

Teaching, Learning, and Education for the Public Service

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WHAT WE TEACH, WHO WE TEACH, AND HOW WE TEACH

In its relatively short history, this association has compiled an impressive record of discussion and publication on issues of curriculum and teaching in the preparation of people for professional careers in the public service.¹ I recall being pleasantly surprised when, as an assistant professor with barely three years' experience, I attended the first of these conferences twelve years ago and discovered that there were a number of opportunities in the program for faculty to discuss curriculum and teaching. Since then, my own ideas of what I teach and how have been deeply affected by my association with APPAM.

The theme of my presidential year has been "teaching, practice, and the public service." We began with a discussion at the end of the 1989 Annual Research Conference that broadly addressed the relationship between the content of public policy and management programs and the practice of policy analysis and management in the government and in extra-governmental pol-

Editor's Note: This is the text of Professor Elmore's Presidential Address, given at the Fall 1990 meeting of the Association for Public Policy Analysis and Management (APPAM).

¹ See, for example, Larry Seidman, "A Course in the Economics of Public Policy Analysis," *Policy Analysis* 1 (1975) pp. 197-217; Robert Behn and James Vaupel, "Teaching Analytic Thinking," *Policy Analysis* 2 (1976), pp. 663-690; Douglas Yates, "The Mission of Public Policy Programs: A Report on Recent Experience," *Policy Sciences* 8 (1977), pp. 363-373; Samuel Leinhardt, "Data Analysis and Statistics Education in Public Policy Programs," *Research in Public Policy Analysis and Management* 1 (1981), pp. 53-61; John P. Crecine (ed.), *The New Educational Programs in Public Policy: The First Decade of Research in Public Policy Analysis and Management* (Greenwich, CN: JAI Press, 1982); Donald Stokes, "Political and Organizational Analysis in the Policy Curriculum," *Journal of Policy Analysis and Management* 6 (1986), pp. 45-55; Peter Brown, "Ethics and Education for the Public Service in a Liberal State," *Journal of Policy Analysis and Management* 6 (1986), pp. 56-68; Richard Elmore, "Graduate Education in Public Management: Working the Seams of Government," *Journal of Policy Analysis and Management* 6 (1986), pp. 69-83; and Lee Friedman, "Public Policy Economics: A Survey of Pedagogical Practice," *Journal of Policy Analysis and Management* 6 (1986), pp. 503-520.

icy analysis organizations. In May 1989, we devoted most of the spring meeting, attended by policy council and institutional members, to a discussion of developments in four main areas where the connection between teaching and practice is most apparent and problematical: (1) policies affecting training and education for professionals in the public service; (2) educational programs for experienced public executives; (3) teaching of analytic skills; and (4) teaching of political and management skills. I commissioned papers in each of these areas. The charge to these authors was to challenge the field to think differently about the connection between teaching and practice. These papers were presented at a special session of the 1990 Annual Research Conference. My remarks draw heavily on this year of analysis and discussion. I hope these remarks also extend a special tradition in APPAM for discussing matters of teaching and learning with the same level of curiosity and rigor that we bring to our research and practice.

One reason why APPAM has invested so much of its collective effort in issues of curriculum and teaching is, as I have argued in other places,² that public policy programs originated from a self-conscious attempt to reconstitute the intellectual foundations of professional education for the public service, by introducing greater conceptual clarity to the field and by focusing more attention on developing the analytic competencies of students. An association that sees itself as reconstituting the intellectual foundations of a field should, indeed, be preoccupied with what is taught and how.

In the past few years, I have observed a number of changes in how we think about curriculum and teaching in public policy and management—changes in what we teach, to whom we teach it, and how it is taught.

The main body of literature on *what* we teach consisted, until quite recently, of “state-of-the-art” papers about the content of courses in economics, quantitative methods, political and organizational analysis, ethics, and the like. These surveys of curriculum and teaching in the field have been quite helpful—and, I suspect, influential—in shaping the content of our courses. Lately, however, certain of our colleagues have begun to shift their interests to the connection between what we teach, what we learn from research, and what people actually do when they do policy analysis and public management.³ This shift takes us out of an intellectual terrain where we are relatively comfortable and into a terrain where we are less secure. Most of us feel quite competent to discuss what a well-designed course looks like, but it is a much more complex and demanding matter to think about what people actually do with what we teach them, or alternatively, what accomplished practitioners do that we might teach our students.

