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HOW DO TEACHERS MANAGE TO TEACH?
PERSPECTIVES ON PROBLEMS IN PRACTICE

Magdalene Lampert

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Abstract

This paper examines problems in teaching from the practitioner's point of view. Two cases of teachers who faced classroom dilemmas illustrate aspects of teachers' work that have received little attention in the literature on educational problem solving. Each of the teachers engaged in arguments with herself about what to do. Although these arguments remained unresolved, the teachers created strategies for managing the conflicts that arose in the classroom, making creative use of, rather than eliminating, tension. The author analyzes dilemma management from the perspective that when one faces a dilemma, it is sometimes better to find a way to live with conflict than to resolve it. She argues for considering the teacher's use of her own inner conflict as a pedagogical tool. The image of teachers' work that emerges from this perspective is compared and contrasted with other images of teaching derived from academic writing about classroom problems, such as the view that teaching as a practice can be improved by eliminating conflict and the teachers' problems solved merely by the application of research knowledge to the classroom setting.
HOW DO TEACHERS MANAGE TO TEACH?
PERSPECTIVES ON PROBLEMS IN PRACTICE

Magdalene Lampert

In the classroom where I teach fourth, fifth, and sixth grade mathematics, there are two chalkboards, on opposite walls. My students sit at two tables and a few desks, facing in all directions. I rarely sit down while I am teaching except momentarily to offer individual help. Thus the room does not have a stationary "front" toward which the students can reliably look for directions or lessons from their teacher. An orientation toward one side of the room did develop recently in my fifth grade class, however, and became the source of some pedagogical problems.

The pre-adolescent children I teach seem to be allergic to their peers of the opposite sex. Girls rarely choose to be anywhere near a boy, and the boys actively reject the girls whenever possible. In my classroom, this means that the boys sit together at the table near one of the blackboards and the girls at the table near the other.

My fifth-grade boys are a particularly enthusiastic and boisterous lot. They engage in discussions of math problems with the same intensity that they bring to football; they are talented and work productively under close supervision, but if left to their own devices their behavior deteriorates and they bully one another, tell loud and silly jokes, and fool around with the math materials. Without making an obvious response to their misbehavior, I routinely curtailed these distractions from the lesson by teaching at the blackboard on the "boy's" end of the classroom. I could address the problem of maintaining classroom order by my physical presence; a cool stare or a touch on the shoulder reminded the boys to give their attention to directions for an activity or to the content of a lesson, and I did not need to interrupt my teaching to monitor their misbehavior.

1This paper appeared in the May 1985 Harvard Educational Review.

2Magdalene Lampert is coordinator of the Dilemma Management Project and an assistant professor of teacher education at Michigan State University.
Meanwhile, the girls were working away productively in what had now, inadvertently, become "the back" of the room. Or were they? My problem became complicated when one of the more outspoken girls impatiently pointed out that she had been trying to get my attention and thought I was ignoring her. She made me aware that my problem-solving strategy, devised to focus the boys' attention, had caused another quite different problem: The girls thought that the boys were getting too much of my attention. The boys could see and hear more easily than the girls and I noticed their questions more readily. This was an unfortunate consequence of my solution to the distractions caused by the boys' behavior, but what was I to do?

I felt that I faced a forced choice between equally undesirable alternatives. If I continued to use the blackboard near the boys, I might be less aware of and less encouraging toward the more well-behaved girls. Yet, if I switched my position to the blackboard on the "girl's side" of the room, I would be less able to help the boys focus on their work without being distracted from mathematics. Whether I chose to promote classroom order or equal opportunity, it seemed that both the boys and the girls would miss something I wanted them to learn.

