We realized that if we could represent practice, then the possibilities for investigating and communicating about teaching and learning—by different communities—would be enhanced. Although others wanted to highlight our practice, what we needed to draw on was our knowledge of investigative practice, not our own evolving knowledge of practice itself.

We understood this as a problem of representation and communication. How could the many complex layers of practice be represented? And how could practice be engaged and discussed by a wider range of people concerned with teaching and learning?

---Deborah Loewenberg Ball and Magdalene Lampert

One telling measure of how differently teaching is regarded from traditional scholarship or research within the academy is what a difference it makes to have a "problem" in one versus the other. In scholarship and research, having a "problem" is at the heart of the investigative process; it is the compound of the generative questions around which all creative and productive activity revolves. But in one’s teaching, a "problem" is something you don’t want to have, and if you have one, you probably want to fix it. Asking a colleague about a problem in his or her research is an invitation; asking about a problem in one’s teaching would probably seem like an accusation. Changing the status of the problem in teaching from terminal remediation to ongoing investigation is precisely what the movement for a scholarship of teaching is all about. How might we make the problematization of teaching a matter of regular communal discourse? How might we think of teaching practice, and the evidence of student learning, as problems to be investigated, analyzed, represented, and debated?

Definitions

Two related challenges are implicit in this transformation. When Ball and Lampert ask above, "how could the many complex layers of practice be represented?" they are really
asking two broad questions: what are some of the ways that we can investigate and analyze the complexities of teaching and learning? And, what are some of the ways that our investigations and analyses can be represented, communicated, and brought forward into professional conversation?

These questions are at the core of the Carnegie project on the scholarship of teaching, and the culmination of nearly a decade of discussion that began with the 1990 publication of *Scholarship Reconsidered* (Boyer), and then refined later in *Scholarship Reassessed* (Glassick, Huber, Maeroff, 1997). Over this time, a "scholarship of teaching" has come to imply not merely the existence of a scholarly component in teaching, but a particular kind of activity, in which faculty engage, separate from the act of teaching, that can be considered scholarship itself. "For an activity to be designated as scholarship," argues Lee Shulman, the President of the Carnegie Foundation for the Advancement of Teaching, "it should manifest at least three key characteristics: It should be public, susceptible to critical review and evaluation, and accessible for exchange and use by other members of one’s scholarly community." These are the core components of all forms of scholarship, and the features by which "scholarship properly communicated and critiqued serves as the building blocks for knowledge growth in a field" (5).

But in order to apply this model to one’s "teaching," or to think it even possible to produce a scholarship of teaching, there first needs to be a fundamental shift in how one defines teaching as an activity and thus as an object of investigation. As Shulman puts it, "Too often teaching is identified only as the active interactions between teacher and students in a classroom setting (or even a tutorial session). I would argue that teaching, like other forms of scholarship, is an extended process that unfolds over time" (5). Shulman describes that process as embodied by at least five elements: vision, design, interactions, outcomes, and analysis. With these elements, the extended act of teaching becomes like the extended act of traditional scholarship or research. It includes a broad vision of disciplinary questions and methods; it includes the capacity to plan and design activities that implement the vision; it includes the interactions that require particular skills and result in both expected and unexpected results; it includes certain outcomes from that complex process, and those outcomes necessitate some kind of analysis. Like scholarship, teaching also involves what Daniel Bernstein calls a "transactional relation" between teaching practice and student performance. "Indeed such a transactional relation [between scholarly activity and the results of that activity] is a benchmark of excellence in scholarly practice" (77). There is then a tight connection between the shift to seeing teaching as an activity over time and a belief in the visibility and viability of teaching problems that can be investigated as scholarship, and not merely for the purpose of "fixing" them.