A second change I observe is that we are becoming more inclusive and

² Elmore, “Graduate Education in Public Management,” *op. cit.*

³ See especially Laurence Lynn, Jr., “Public Management: What Do We Know? What Should We Know? And How Will We Know It?” *Journal of Policy Analysis and Management* 7 (1987), pp. 178–187; Eugene Bardach, “From Practitioner Wisdom to Scholarly Knowledge and Back Again,” *Journal of Policy Analysis and Management* 7 (1987), pp. 188–199; Robert Behn, “The Nature of Knowledge About Public Management: Lessons for Research and Teaching from Our Knowledge About Chess and Warfare,” *Journal of Policy Analysis and Management* 7 (1987), pp. 200–212; Eugene Bardach, “Process Management Skill: Integrating Theory, Practice, and Classroom Instruction,” and Michael O’Hare, “Teaching Formal Models,” unpublished papers presented to the Twelfth Annual Research Conference of the Association for Public Policy and Management, October 1990.

cosmopolitan in *whom* we teach. Initially, public policy programs focused most of their attention on pre-career students with high aptitudes for quantitative, analytic content. In the last seven or eight years, I detect a shift toward a more diverse clientele. It is not unusual now to find students with significant prior work experience—a minimum of four or five years, and often many more—enrolled in graduate public policy programs that previously served predominantly new college graduates. Nor is it unusual in public policy and management programs to find considerable effort being invested in the development of non-degree programs for mid-career public servants. As Jon Brock notes in his survey and analysis of non-degree executive programs, there has been a marked increase in such programs.⁴

With this broadening of our clientele, Brock and others have argued, has come a notable shift in our understanding of teaching. Inexperienced, freshly-minted college graduates can be pleasant and relatively easy students to teach, especially if they are carefully selected for their aptitude in the subjects that compose the curriculum. These students are well-socialized to school, having been selected largely for their prior academic success. Since they have been rewarded in the past largely for being able to assimilate and reproduce abstract ideas, they are not troubled by a lack of correspondence between academic content and the real world. For them, as for many professors, the real world is the academy. Perhaps most importantly, new college graduates are conditioned to accept grades as the major index of their success, having received a good share of their previous rewards in this form. In short, inexperienced college graduates are likely to be compliant students.

Experienced executives are a different matter altogether. They are usually selected for their demonstrated abilities on the job, rather than mainly for their aptitude in academic learning. They are often less motivated by the acquisition of academic credentials, having already established themselves in a career. They are accustomed to having other people listen to their ideas, rather than passively assimilating other peoples' ideas. They often know something about the subjects we purport to teach—in some respects, more than we do. They have been rewarded not for assimilating and reproducing abstract ideas, but for the ability to influence others, to act in ambiguous situations, and to produce under pressure. Not least important, they are capable of voting with their feet when they feel the content of executive programs is only remotely connected to their work, or badly taught. For all these reasons, and many more, experienced executives are less compliant students, and therefore more challenging to teach. Many faculty testify that they first seriously questioned their teaching abilities when they were confronted with experienced executives. For these reasons, successful executive programs have developed curricula and teaching methods that involve a high level of interaction among participants, and extensive use of exercises—cases, action-forcing problems, simulations—that demonstrate immediate connections between abstract ideas and action.

As David Mathiasen suggests, the problem of continuing education for

⁴ Jon Brock, "Survey of Executive Programs in Public Management," presented to the Eleventh Annual Research Conference of the Association for Public Policy and Management, November 1989; and "Learning from Experience: Programs for Executives and Some Implications for Policy Schools," presented to the Twelfth Annual Research Conference of the Association for Public Policy and Management, October 1990.

professional public servants is larger than discovering the appropriate pedagogy and content for experienced practitioners. Government consistently underinvests in the professional development of career public servants. The prevailing model of professional education for the public service, such as it is, assumes that prospective public servants acquire all the knowledge they will need before they commence their careers. Mid-career educational programs typically aren't geared to reinforcing or updating earlier learning, but to teaching those with no prior professional education in the public service. Neither professionals nor governments have adequate incentives to invest in the development of their most valued employees, and the absence of these incentives reinforces the idea that public service requires no particular skill or knowledge. Solving these problems, Mathiasen suggests, will require both new pedagogy and new institutional structures that create a direct incentive for greater investment in professional development.⁵