The first-person account of a particular pedagogical problem I faced in my own classroom is an unusual way to begin an analysis of the work of teaching. Most commonly, such inquiries begin with general observations based on a consideration of several instances of teaching practice or with assertions about what teaching can be or should be. I have taken a different tack, not because I believe these approaches cannot offer useful insights into what it is that teachers do, but because I believe they are incomplete. Efforts to build generalized theories of instruction, curriculum, or classroom management based on careful empirical research have much to contribute to improving what occurs in classrooms, but they are insufficient to completely describe teachers' work.
My distinction between theory and practice here follows what Joseph Schwab developed in his studies of curriculum development. Schwab (1978) observed that the particulars of time, place, person, and circumstance that surround questions of what and how to teach are incongruent with the order, system, economy, and generality required to build a good theory. Consequently, such theories and research are limited in their capacity to help teachers know what to do about particular problems such as the one I have just described. However, my intention is not to build another kind of theory that can more adequately guide practice, but to describe those elements of practice that are dissonant with theoretical principles. To do this, I shall use both my experience as a classroom practitioner and the tools of scholarly inquiry into the nature of teaching practice.

Scholars recognize, and researchers support, the special and salient descriptions of teaching from the practitioner's perspective (Eisner, 1984; Florio & Walsh, 1981; Huling, Trang & Cornell, 1981). Clark and Peterson (1984) have recently suggested that descriptive research on how teachers make interactive decisions in the classroom underlie theory building about teacher thinking. Moving from the world of practice into the world of scholarship and back again enables a useful sort of deliberation; as a method of inquiry into the nature of practice it enriches and refines both the questions one asks about teachers' work and the attempts one makes to answer them. Schwab (1983) describes the value of such deliberation as a method for studying the teaching process. His notions are expanded by Shulman (1984), particularly the notion of deliberative exchanges among differing aspects of oneself. In this paper I shall describe two cases of teaching problems from the practitioner's viewpoint and examine the work involved in facing these problems from the scholar's viewpoint.
The teacher's emphasis on concrete particulars in the description of a classroom problem differentiates the perspective of practice from the work of theory building. This work has received considerable attention in the literature on teaching. Another fundamental, though less familiar, difference is the personal quality of teaching problems when seen from the practitioner's viewpoint. Who the teacher is has a great deal to do with both the way she defines problems and what can and will be done about them. (Feiman & Floden, in press, emphasize the personal quality of teacher's knowledge.) The academician is solving problems that are universally recognized as being important, whereas a teacher's problems arise because the classroom's state of affairs is not what she wants it to be. In contrast to theoretical problems, practical problems arise from an incongruence between the way things are and the way some particular person would like them to be (see Schwab, 1978, p. 289); they involve someone's wish to change something as well as the will to actually do something about it. Even though the teacher may be influenced by many powerful sources outside herself, the responsibility to act lies with herself as practitioner. Like the researcher and the theoretician, she identifies problems and imagines solutions to them, but her job involves the additional personal burden of doing something about these problems in the classroom and living with the consequences of her actions over time. For this

3See Bolster (1983) for a description of the particularistic nature of the teacher's perspective; Doyle (1977) for an examination of the context-specific character work in classrooms as it appears to practitioners; and Jackson (1971) for a comparison of teachers' propensity for anecdotal descriptions of their work with the more abstract quality of academic writing about teaching.

4Use of the feminine gender for pronouns applying to teachers throughout the manuscript is meant to recognize that female teachers comprise the majority.
reason, I have chosen to begin this paper not only with the particular details of my practical problem, but with my first-person account of it.

In addition to recognizing the particular and personal qualities of the way teachers understand problems in their work, I consider another distinction between practice and theory building in education. Some of the problems the practitioner is required to act on might be defined as *unsolvable*. The work required to manage such problems will be the particular focus of my inquiry into the nature of teaching. It is widely recognized that the juxtaposition of responsibilities that make up the teacher's job lead to paradoxes (see, e.g., Bidwell, 1965; Lieberman & Miller, 1978; Wilson, 1962). From the teacher's point of view, trying to solve many common pedagogical problems leads to practical dilemmas.\(^5\) As the teacher considers alternative solutions to any particular problem, she cannot hope to arrive at the "right" alternative in the sense that a theory built on valid and reliable empirical data can be said to be "right" (Schwab, 1983).\(^6\) The teacher brings many contradictory aims to each instance of her work, and the resolution of dissonant aims is both a professional problem and a personal challenge. Even though she cannot find the "right" solution, she must do something about the problems she faces.

