innovation. And yet we must acknowledge to ourselves that our habit of discrete measurements, of measuring whether you learn this week's lesson or this semester's course material is in some deep sense in conflict with our highest values.

Forgetting all about external constituencies, when we think among ourselves about what we do in a place like this, we'll all quickly acknowledge that it's not about learning dynamics or learning which American president was primarily responsible for the constitution. Those are specific learning experiences, perhaps, but they in truth do not describe what we are all about. We are all about helping people--mostly young people--learn how to think and how to learn and how to communicate. We all agree about that when we have conversations among ourselves. Learning the specifics is just a means to the deeper goal, the broader objective of becoming an educated person who can think clearly and communicate effectively and can understand the difference between logical thought and a speculative flight of fancy.

For the most part, we don't actually try to measure that. We certainly don't measure that through discrete examinations in dynamics or American History. They are a means to this broader end. And what we're being challenged to do among ourselves--forget the external constituencies--is to think deeply and creatively how to measure and thereby assess what we truly value as the outcome of the University experience.

Why haven't we done that in the past? Well, because it's difficult. It is intellectually much more difficult to measure what we would all agree is the outcome of the undergraduate experience than it is to measure whether you have mastered the laws of Plutonian mechanics. We have to acknowledge to ourselves that we haven't done it because it requires a kind of comprehensive thinking that is somehow incompatible with our culture of specialized faculty expertise. We have become very good at teaching material that we know very well. It is hard for teachers to wander into domains at which we are not expert.

Most faculty are expert in something, but they are not truly expert in measuring the broad learning outcomes that we all intuitively understand are our primary goals. It's a challenge not simply because there are external demands upon us. That's real. But I think we in the academy tend to function better when we are challenged by our own intellectual curiosity, our own beliefs, and our own values.

I submit to you that our internal beliefs and values require that we take more seriously the responsibility to measure those outcomes that we value. The capacity to think, the capacity to communicate, the capacity to learn new things, the capacity to create: these are extremely difficult capabilities to measure, but that's not a reason for us to abandon that quest. We need to recognize that it will take our best thinking--not a routine, mechanized evaluation--to assess the things we most value as the outcomes of an educational experience.

That's why we should be talking among ourselves about these breakthroughs in this new dimension. We also need to talk to others about what we are doing because the world out there changes over a period of several decades, and we have to understand that the world's expectation of us will change. We have to be alert to that because we are not some island, some ivory tower isolated from the buffeting of the winds of society. We are part of society; we are integrated into society whether by taxpayers or tuition payers or benefactors.

Somebody is sending us the money to enable us to do what we love to do. We are past the time in American history where we can just expect that money to come. We have to explain ourselves, justify what we do, and make it clear to the constituencies we serve that we are a damn good investment of their money and we yield a return to them. It behooves us to understand the expectations of that outside world.

It behooves us, in whatever discipline we specialize ourselves to pay enough attention to the outside world to be aware that there are changing expectations of society that will manifest themselves in changing expectations for broad reforms.

We, in the course of the last several decades, have seen a cultural movement toward measuring outcomes, or first defining desired outcomes that are implicit in any human endeavor; in defining what it is we strive for. We need to be more conscious and deliberate in defining what we are trying to do, and then we need to find ways to measure those outcomes not because we are different from society but because we are part of a societal movement in that direction.

We are all conscious of the changes in expectations for K-12; we are conscious that you shouldn't just reward seat time in the 6th grade without some indication that some learning has occurred. Societies expectations extend to Universities. Those expectations are not parental expectations; they are also the expectations of employers, the expectations of legislators. The faculty recoil from the notion that someone from the outside should be defining how we do our jobs, or should be demanding of us a change in the way we measure our performance. I submit that what they expect of us is the same thing that we expect of ourselves.

We tend to stereotype their expectations as they stereotype our performance. We tend to imagine, for example, that employers ask of us that the students we send to them have skill in a narrow vocational sense. When you ask corporate executives what they expect us to produce in our graduates, you get an answer that is surprisingly close to a demand for a liberal education.

I have been involved for some years in an organization called the Business-Higher Education Forum which includes CEOs of corporations and CEOs of higher education. The corporations told us that they were becoming knowledge-based global organizations, and that we were producing students who had mastered the skill of accounting or electrical engineering or finance or whatever discipline they had focused on but that we were failing in providing them with young employees who have a capacity for big picture thinking, for working effectively with others, for reconciling differences, thinking in terms of global communities rather than narrow interests and transferring ideas from one discipline to the next.

They said that we are not doing a good enough job at ethical education, in helping people understand their moral obligations to the larger society, that we are not doing enough to help our young people learn to communicate. They were criticizing us for failing in a mission that we hold most dear, and that is in making sure that all of our students have the capacity to think broadly and deeply and work effectively to accomplish things on a large scale. They felt that our graduates are too task oriented.

It's not that the corporate community is asking us to improve the narrow job skills of our graduates. They are asking of us what we ask of ourselves. I don't sense any incompatibility with external demands that universities hold themselves to a more profound acceptance of our assessment responsibility and the internal demands we make of ourselves.