A third change I observe is that *how* we teach is becoming more variegated and, arguably, more sophisticated. The early public administration programs, growing as they did out of the reform-oriented administrative progressive tradition, always had a practical, experiential component. Public policy programs, in their initial stages of development, picked up pieces of this earlier tradition. Students have been required to do internships, individual or group consulting projects for a real clients, and analytic projects on real-world problems. Until recently, however, we tended to think of what went on in the classroom as the "academic" side of a student's program and what went on outside the classroom—internships, projects—as the "experience" side of a program. Now these boundaries are becoming less clear. The emergence of a significant case literature in policy analysis, public management, economics, and public finance, for example, has meant that students in many programs are routinely required to confront and solve concrete problems as part of their academic work. A number of faculty have developed exercises that compensate for the weaknesses of cases by providing students with a more direct experience of the underlying principles they are trying to teach. Still others have begun to use the experiences of students in class as a way of modeling programs that occur in the outside world.⁶ In other words, as our repertoire of teaching methods broadens, the boundary between the "academic" and "experience" sides of programs become less well-defined. Classroom instruction is increasingly an occasion for creating and analyzing experience.

The present state of curriculum and teaching in public policy and management, then, is a function of at least four factors: (1) our long-term commitment to a more rigorous, analytic view of the field; (2) a diversification of what we teach; (3) a broadening conception of whom we teach; and (4) an increasingly

⁵ David Mathiasen, "Academic Ambivalence and the Quiet Crisis—A Discussion of Education, Training, and Development of the Public Service After the Volker Commission," paper presented to the Twelfth Annual Research Conference of the Association for Public Policy and Management, October 1990.

⁶ See, for example, Michael O'Hare, "Performance Evaluation: Learning from Experience," *Journal of Policy Analysis and Management* 5 (1986), pp. 000–000; Ronald Heifetz, et al., "Teaching and Assessing Leadership Courses at the Kennedy School of Government," *Journal of Policy Analysis and Management* 8 (1989), pp. 536–562; Robert Leone, "Teaching Management Without Cases," *Journal of Policy Analysis and Management* 8 (1989), pp. 704–711.

diverse and sophisticated set of ideas about how we teach. Underlying all of these factors is a deepening appreciation for the connection between knowledge and experience—between teaching and practice—in the public service.

WHAT DOES IT MEAN TO TEACH IN PROFESSIONAL PROGRAM?

These trends in curriculum and teaching are very global patterns. The local realities are, as always, mixed. Many faculty in public policy and management programs view the diversification of curriculum as a retreat from our early analytic rigor into an older, more diffuse conception of the field associated with—heaven forbid—public administration. Some faculty argue that increased attention to the connection between knowledge and experience in the classroom is leading to a kind of vocationalism, in which we sever our disciplinary roots and engage in an opportunistic search for relevance. For many others, issues of curriculum and teaching are simply not very important. High-quality programs, they argue, are not made by the self-conscious pursuit of good teaching or innovative curriculum, but rather by serious scholarship in established disciplines. Faculty should teach what they know, the argument goes, and students should learn what the faculty have to teach; too much emphasis on curriculum and teaching, as opposed to “substance,” distracts from serious scholarship.

Public policy and management is a field in which there is relatively low level of agreement on what constitutes professional knowledge; less agreement, for example, than in architecture, medicine, or law. To date, public policy and management programs have solved this problem largely by asserting that students need a strong footing in certain disciplinary bodies of knowledge—economics, quantitative analysis, politics, organizational theory and behavior—and then they need to apply this knowledge in certain cross-cutting courses, such as policy analysis workshops and public management courses. Most programs offer versions of disciplinary content that are clearly tailored to professional students—public finance and budgeting courses, for example. A few programs have pushed against the constraints of disciplinary knowledge by offering content that more closely mirrors what professionals in the public sector actually do—campaign management, legislative staffwork, procurement. And a few have tried to incorporate public sector versions of private sector management courses—operations management, marketing, strategic planning. For the most part, though, public policy and management programs have solved the problem of what to teach professionals by first deferring to the academic disciplines and then layering applied courses on top. A large share of the faculty in public policy and management programs take their primary orientation about what constitutes good research from their academic disciplines, rather than from their colleagues in public policy and management programs.

Public policy and management faculty are also heavily influenced by the culture of universities, in the sense that they are more likely to value research that meets the standards of academic peers than they are to value teaching that focuses on the extension of disciplinary knowledge into practice. Indeed, teaching is not a matter that merits much serious concern for many university faculty. David Riesman, observing his colleagues during the debate over Harvard College’s core curriculum, is quoted as saying, “a minority of the

faculty is interested in educational issues.”⁷ Riesman’s judgment is probably a more accurate characterization of how curriculum and teaching are viewed in universities than most faculty would admit. Indeed, many university professors wouldn’t see the irony in Riesman’s observation.