**A Problem I could Live With**

My own engagement with the scholarship of teaching followed a similar trajectory from seeing my teaching as a problem (or failure) to seeing *in my teaching* a set of problems worth pursuing as an ongoing intellectual focus. As with many people, my heightened
attention to teaching was occasioned by a crisis. Three years ago, after introducing a
number of experimental "electronic literacy" components into my courses, my teaching
evaluations plummeted. I now know that this is not too uncommon when teachers
significantly revise their teaching, especially involving educational technology. As little
solace as that fact is now, it probably would have meant even less to me at the time,
occurring as it did the year prior to tenure. This was particularly perilous in my case, as I
had dedicated my whole career to new technologies in the humanities, including the
subject of technology and pedagogy. A "failed" semester proposed to deconstruct my
entire portfolio. I felt an acute pressure to reconstruct my courses and teaching methods
one element at a time, and to justify, track, and evaluate each component of that
reconstruction.

Over the next year and a half I revised some courses and created others from the ground
up, especially a new introductory American literature course, "American Literary
Traditions," for which I've written an online course portfolio (Bass, 1998). In this process
of reflection and redesign, I resolved to make every course component intentional. That
is, I tried to articulate for myself the reasoning behind every aspect of the course,
especially the connections between technology and discipline-based pedagogy. In doing
so, I found myself asking questions about student learning I had never asked before. For a
decade I had had good success as a teacher: positive feedback, strong evaluations,
evidence (anecdotal and otherwise) that students learned something in my courses.

Yet, I now realized I knew very little about why certain students did better than others.
Or, more generally, I knew very little about how students came to know the material I
was teaching. Ever since graduate school I had taught mostly the way I had been taught,
and tended to replicate the pedagogies that worked best--quite frankly--on me (or slight
variations of me). Now that I was trying to change my teaching radically, those
naturalized teaching methods and the assumptions behind them were exposed to be
without any clear scaffolding or support by the evidence of learning, however sound or
useful some of the approaches were.

**Understanding and Mastery**

This point was most driven home to me as I reflected on what I knew and didn’t know
about how students developed what Howard Gardner calls a "deep understanding" of my
subject. Looking at my discipline through my own eyes only, I assumed that
"understanding" was equivalent and coextensive with mastery. I assumed that students in
a particular course achieved understanding (in the space of a semester) by replicating a
partial and incomplete version of mastery (a mimicry of mastery) that was like the
understanding that developed across a whole course of study. Upper division majors were
just farther along in this journey of mastery, with the depth of their mimicry ever more
convincing. Either way, I imagined that every student, freshman or senior, major or not,
was engaged in some version of the mastery of knowledge model that in its completeness
was designed primarily to produce English teachers.
It was only by "virtue" of my crisis that led to a reconstruction that I found myself looking critically at this model for the first time. For example, I realized I didn’t know really if the better students in a course who demonstrated a real understanding of the material by the end of the semester were actually acquiring that understanding in my course, or were merely the percentage of students who entered the course with a high level of background and aptitude. Similarly, I realized I didn’t really know if the students who I watched "improve" from their early work to later work were really understanding the material and the paradigm from which I was operating, or merely learning to perform their knowledge in ways that had adapted to my expectations. (Or, for that matter, I wasn’t sure if there was any meaningful difference between understanding and performing understanding; or as Tom Hatch, a scholar at the Carnegie Foundation is always asking, I didn’t know if "understanding" was the most important learning goal at all times anyway).

As the "crisis" part of this story resolved, I turned to the task of documenting what I had learned in a "course portfolio." When I focused on the process of recording and framing what was happening in my courses, I was struck by the thinness of resources on which I could draw for help in analyzing the nature of learning in my discipline. I realize now that the gaping quality of my questions was rooted in both the nature of teaching itself and the culture of the academy. Grant Wiggins puts it well in an essay, entitled "Embracing Accountability":

Teaching, by nature, is an egocentric profession in the sense Piaget used the term: we find it difficult to see when our teaching isn’t clear or adequate. We don’t easily imagine how what is so obvious and important to us cannot be equally so to novices. Combined with our strong desire to cause learning and to find any evidence of success, we are prone to unending self-deception. How easily we hear what we want and need to hear in a student answer or question; how quickly we assume that if a few intelligent comments are made, all students get the point. This is the tragic flaw inherent in trying hard, and for the right reasons, to get people to understand and value what we understand and value. It then often doesn’t occur to us that students are trying equally hard to appear knowledgeable (5).