Returning to my classroom at this point will serve to more clearly explicate these qualities of teacher's work. One might think it possible to monitor the boys' behavior in my fifth-grade math class in a way that does not

\(^5\)Berlak and Berlak (1981) have used the language of "dilemmas" to describe classroom problems, but their analysis focused more on cultural contradictions and opportunities for social change as they are manifest in teacher's dilemmas and less on the practical work involved in managing dilemmas in the classroom.

\(^6\)See also Lindblom & Cohen, 1979, and Cohen, 1981, for a comparison between knowledge social science research produces and the knowledge practitioners use in their work.
reduce my attention to the girls or to involve the girls more in math without reducing my capacity to monitor the boys' behavior. But dilemmas such as the one I faced in this situation cannot be entirely avoided. For example, if I assigned seats mixing the boys and the girls, I might be able to give equal attention to everyone no matter which blackboard I used. But wouldn't the silliness that results from proximity to the other sex in the fifth grade take so much away from the lesson that there would be less of my attention to go around? I could also leave them where they chose to sit and walk around the room to spread my attention. But wouldn't walking around cause even greater disruptions because it would take me away from the boys whose behavior necessitated my presence? I could get desks instead of tables and seat everyone facing in the same direction as a way of monitoring behavior. But wouldn't that make their valuable problem-solving discussions with one another impossible?

In all of these possible "solutions," trying to accomplish different goals at the same time leads to contradictions. I could not choose a solution to my problems without wondering about the negative effects the solution would have on the other goals I wanted to accomplish. And furthermore, while implementing a given solution has negative consequences, not implementing it does as well. Because of the different aims I had for this group of students, no matter which problem I chose to solve or how I chose to solve it--and even if I chose to solve none of these problems--it seemed that I would face a dilemma. Yet I was convinced that some action needed to be taken.

When I consider the conflicts that arise in my classroom, I do not see choices between abstract social goals, like excellence versus equality or freedom versus standardization. What I see are actual battles between individual students or personal confrontations between myself and a particular
group of students. When I think about rewarding Dennis's excellent, though boisterous, contributions to problem-solving discussions while at the same time encouraging reticent Sandra to take an equal part in class activities, I cannot see my goals as a neat dichotomy and my job as making a choice. My aims for any one particular student are tangled with my aims for each of the others in the class. But even more importantly, I am responsible for doing something (or nothing) even when choice leads to further conflict.

Because I wanted to solve the problem of the boys' misbehavior, I became involved in a conflict over equality of attention to the girls. But if I chose to solve the girls' problem instead, I would have been in conflict with some of the boys over public order. If I changed everyone's seats, I would have had an even more complicated set of confrontations on my hands. If these conflicts had erupted into a situation in which Sandra openly opposed Dennis for my attention, or Jim and Tom and Mark confronted me in front of the rest of the class over my expectations for their behavior, it would have been difficult for any of us to get on with the business of studying mathematics. It is my job to do something about those potential confrontations that will keep my students and I on a productive path. The contradictions between the goals I am expected to accomplish thus become inner struggles about how to do my job.

A Pedagogical Dilemma as an Argument with Oneself

I wanted to restrain the boys' boisterous behavior, and I also wanted to encourage the girls' involvement in class activities, but the solutions I imagined for these problems were contradictory. I could not do either without causing undesirable consequences, and yet both were important to me. One way to think about the dilemma that I faced is to see it as a forced choice
between equally undesirable alternatives. If it were a forced choice, then my job would be to grit my teeth and choose, even though choosing would bring problematic consequences. Another way to think of a dilemma, however, is as an argument between opposing tendencies within oneself in which neither side can come out the winner. In this view, my job would involve maintaining the tension between my own equally important but conflicting aims without choosing among them. The nature of my concerns made it impossible to choose without contradicting myself.