While many public policy and management programs have devoted unusual amounts of attention to issues of curriculum and teaching, the culture of universities does little to encourage and reward such attention. Few universities, and few academic programs within universities, have been able to create and sustain cultures in which teaching and research are considered equally important and demanding pursuits. In the absence of such cultures, universities adopt what I would call a charismatic view of teaching.

In the charismatic view, good teaching is a mysterious gift that descends from the heavens onto a chosen few. While these few are inspired teachers, most faculty are not. We can’t explain the gifts of talented teachers, so we lump them under diffuse terms like “style.” We honor talented teachers, but we expect only a few to be around at any given time. We don’t expect their gifts to be transferrable from one person to another, much less subject to serious analysis or inquiry. Nor do we think that the knowledge associated with good teaching is anything but anecdotal. Some people have it and some don’t.

This charismatic view of good teaching is reinforced by a view of knowledge as the collected theories and facts of academic disciplines. If the purpose of teaching in universities is to impart disciplinary knowledge to students, then inspired teaching isn’t necessary. Adequate teaching is sufficient, where adequate is defined as transmitting basic theories and facts to students. It may be good for a university’s reputation to have a few gifted teachers around, but it only takes an adequate teacher to lay out “the stuff” for students.

Added to this view of knowledge as the collected theories and facts of academic disciplines is what might be called an “accumulative” view of student learning. The faculty’s responsibility is to put the stuff out there. The students’ responsibility is to record it and, at the appropriate moment, give it back to the faculty. Some students accumulate and retain the stuff better than other students; these students get good grades. A few students will accumulate knowledge much faster than others; we call these bright students. And some proportion of bright students will put the knowledge we have given them together in interesting and novel ways; we call these exceptional students, and we often encourage them to become professors like us.

David Cohen, a colleague of mine and a serious scholar of teaching, has characterized this view as “teaching is telling, knowledge is facts, and learning is recall.”⁸ Researchers in cognitive science and education have lately subjected this view of teaching and learning to hard scrutiny, and have found it wanting.⁹ The problem with learning-as-recall, these critics argue, is that it doesn’t entail a theory of how knowledge is applied, or transferred, to new situations. Learning for application, transference, and extension is a more complex and ambitious idea than learning for accumulation and recall. In place of learning-as-recall, these researchers posit the view that “learning is

⁷ Quoted in Caleb Nelson, “Harvard’s Hollow ‘Core,’” *Atlantic Magazine*, September 1990, p. 73.

⁸ David K. Cohen, “Teaching Practice: Plus ça Change,” in P. W. Jackson (ed.), *Contributing to Educational Change: Perspectives on Research and Practice* (Berkeley, CA: McCutchan, 1989), pp. 27–84.

a process of knowledge *construction*, not of . . . recording or absorption;" that "learning is *knowledge-dependent*," in the sense that "people use current knowledge to construct new knowledge," and that "learning is highly tuned to the situation in which it takes place."¹⁰ More complex conceptions of learning, in turn, require more complex conceptions of teaching. I will explore a few of the implications of these developing conceptions of teaching and learning for professional programs in the public service. Let me summarize these implications in a few observations.

Disciplinary Knowledge

The idea that knowledge is a relatively fixed body of theory and fact, organized around academic disciplines, probably can't be sustained in professional programs without doing serious harm to our ability to educate practitioners. This is not to say that disciplinary knowledge—in economics, political science, statistics, and the sociology of organizations—isn't an important constituent piece of what we teach. Nor is it to say that faculty shouldn't have some footing in an academic discipline. I am saying something very much more specific.

Disciplinary knowledge develops in ways that often have little relationship to the world in which policy analysis and public management are practiced. To be a recognized economist, for example, one must be on the leading edge of one of the myriad subdisciplines that make up the field. Sometimes important new research in these subdisciplines bears directly on important problems of public policy; often it doesn't. Whether it has immediate application to public policy is, and should be, irrelevant to whether it is good research in terms of advancing the discipline. To be recognized in the field of statistics and quantitative analysis, one must be involved not simply, or even primarily, in applying established analytic techniques. One must make a contribution to the theoretical or methodological literature. Sometimes this literature has a direct bearing on a pressing issue of policy or management; more often than not it doesn't. Research isn't poor scholarship if it has little immediate relevance.

Disciplinary knowledge also accumulates at a much faster rate than can ever be incorporated into professional education, even if it were desirable to do so. Designing basic courses in economics, politics, organizations, and quantitative methods for public sector professionals involves a constant struggle to introduce new developments in the field while covering the existing body of disciplinary knowledge, all within a relatively fixed time constraint. If course requirements for professional degree programs stay constant and knowledge expands at its present rate, our ability to accommodate traditional conceptions of disciplinary knowledge within the curriculum will be seriously tested.