My journey that had begun with a crisis had progressed to a problem, in fact a set of problems. The ending had become a new beginning where the broad set of questions that had been raised in the process of rethinking my courses were now coming into focus as clear lines of inquiry that I wanted to investigate over the next several years, in the context of my teaching. My objectives in this investigation do not replace my interest in teaching well (and better), and to make each semester’s experience for students worthwhile; but I also want to look at a set of questions over time, both for my own professional development and as a contribution to the scholarship of teaching in my field.

**The Inverted Pyramid**

For me, the questions I have become most interested in pursuing as ongoing inquiry come back to the issues of teaching for understanding and the match between vision, practice,
and outcomes. Let me briefly describe two dimensions here. The first is what I came to call in my own practice the "inverted pyramid." In reconstructing my courses, and in asking myself how students come to understand what they do, I was led to a set of subsidiary questions. I asked myself what specifically were the four or five learning goals that I had for students in a particular course (as opposed to purely teaching goals or content/coverage goals)? Then I asked myself:

- What did I really believe (and what did I know) about what percentage of students were achieving all of the goals, some of the goals, one or two of them?
- If I had to pick one of these learning goals or outcomes as the one thing that students would retain from this course after leaving it, what would it be?
- Thinking about that one goal, then, could I honestly say that I spent the most amount of time in the course teaching to the goal I valued most?

I think of this as the "inverted pyramid" because in the schematization of my own teaching I perceived that I had my process upside down. That is, I decided (without going into any of the specifics here) that I spent the least amount of time teaching to the kind of understanding I valued most. I was teaching a whole range of subsidiary goals on the assumption that they would "add up" to the kind of paradigmatic understanding that I brought to the subject (the goal of mastery that builds on a wide base and narrows to the destination of paradigmatic understanding). If this was the best way to teach prospective majors, or the students in a class most likely to take more courses in the subject, I had no evidence of that, other than my own education experience; nor did I have any evidence that it was the best way to teach all students, especially the novice learners being introduced to the subject, and those who might possibly never take another literature course again.

**Benchmark Understanding**

One focus of my ongoing inquiry is now on the problem of teaching more directly to the student learning goals I value most. For me, in my own subject and pedagogical practice, that entails (to state it briefly) a combination of constructivist pedagogies--including work with electronic archives and hypertext writing tools--that engage students more actively with the complexities of textual form and contextual meaning, even at the expense of more traditional kinds of coverage. The general problem of teaching for understanding has led me to wonder specifically about the extent to which students' prior understandings of a field--its deep structures and assumptions, not just its facts and principles--situate a person to acquire new knowledge.

Many years ago, I was teaching a Freshman Honors English course in American literature. We were reading a non-fiction travel narrative by the historian Francis Parkman, called the *Oregon Trail*, a story of his youthful excursions into "frontier"
America in the mid 1840's. Parkman's book is not really literature in any traditional sense. The value in reading it in a literature course was for the exquisite insight the book gives into 19th-century scientism and ethnocentrism. In this way the book lays bare a set of 19th-century assumptions about romanticism, realism, culture, and truth that underlie much of the literature of the period. This was my rationale for teaching it, and it was my impression that these were the themes that the class and I were unpacking this particular semester in each of the first three class sessions on Parkman's text. Then, on the fourth day, as I was unpacking my backpack before class, I overheard one student (a really good student) say to another student in the front row: "I can't believe that Professor Bass thinks this is a great book."