Certainly many teachers do resolve their dilemmas by choosing—between excellence and equality, between pushing students to achieve and providing a comfortable learning environment, between covering the curriculum and attending to individual understanding—but choosing is not the only way to manage in the face of self-contradictory alternatives. Facing a dilemma need not result in a forced choice. A more technical definition of a dilemma (Funk & Wagnall, 1963) is "an argument that presents an antagonist with two (or more) alternatives, but is equally conclusive against him whichever alternative he chooses" (emphasis added). This definition focuses on the deliberation within oneself about one's alternatives rather than on forcing a choice between them. The teacher in conflict is her own antagonist; she cannot win by choosing. In my own case, I couldn't stay where I was and control the boys' behavior without slighting the girls, and I couldn't involve the girls more without losing some control over the boys. Instead of engaging in a decision-making process that

7 Descriptions of teacher thinking have emphasized choice between alternative courses of action as the outcome of teacher decision making, based on models of information processing. See Clark & Yinger, 1977; Eggleston, 1979; and Shavelson, 1976.

8 See Wagner, 1983, for a psychological description of the contradictory imperatives that can arise within the teacher.
would eliminate conflicting alternatives and lead to a choice of which problem
to solve, I pursued a series of losing arguments with myself as I considered
the consequences of various things I might do.

One element of the teacher's work involved in managing classroom problems
that lead to dilemmas, then, is having an argument with herself—a speculative
argument that cannot be won. The thinking involved in this sort of work is
quite different from the kind of thinking that might go into concluding that
one can make the correct choice between two dichotomous alternatives. My
arguments with myself served to articulate the undesirable consequences of
each of my alternatives in terms of potential classroom confrontations. In
order to hold the conflicting parts of my job and myself together, I needed to
find a way to avoid choosing so as to manage my dilemma without exacerbating
the underlying conflicts.

Pedagogical Dilemmas and Personal Coping Strategies

My argument with myself resulted from my wanting to do contradictory
things in my classroom. My ambivalence about what to do was not only a
conflict of will, however. It was a conflict of identity as well. I did not
want to be a person who ignored girls because the boys more aggressively
sought my attention. I wanted to think of myself as someone who could encour-
age girls to become more interested and involved in mathematical thinking. At
the same time, I did not want to have a chaotic classroom because I turned
away from the boys' behavior. But neither did I want to appear to have such a
preoccupation with order that I discouraged enthusiasm. (Standing near the
boys enabled me to keep them focused without attending to their misbehavior
directly.) Working out what my identity was going to be in this situation was
more than a personal concern; it was an essential tool for getting my work
done. The kind of person that I am with my students plays an important part
in what I am able to accomplish with them. Figuring out who to be in the classroom is part of my job; by holding these conflicting parts of my self together, I would find a way to manage the conflicts in my work. My professional dilemmas about how to act as a teacher are difficult to distinguish from my personal dilemmas about who I wanted to be in this classroom.

The self that I brought to the task of managing my classroom dilemmas was a complicated one. My personal history and concerns contributed to the judgment that it would not be wise to simply make a choice in this case. I felt sympathy for the girls because of the many pained moments I spent with my raised hand unrecognized at the back of my own predominantly male high-school trigonometry class. But I was not of one mind about that experience. Throughout the course of my life I have been pulled between my sense that girls should be specially encouraged in mathematics because they have not been given an equal chance and the feeling that it is nice to have a skill that very few other women possess. I had to accomplish a balance between these conflicting influences in what I chose to do about this classroom dilemma. Similarly divergent personal concerns were behind how I understood the actions I might take in relation to the boys in my class. In my teaching relationship with them I had to balance my own conflicting yet simultaneous desires for freedom and order.