⁹ Here I am referring to the substantial recent literature on the application of cognitive science to teaching and learning. For examples of this research and citations to the literature, see Howard Gardner, *The Mind's New Science: A History of the Cognitive Revolution* (New York: Basic Books, 1985); Lauren Resnick, *Education and Learning to Think* (Washington, DC: National Academy Press, 1987).

¹⁰ Lauren Resnick, "Introduction," in L. Resnick (ed.), *Knowing, Learning, and Instruction* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1989), pp. 1–2.

One response to this problem is to teach only the most basic version of disciplinary knowledge to professional students and to save the more advanced and challenging material for students who are interested in pursuing scholarly careers in the discipline. When we do this, professional students receive an increasingly eviscerated, washed-out version of the discipline. This kind of instruction reminds me of Calvin Trillin's description of his mother's cooking. "For thirty years," he said, "she served the family nothing but leftovers. The original meal has never been found." The knowledge professors consider to be important to their own academic careers becomes increasingly remote from the knowledge they purvey to professional students.

We have ample evidence of these stresses and strains around disciplinary knowledge in public policy and management programs. We argue routinely, for example, that it is simply not possible to shoe-horn enough basic knowledge of core academic subjects into a single course. The solution is either to require students to take more courses as part of their graduate degree programs, or to require students to have taken more advanced disciplinary work before they enter. The logical extension of this pressure is that students will focus more and more on learning disciplinary subjects and less on learning what we have to teach them about the public service.

Some of our colleagues have already broken ranks on this issue. Quantitative methods courses, for example, have undergone a significant transformation in some public policy programs. When I was a graduate student, it was possible to get an A in the basic statistics course through a combination of brute memorization of formulas and of a few standard statistical problems involving ill-disguised translations of seed-corn experiments. Now a number of quantitative analysis courses focus much more on the use of data sets that reflect real-world problems, on basic techniques for aggregating quantitative information, on the display of data, and on the responsible use of quantitative information for persuasion. In these courses, students routinely grapple with real bodies of data, rather than story problems about seed corn. And they are routinely required to explain to others what they think the data mean.¹¹

Even in economics, where the canon is a well-defined and logically connected set of ideas, some faculty have shifted to a form of teaching in which key theoretical ideas emerge from the discussion of decision-forcing cases, rather than from a didactic exposition of content. Not too many years ago, my graduate microeconomics professor took great pleasure in announcing on the first day of class that, while the course was called "Public Policy Economics" to distinguish it from the *real* microeconomic theory course offered to serious students of economics, there would be no public policy applications in the course because basic micro theory wasn't very helpful in understanding real-world policy problems. My main recollection of that course is of trying to draw an indifference curve for unmatched left shoes on a midterm examination—one of many skills I acquired in that course that I can honestly say I have never used. Today, at least one major textbook on public policy economics focuses almost entirely on applications to public policy issues, and a substantial case literature exists to enable faculty to teach economic theory in the context of real-world problems.¹²

¹¹ For an analysis of the advantages of using real data in quantitative methods courses and an annotated bibliography of data sources, see Judith Singer and John Willett, "Improving the

These newer approaches to quantitative methods and economics are distinguished from traditional, disciplinary approaches in at least two respects. First, they do not equate academic rigor with either comprehensive coverage of disciplinary content or induction to a discipline. Instead, they view rigor as sustained engagement in the application of abstract knowledge to concrete problems. Second, and perhaps more importantly, these approaches recognize that there is something inherently interesting, from the teacher's point of view, in understanding how people learn to apply abstract ideas to concrete problems. That is, these courses view students less as empty vessels into which knowledge must be poured and more as active agents in the construction and application of knowledge.

Focusing on the *application* of knowledge, as opposed to its transmission, requires the teacher to have a working theory, however primitive, of how students learn. If the central problem in designing and teaching a course is not how to cover the material, but how to get students to be reasonably fluent and comfortable in applying abstract ideas to concrete problems, then teachers have to be inquisitive about the variety of ways people use ideas to solve problems. Disciplinary conceptions of knowledge short-circuit this problem through a series of simple binary codes: The stuff is either transmitted or it's not; once transmitted, it is either received or it isn't; once received, it is either played back or it isn't. If the object of teaching is application, however, these binary codes are ridiculously inadequate. In order to understand the application of knowledge, we have to know something about how ideas are formed and understood by students, and we have to know something about the variety of strategies students use to arrive at conceptions of problems and solutions.