I was stunned. I had to interrupt: "You think I think this is a great book? Not only don't I think it is a great work of literature, I don't even think it is a great book in terms of ideas. In fact I think it is a horrible book, full of arrogance and self-aggrandizement. But it is also full of insight into a particular way of seeing in the 19th century. That's why we're reading it. I don't think it is a great book. I think it is an important book."

At the time, I thought the problem was merely that I had not clearly communicated my intentions for teaching this book to the class. And indeed I hadn't. But I realize now that the problem was deeper than that. To me, the distinction between a "great" book and an "important" book was sufficiently rationalized in the context of my field. But it was a meaningless distinction to these freshmen. It was a distinction that they couldn't make based not only on a lack of disciplinary knowledge, but on a whole set of learned assumptions (perhaps "socializations") about what literature is supposed to be, about why you take literature in college, about what it should have meant to be in a "freshman honors English" course, and about what kind of knowledge you were supposed to take away from studying particular kinds of objects in particular contexts. I'm not saying that all their assumptions were wrong and had to be unlearned; I'm merely saying that I hadn't taken into account--nor endeavored to discover--what those assumptions were. And if my goal was to expand those assumptions--which in large part it was--then I needed to do much more to begin where the students were beginning.

Now, many years later, I find myself returning to questions about the relationship between student prior understanding and their capacity to acquire new understanding, as a problem worth pursuing for my own scholarship of teaching. In this line of inquiry I want to learn more not only about my students’ entering knowledge, but how their self-awareness of learning might help them develop a deeper understanding of certain disciplinary principles more quickly and meaningfully. In fall 1998, while a visiting professor at George Mason University, I instituted for the first time an opening day reflective exercise that asked students to read and respond to a set of documents similar to those we would be working with throughout this interdisciplinary course on the culture and history of the 1890's. I had been using opening day inventories for years. In these I would ask questions about previous literature courses, what books students had read by the authors we would be reading, and how much experience they had working with new technologies (all valuable opening day data); this time I asked questions that attempted to elicit from students what they knew--and what they thought about what they knew--
regarding the kind of work we would be doing. In this opening exercise I directed them to three different cultural/historical artifacts: a poem, a photograph, and a review of a stage play from the 1890's. I asked them to answer the following questions about each artifact:

1. What do you see here? Describe the document/artifact in terms of content, without being interpretive.
2. What do you think you know about this document based on reading it and any previous knowledge?
3. What do you think the document reveals about its era/ What kinds of information can be learned from the document? (There might be more than one kind of information).
4. What don’t you know about the document? What questions would you ask about it?
5. If you were going to do further research on this document on the World Wide Web or in the library, how would you go about it?
6. What knowledge or skills are you bringing to this course from other learning experiences you’ve had that help you make sense of these documents?

The exercise took a long time. I gave them more than hour. In fact it took the entire balance of the opening day after the general introduction to the course. It was an hour when I would normally have started presenting or introducing them to the subject. I suppose I could have had them do it outside of class, but it was important to me for them to complete the activity before I had started contextualizing the course. I wanted to know what they knew, and what they knew about what they knew, not what they were able to perform based on what they thought I wanted them to know.