These personal ambiguities restrained me from simply putting the girls in the front of the room as a way of addressing their need for encouragement. I was equally cautious about assuming that there were any simple solutions to the problems caused by the boys' behavior. From the perspective of the person who brings her own inner conflict into the management of the classroom dilemmas, I had a vivid personal knowledge of the inner tension that would remain no matter what I did about my problems. So I tried to reorganize my
instruction in a way that would put the problems I was facing further into the background. My capacity to bring disparate aspects of myself together into the person that I am in the classroom is one of the tools that I used to construct an approach to managing my dilemma.

Because a teacher is present to students as a whole person, the conflicting parts of her self are not separable, one from another, the way they might appear to be if thought of as names for categories of persons or cultural ideals, like child-oriented versus subject-matter oriented or democratic versus authoritarian (see Gracey, 1972; Metz, 1978; and Spindler, 1955). In the literature of social psychology, Mead and others in the Chicago School (e.g. Waller, 1932; Jackson, 1968) present a more complex picture of the teacher as a person working in the face of conflict. Drawing on this work, Berlak and Berlak (1981) describe the teacher's job in the face of contradictions as "transformation" by which they mean the invention of a pedagogical process that joins opposing poles of a cultural contradiction; in their view, the teacher has the capacity to be a means through which "the contending presses of the culture at least for the moment are synthesized and thus overcome" (p. 133).

A teacher, then, has the potential to act with integrity while maintaining contradictory concerns; I did not want to treat girls unequally like my high school trigonometry teacher did, nor did I want to give special attention to girls just because they are girls; I did not want to be so preoccupied with order that I discouraged enthusiasm, nor did I want to work in a disorderly classroom. "The person that I wanted to be" was not only a way of defining my self in the classroom; defining my self, however ambiguously, and using my identity in this situation was a tool that would enable me to accomplish my pedagogical goals.
Constructing Solutions in the Face of Unsolvable Problems

What does a dilemma-managing teacher do if she does not choose? When I met my class the morning after I recognized my dilemma, I had not resolved any of the arguments I was having with myself about what to do, though I did have some sense of who I wanted to be. It happened that two of the more boisterous boys were absent, so I was able to leave everyone seated where they were, walk to the other side of the room, and do most of my teaching standing at the blackboard near the girls' table without any major disruptions occurring. I used this hiatus to construct a strategy for managing the conflict, but my solution was not addressed directly to either of the problems that had been raised initially.

While I taught the class that day, my thinking about the boys and the girls merged with my thinking about some other currently pressing matters in my classroom. I was about to begin a new instructional unit that involved using manipulable materials, and I had been wondering how to organize the students' activities with those materials. I had also been talking with my student teacher, Sandy, about ways in which she might take on more responsibility in this class. We had planned the next unit together, and she was prepared to do some of the teaching. So I divided the class into four small groups (two of girls and two of boys) and put Sandy in charge of instructing and managing a group of girls and a group of boys while I took responsibility for the other two groups.

What I chose to do about my problems depended heavily on specific elements in the context of my classroom. My strategy enabled me to cope with the boys' behavior and the girls' need for encouragement in the particular context of my classroom while keeping the more general conflicts under the surface. The circumstances—having a student teacher and a small enough class to group
students at tables—are not those of all or even most teachers who face similar problems, but it is the context-specific qualities of teachers' approaches to problems that I am attempting to describe here. In a different context, the problems and the solutions would differ. My solution would not work whenever such problems arose in my classroom or any other; it was an action I had improvised to adjust my ambivalent desires to the particular circumstances in which I was working.