School and the Real World

Just as it will be difficult to sustain disciplinary conceptions of knowledge in professional education for the public service, so too will it be difficult to sustain strong boundaries between professional schools and the world in which public service professionals operate. As noted above, experience has begun to insinuate itself into the classroom in a variety of ways—through cases, simulations, and uses of classroom interaction to exemplify problems of practice—and the student population has broadened to include a larger proportion who have a claim to knowledge and experience, and for whom the usual incentives and inducements to academic performance are less important.

To this point, public policy and management programs have dealt with the diversification of teaching practices and students in a typically academic way. Since teaching is viewed largely as a matter of style, and not as a matter for serious intellectual discourse and analysis, faculty have tended to tolerate a growing diversity of teaching practice, but not to acknowledge that it has any serious intellectual consequences for the field. Innovative teaching keeps students guessing, if not happy. It may increase the likelihood of promotion for untenured junior faculty, if it is coupled with strong research. But, for the most part, the practice of teaching is a matter for individual faculty to decide, and it has little relationship to the broader intellectual issues of the field.

¹² Lee Friedman, *Microeconomic Policy Analysis* (New York: McGraw-Hill, 1984).

There are at least two major problems with this view of the relationship between teaching and the intellectual life of the field. The first, nicely captured by Dean John McArthur of the Harvard Business School, is that “*how we teach is what we teach*.”¹³ Teaching in general, but especially teaching in professional programs, is modeling discourse, thought, and application. Whether we intend to or not, we communicate to students ways of thinking, ways of engaging other people in intellectual discourse, and ways of acting in the presence of knowledge.¹⁴ These multiple dimensions of teaching exist even when we attempt to deny them. There is no such thing as simply standing in front of a room of students delivering the stuff, even when that’s what we think we are doing. Delivering the stuff involves a complex set of judgments about what the appropriate stuff is. If students are not privy to these judgments, they develop conceptions of content that are divorced from any understanding of how fluid and complex the development of knowledge actually is. Even the barest kind of teaching also involves making judgments about students. In these relationships—again, whether we want to or not—we send students strong signals about their responsibilities for learning and about the relevance we expect knowledge to have for them.

The more complex our pedagogy, the more complex the messages we send. It is impossible to discuss a case or an action-forcing problem, for example, without at least implicitly signaling to students what we think is the appropriate way of acting. More complex techniques of teaching also require more complex ways of evaluating students’ performance. In these relationships, it is very important for students to consent to the processes of evaluation and to cooperate explicitly with the teacher in discovering ways of improving their performance. More active participation means that students and teachers have to develop conventions governing the nature and flow of discussion—building on prior comments, focusing on a single line of argument rather than jumping from one subject to another, challenging without threatening, and the like. As the complexity of our teaching increases, in other words, we are helping students construct models of what it means to act wisely in the presence of knowledge.

Teaching, then, is at the center of the intellectual life of the field because we model professional behavior in the classroom, whether we intend to or not. When we take the posture that it is our responsibility as teachers to lay out the content, and the students’ responsibility to learn it, we are, in effect, teaching students a highly static and inflexible conception of what it means to have knowledge and act on it. In this conception, you either have knowledge or you don’t. Smart people have it, not-so-smart people don’t. If there ever was a formula for professional arrogance, this is it. Well-educated public servants are those who have special knowledge, which they then dispense to the world in the same way that it was dispensed to them in the classroom.

¹³ Dean John H. McArthur, quoted in C. Roland Christensen, *Teaching and the Case Method* (Boston, MA: Harvard Business School, 1987), p. 16. For a detailed discussion of the implications of this principle for classroom practice, see C. Roland Christensen and Abby Hansen, “Teaching with Cases at the Harvard Business School,” *ibid.*, pp. 16–49; and C. Roland Christensen, “Premises and Practices of Discussion Teaching,” in C. R. Christensen and D. Garvin (eds.), *Education for Judgment* (Boston, MA: Harvard Business School, forthcoming).

¹⁴ I am indebted to Herman B. “Dutch” Leonard for his excellent treatment of this issue in an unpublished note, “Professional Images in the Classroom,” June 1984.

More complex conceptions of teaching carry a much different message about what it means to have knowledge and to act on it. When teachers ask students, for example, to collaborate in posing, discussing, and evaluating alternative solutions to a problem, they are, in effect, acknowledging that different students know different things and that, in presence of strong norms for group cooperation, people will learn more from pooling knowledge than from simply memorizing it and playing it back to the professor. In this conception, knowledge is something that is owned in common. Different people have different problem-solving approaches, insights, and understandings around a common body of knowledge. It is our common responsibility, as students and teachers, to capitalize on this diversity to increase the common pool of knowledge. As a professional, this model says, your responsibility is to engage people in problem-solving in such a way that you increase the knowledge available to everyone.