What I learned was in part diagnostic. I learned which students had what kind of background (or background they remembered) in the period and in history and literature. But I learned much more than that. Their responses revealed a great deal about their assumptions of what it meant to look at and derive information from historical documents. For example, in their responses to #3 ("What do you think the document reveals about its era") most students indicated in one form or another that there was a "right answer" that they did not yet have enough context to know. Or, in their responses to #6 ("What knowledge or skills are you bringing to this course from other learning experiences you’ve had that help you make sense of these documents"), most students said they either were or were not bringing specific content knowledge to make sense of them. Only two recognized that they might have skills, or ways of reading, (as opposed to positive content knowledge) that would help them make sense of the documents. This was really important. Since one of my stated goals of the course was to give students skills and methods that would enable them to encounter historical materials in other contexts more capably, the disjunction between content-knowledge and method-knowledge was critical for me (and them) to see at the outset. This all helped me immeasurably to adjust the course even more to approach the question of historical and documentary interpretation from the standpoint of process and complexity and to foreground these emphases in the course.
On the last day of class I handed back their opening day responses, asked them to look at the same three artifacts and to look at what they wrote on the first day. On this day I asked them how their response to these artifacts would be different now, what they had gained from the course that helped them read the documents more knowledgeably, and what they were taking away from the course that would help them in another course about culture and history. With this reflection, (again without going into any detail here) I was able to see a change in their rhetoric about the complexity of textual meaning, and in their perceptions about the components of the course that led to that change.

This meta-reflective dimension is a key piece of evidence in my ongoing inquiry into how students come to learn and understand complex ideas about culture and history. Of course as I assess the effectiveness of the course and its methods there are other places I would look for evidence of student learning, such as in their written work. But overall, what has been striking for me is the way in which my initial questions gave rise to particular problems. And, as with other kinds of scholarly and intellectual work, the more I pursue those problems as inquiry and the more I reflect on what I'm learning, the more complex those problems seem.

Against the Grain

It takes a deliberate act to look at teaching from the perspective of learning. Actually, it takes a set of acts--individually motivated and communally validated--to focus on questions and problems, gather data, interpret and share results. The range of questions may take many different forms. The nature of the data may be quantitative or qualitative; it may be based on interviews, formative assessment instruments, test performances, student evaluations, or peer review, or any combination by which the "multiples of evidence" may be obtained. The nature of the scholarly design could vary from tracking three students of ranging abilities from the beginning of the semester to the end, to studying group dynamics in videotape of student collaborative work, to comparing and contrasting content analysis of student written work across semesters. The object of analysis may range from the acquisition of basic skills to the development of personal values or the transformation of whole knowledge paradigms.

As with scholarship or research, you cannot investigate everything at once. Indeed it may be that you can’t investigate more than one question at a time. What matters most is for teachers to investigate the problems that matter most to them. In this way, a scholarship of teaching does not imply a new set of elaborate accountability procedures tied onto the luggage rack of every teaching vehicle. The movement for a scholarship of teaching seeks first and foremost to legitimate a new set of questions as intellectual problems. Arriving there, the discourse surrounding the scholarship of teaching can begin to chart what is yet uncharted terrain, a landscape that will feature the convergence of disciplinary knowledge, pedagogical practice, evidence of learning, and theories of learning and cognition. Ultimately, it will be a discourse based on disciplinary protocols of investigative practice calibrated to the idioms of particular campus and institutional cultures.
I agree with Diana Laurillard's claim in her book, *Rethinking University Teaching*, that "teaching is not a normative science" (8). It can be done effectively or ineffectively. It can always be done better. But the widely held presumption that it can be done right, or that it need only be done competently, has strangled the development of teaching as an intellectual enterprise and analytic subject. Laurillard puts it this way:

The academic system must change. It works to some extent, but not well enough. And as higher education expands we cannot always rely on human ingenuity to overcome its inadequacies. It is always possible to defend the inspirational lecturer, the importance of academic individuality, the value of pressuring students to work independently, but we cannot defend a mode of operation that actively undermines a professional approach to teaching. Teachers need to know more than just their subject. They need to know the ways it can come to be understood, the ways it can be misunderstood, what counts as understanding: they need to know how individuals experience the subject. But they are neither required nor enabled to know these things. (6)

Enabling teachers not only "to know these things" but to share them in serious ways is what a scholarship of teaching is about. Ultimately, the measure of success for the scholarship of teaching movement will not be the degree to which it can--by focusing on the "many layers of practice" at the heart of teaching --discover solutions worth implementing, but the extent to which it is successful in discovering problems worth pursuing.

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