I moved a whole group of boys to the area near the "girls" blackboard and a whole group of girls to the other side of the room. The children were thus more integrated, but also able to retain the company of some of their pals. This helped to avoid the distractions that would result from mixing the boys with the girls, but at the same time, the class was no longer geographically divided along gender lines. Furthermore, because there were two groups of boys and two groups of girls, both the children and I could identify other criteria for group membership besides gender, thereby diffusing somewhat the stereotyped contrasts between male and female approaches to mathematics. Instructing in small groups also meant that neither the teachers nor the students would be performing in front of both boys and girls at the same time, so my performances would be less likely to be judged as preferential toward either the boys or the girls. Paradoxically, because I would be teaching boys only in the company of the other boys in their group and girls only in the company of other girls, I would be able to respond to the children more as individuals than as members of one sex or the other, as I had done when they were seated on opposite ends of the room and I taught them all together.

What can be learned from the way pedagogical problems were handled in this case about how a practitioner might construct the work of teaching? I did not choose my strategy because it would solve the problems of the boys'
distracting behavior or the girls' need for equal encouragement once and for all, but I knew the reorganization would prevent more direct confrontations between different kinds of learners and between me and my students. I managed my dilemma by putting the problems that led to it further into the background and bringing other parts of my job further into the foreground rather than by solving those problems. I did not resolve the conflicts in the situation to my own or any one else's satisfaction. The boys would continue to be boisterous, but their boisterousness would be spread around, and both my student teacher and I would attend to controlling them. The girls would be required to become more actively involved in discussions of the work they were doing in their small groups, but they would not be competing directly with the boys.

Even though the underlying problems remained, I did not want to go any further toward lasting solutions at the time. The strategy I used to manage my dilemma gave me a way to live with my problems that would prevent them from erupting into the sort of more serious discord that would further distract me from getting on with other aspects of my work. What I understand to be a "solution" then, from my perspective as the teacher in this situation, is different from the sort of enduring solution that would make my problem go away completely. It was a temporary respite that worked in these particular circumstances.

Conflicts Over the Nature of Knowledge: Another Source of Classroom Dilemmas

The adversity in my situation arose because of my contradictory goals for social outcomes in the classroom and beyond. One might imagine that if I had been able to put such problems of social organization aside and define my job only in terms of whether students learned the subject matter, then perhaps the dilemmas I described would have disappeared. Some academics (Bereiter, 1972; McNeil, 1982), have argued that by using an impersonal "technology of
instruction" (sometimes called a "curriculum") teachers could produce subject-matter knowledge in students without concern for social problems in or out of the classroom. This opinion characterizes some of the more recent designs for the improvement of teaching based on process-product research. Others, who understand knowledge as a construction of the individual learner, leave social problems aside and focus on the teacher's work in fostering an individual child's understanding. This position is characteristic of those educational reformers whose philosophy of learning is built on theories of individual cognitive development. It may be true that if teaching and learning occur in a one-to-one encounter outside the classroom, the sort of dilemmas I have described may not arise, but in schools it is not possible to separate social problems from subject-matter knowledge. In the teacher's job, then, at least as it is now understood, the dichotomy between tasks related to social organization and tasks related to instruction is unworkable. The following example illustrates that point. Pedagogical dilemmas arise and must be managed when a teacher focuses on producing subject-matter knowledge in students even if she is not worried about social problems like gender equity or maintaining orderly behavior.

Rita Cerone\textsuperscript{9} is a fourth-grade teacher in a small urban public school. I observed her in her classroom and worked with her for three years as part of the Teacher Development Project conducted while I was at the Division for Study and Research in Education in the Massachusetts Institute of Technology (see Lampert, 1984). Her descriptions of her own teaching were excerpted from transcripts of meetings of the teacher participants in that project and from individual interviews with her during the three years. In the situation I am about to describe, Cerone was faced with a set of problems that arose out of

\textsuperscript{9} Teacher and student names are pseudonyms.
her use of a workbook to instruct students in science. Her concern for solving these problems led her into a pedagogical dilemma, and what she did to manage her dilemma raises issues about teachers' work that are similar to those just described.