More ambitious teaching, of course, requires more strenuous preparation and work in the classroom, more skill in orchestrating multiple lines of argument around common themes, and more systematic knowledge of how individual students differ in their background, experience, and problem-solving approaches. More ambitious teaching is, in other words, harder work. Why do it? The answer, I think, has to lie in the connection between *how* we teach and *what* we teach. More ambitious teaching is necessary to communicate what it means to act professionally in the presence of knowledge.

A second reason why it will probably be impossible to sustain current views of teaching in the future is that students with experience in the real world recognize that there is frequently a gap between how learning occurs in school and how it occurs in the world. These differences operate on at least four dimensions.¹⁵ First, as just noted, schools tend to emphasize individual cognition, while work in the world emphasizes shared cognition. Examinations, term papers, and quizzes are essentially exercises in individual cognition. In the professional world of the public service, people who operate on the basis of individual cognition aren't much use to anyone. Even the most specialized, technical analytic roles entail, for example, managing the work of a staff around a complex set of tasks, presenting results to decision makers who may have no technical expertise, and making judgments about the sensitivities and limits of analysis under shifting conditions. All of these are examples of shared cognition.

Second, schools tend to value evidence of thinking, while work emphasizes the interaction of thought with action. The ability to produce a piece of "original research," for example, is something highly valued in academic settings—so highly valued, in fact, that a number of professional degree programs still require students to meet this condition for getting a degree, rather than more practical requirements. We value original research, because it gives us evidence that students can think. The professional world, however, is one in which thinking is largely valued for its instrumental relationship to action. The best ideas, for example, about how to design income support systems that provide incentives for work are likely to lie fallow for decades, awaiting the correct combination of political circumstances. When these

¹⁵ For this framework, I am indebted to Lauren Resnick's powerful 1987 Presidential Address to the American Educational Research Association, "Learning In School and Out," *Educational Researcher* 16, December 1987, pp. 13–20.

circumstances occur, these ideas have force, but only when they are coupled with well-thought-out strategies of political action.

Third, schools tend to emphasize manipulation of symbols, while work emphasizes highly contextualized reasoning. The most powerful analytic tools of policy and management, judged in terms of their ability to produce clear and robust results, are based on highly abstract conceptions of relationships. Regression equations, inventory models, and principal-agent theories are, for example, ways of specifying complex relationships—in society, in an operating agency of government, or in a contracting relationship—and reducing them to their essential elements. Professors value this kind of abstraction and symbol manipulation because it allows us to arrive at clear, and sometimes counterintuitive, conclusions. In the professional world, however, the results of analyses are debated and decided in the context of specific budget constraints, specific political interests, and specific institutional capacities. The ability to abstract is a much less powerful and attractive skill in the world of action, especially if it is divorced from the ability to reason beyond the results of formal analysis into the context of specific constraints.

Fourth, schools tend to value general knowledge and competence, while work emphasizes more specialized knowledge and competence. Schools value the ability to generalize from the specific to the abstract. Within courses on economics, for example, we treat minimum wage policy as a specific case of the more general problem of labor supply and demand. Within courses on public management, for example, we treat the Watertown Motor Vehicle Office as a specific case of the more general problem of how to construct a responsive customer service operation. And within courses on negotiation and conflict resolution, we treat nuclear waste disposal as a specific case of the more general problem of allocating noxious facilities. In the professional world, however, people who write minimum wage legislation, who manage the Watertown Motor Vehicle office, or who negotiate the siting of nuclear waste facilities don't think of themselves as specific cases of anything. In fact, their ability to operate successfully depends, in part, on their ability to understand the specific requirements, interests, and problems of a given issue in a given setting.

When we teach students whose primary qualification for entry to our programs is their earlier performance in school, we can resolve these tensions between learning in school and learning in the world by simply doing what we do best: stressing individual cognition, thought divorced from action, abstract ideas, and general knowledge. The more diversified our clientele in experience and educational background, the more difficult it is to sustain these practices.

We often blame students for the difficulties involved meshing our teaching with their background and experience. It is not uncommon, for example, to hear faculty argue that mid-career students for the most part can't handle sophisticated analytic content because they lack prior preparation or motivation. More likely, the problem is that *we are unprepared to teach* such content to mid-career students in ways that capitalize on their experience and knowledge. If we discovered how to teach this content to experienced students, we might also discover how to teach less-experienced students in ways that prepare them better for their professional lives.

Whatever the particular mix of students a program chooses to focus on, what we teach and how we teach should be affected by differences in the way

learning occurs within schools and within the professional workplace. These differences can be used to our advantage, and to our students' advantage, if we treat teaching as a serious intellectual activity rather than as a matter of style. We might, for example, teach students more explicitly how to engender shared understandings of complex ideas and problems, how to model and explain the connection between abstract prescriptions and concrete solutions, how to understand the key elements of context that determine whether a given action is appropriate, and how to reason back from specific contexts to abstract principles in addition to reasoning forward from abstract principles to specific contexts.

SOME IDEAS FOR FUTURE WORK

I began by saying that APPAM has been exemplary as a professional association in its attention to issues of curriculum and teaching. But, as my analysis suggests, there are serious stakes in the way we handle issues of teaching and learning. Let me summarize these stakes and try to translate them into a few concrete ideas for how we might manifest our concern for teaching and learning in the future.

First, we need to confront more directly the limits and uses of disciplinary knowledge in professional preparation. It is no longer adequate to justify teaching certain core subjects on the grounds that they correspond to well-defined bodies of disciplinary knowledge. Disciplinary knowledge has important value in shaping the curriculum, but it can't by itself provide the intellectual basis for professional education. A few ideas come readily to mind for grappling with this problem. One is that, instead of thinking about core content as giving students a well-defined body of disciplinary facts and knowledge, we might think of it as an introduction to the three or four most powerful ideas that a discipline has to offer to the knowledge of a professional, and an opportunity to apply these ideas to a wide variety of problems. This shift in emphasis would put a premium on selecting, focusing, applying, and extending disciplinary knowledge to real-world problems, rather than teaching students how to think like scholars in a discipline they usually have no desire to enter. This shift would also introduce some control over disciplinary imperialism in the core professional curriculum. It is probably true that you can't teach a person to think like an economist, or a statistician, in ten, fifteen, or even twenty weeks. But there is ample reason to question whether this should be the objective of core content in a professional curriculum. If we shift our frame of reference from an introduction to the discipline to an in-depth understanding of a few key ideas, then it becomes possible to conceive of disciplinary quality, rigor, and application in the same course. I sense that this re-sorting of disciplinary content is already going on in a number of programs; we need to learn systematically from these various attempts and extend them to other settings.

Second, professors need to confront more directly how we model, or fail to model, behavior in the classroom that we expect students to manifest in the world. I have argued that we have no choice but to address this issue, since we model professional behavior even when we try to avoid doing it. One constructive way to confront this issue is to find, study, and emulate professionals who exemplify what we would most like to communicate to students

about the power of ideas connected to action. Another constructive response would be to analyze in a more explicit and detached way how we introduce students to the core ideas of the field. Take a small sample of the leading courses in economics, quantitative methods, and political and organizational analysis. Analyze how faculty make judgments about the choice and sequencing of content, how content is constructed in class, how students think about the role of key ideas from the disciplines and applied courses in their evolving conceptions of a profession, how graduates of programs think about and apply the content in their work.

Third, we need to focus more attention, in both research and teaching, on the differences between novices and accomplished practitioners in the various parts of our field.¹⁶ Think, for example, of a study comparing the problem-solving strategies of experienced and inexperienced budget examiners in the federal government, for example, or policy analysts in the Joint Economic Committee of Congress or the Congressional Budget Office, or middle managers in a transportation or welfare agency. Experienced practitioners know things that novices don't know. What are these things? How does basic factual or theoretical knowledge blend with knowledge of process and with knowledge of institutional context to produce competent practitioners? How do our characterizations of accomplished practitioners accord with conceptions of competence in the field? Aside from being an interesting area of inquiry in its own right, this kind of research could provoke an interesting series of debates around the question of what professional programs for the public service should try to teach and what they should leave for people to learn through experience.

I have made a plea for more ambitious and complex conceptions of teaching and learning to prepare professionals for the public service. Among the implications of this view of teaching and learning are that we should reexamine the role that disciplinary knowledge plays in the preparation of people for professional roles, that we should treat teaching and learning as serious issues for analysis and reflection, rather than as matters of taste or style, and that we should invest a portion of our institutional and personal resources in sustained inquiry into the conditions of competent professional performance and its relationship to our teaching.

The hallmark of this association, from its beginning, has been our willingness to challenge traditional conceptions of professional preparation for the public service. Now that we are a mature association, we need to begin to challenge our own conceptions of what it means to teach professionals.

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¹⁶ For one approach to the study of experts and novices, see Robert Behn, "The Nature of Knowledge about Public Management," *op. cit.*