Science lessons in Cerone's classroom often consisted of students reading their workbooks, looking at the drawings and diagrams in them, and then answering questions and checking their answers with the teacher. The topic of one such exercise was "The Cycle of Water." The workbook page the students were assigned on this particular occasion had a picture of a cloud on it and, next to the picture, a question: "Where does the water come from?" Cerone said it seemed obvious to her from the illustration that the answer was "clouds" and so she had marked it right when students gave that answer. (She checked other answers on the page, which were not so obvious to her, in the teacher's guide before she judged them right or wrong.) Cerone was therefore a bit perplexed when one of the girls in her class (Linda) came up to have her work corrected and declared with unusual confidence, "The answer to where water comes from is the ocean." Cerone indicated on the girl's paper that this answer was incorrect, but Linda was surprised by this judgment and insisted she was right.

Cerone was hesitant to contradict Linda because the girl was so confident that her answer was correct; although Cerone disagreed with her, she sensed a conflict brewing and wanted to avoid it. So she tried to understand more about what Linda was thinking:

I said to her: "Well I don't understand. Explain it to me." I was fumbling around and I was trying to figure out what she meant. It finally turned out that she knew, but she couldn't verbalize it for quite a while. After asking her questions and having her look at the workbook page, (Linda) said, "somehow the clouds pick the water up, I don't know how, but it puts the water from the ocean back in the clouds."
Cerone decided in this exchange that Linda had learned what she was supposed to learn from the lesson even though her answer did not match the answer in the teacher's guide. At this point, the two different "right answers" did not cause a conflict in Cerone's mind, even though what Linda understood to be the answer was different from the way the teacher's guide would have led Cerone to answer the question. Potentially conflicting perspectives on what it means to know something were momentarily resolved when Cerone agreed with Linda that her answer was indeed correct.

This equilibrium between Linda's understanding and the standards of knowledge represented by the textbook did not last long, however, because the other students in the class had an interest in Cerone's judgment as well. Upon hearing about their teacher's acceptance of Linda's answer as correct, they disrupted the lesson with an argument:

Linda went running back to the rest of the group and told them she wasn't wrong. The other kids started arguing with Linda because they saw it the way I saw it and the way the answer book saw it. But Linda could prove she was right.

As in my dilemma which arose because it had been acceptable to stand in front of the boys until I became aware of a conflicting need to give the girls more attention, Cerone exacerbated an underlying contradiction in her classroom when she told Linda her answer was correct. The conflict came to the surface because Linda was a member of a group of students who were all studying the same material. Moreover, they had all been using the teacher's guide as the standard by which to judge the correctness of their answers. They complained because, although Cerone applied a familiar standard to judging their answers, she used another standard to evaluate Linda's. Unless Cerone did something to manage this conflict, it would become a classroom problem.
One student, Kevin, confident that his answer was right because it matched the answer in the teacher's guide and because Cerone had told him it was right, led the class in an argument with Linda and, by implication, with their teacher:

One of the kids, Kevin, said Linda was really dumb because the ocean was where the water started out, and it ended up in clouds just before it rained. It wasn't that he didn't get her explanation, but he just dismissed it because I had told him earlier that his answer was right and he also knew that was the answer the book wanted. That's why she came up to me in the first place: to get confirmation that she was right because Kevin had said she was wrong.

Like Cerone, Kevin understood Linda's explanation. He recognized that she knew what she was talking about when she described how rain water comes from the ocean through the clouds, but her individual understanding of the matter was not his concern. He dismissed Linda's explanation (as Cerone herself had done at first) because it did not match what the book and his teacher said was "right" and he began an argument in order to settle the matter. If the teacher and the textbook were to be taken seriously, Linda could not also be right.

Cerone's job in this situation could be understood as making a familiar forced choice between dichotomous alternatives. If she were to practice child-centered teaching, she would favor defending Linda's way of thinking while rejecting the textbook's authority. If she were to practice subject-centered teaching, she would judge Linda's knowledge using the written curriculum in the teachers' guide as the standard. Those students whose answers agreed with the book's answer were pushing her toward latter, while Linda was pushing her toward the former.
Cerone's Argument with Herself

Cerone did not represent her work in this situation as making such a forced choice, however. Instead she reviewed a series of complicated arguments she had had with herself on the issues involved. She contended on the one hand that the question in the workbook was not very clear; its ambiguity made her less inclined to trust the answers in the teacher's guide. In addition, she recognized, through reflecting on her conversation with Linda, that the girl really understood the material, whereas those students who put down "clouds" might have just looked at the illustration in the book. This skepticism about impersonal measures of students' knowledge was articulated in a conversation with some other teachers about the incident with Linda:

I think too often kids get marked wrong for things that really aren't wrong. I mean, if you corrected Linda's paper and she wasn't around to explain her answer, she would never have had the chance to defend herself or say that this is the way I think. I mean that's what happens on those Stanford Achievement Tests. They're not given any room for individuality of thought.

So Cerone accepted Linda's answer as a valid representation of her understanding. Yet she also thought that both she and Linda should concur with the answer in the book. Cerone related her thinking about this incident to her attitudes during her first year of teaching; she had read the teachers' guides very carefully that year and said she had "tried to stay one step ahead of the kids" because she was trying to teach material she had not learned before.

Even now, she relied heavily on the teacher's guide; she referred students directly to the answer book to check their own work so that she could spend time on helping others who were slower to get their assignments done. Cerone argued that if she let Linda get away with her non-standard interpretation of the question in the science book, she might be undermining her students' trust in these books as well as her own ability to guide her students' learning.
Textbooks carried a great store of meaning for this teacher and her students about the nature of what was to be learned both individually and socially, as well as context-specific messages about what still remained to be accomplished. So she was torn; she could produce good reasons for accepting Linda's answer as correct and she could also produce good reasons for marking it wrong.

Cerone's argument with herself concluded without a decision about whether Linda was right or wrong:

Linda was thinking about the step before the water comes out of the clouds. She understood the cycle, but in the workbook's way of doing it she was incorrect. Her whole thing was wrong as far as the teacher's manual goes. But in her own way, she was absolutely right.

Cerone could not win this argument with herself about how to evaluate Linda's answer; she was her own antagonist. Whether she announced to the class that Linda was right and implied that what the book said did not matter or she told them that Linda was wrong because she interpreted the water cycle in her own way, the consequences would be a more overt conflict for her to manage.

Cerone's Inner Tensions as a Tool of Her Trade

Cerone drew from her own conflicting concerns to arrive at her decision about what to do in this situation. Her conviction that she should not choose between Linda and the textbook was based on her personal capacity to value different, potentially contradictory kinds of knowledge. She began teaching and had been reasonably successful at it without much understanding of science. She also grew up believing that the people who wrote books were smart--smarter than she was--even smarter than her teachers were. The public knowledge she learned in school, from books, allowed her to achieve the position she occupied. So she had reason to trust the "rightness" of the knowledge represented by the standard curriculum. At the same time, she
believed that much of what she knew could not be contained in books or measured on tests. She knew that she understood things she had figured out for herself, and sometimes she understood these ideas more clearly than things she read in books. Cerone was therefore concerned about the limitations of standard measures of knowledge, but her concern was not without conflict.

Cerone expressed the same ambivalent view of knowledge that formed the basis of her deliberations about what to say to Linda when several months later she conversed with me about the way a standardized test was used to assess her own knowledge. She thought the test was not a very good tool for measuring what would make her a successful learner, but she also recognized that the test had some meaning to people who did not know her. She believed it would be unfair to deprive students of the instruction they might need to do well on such tests, even while she argued that the tests do not necessarily measure one's capacity for understanding:

If they don't have a serious attitude about tests, they're never going to make it in college. They have to have some respect for this information because it's controlling where they are going to go in life. I realize that society is not going to change before they get out of my classroom and I don't want to put my burdens on the kids. You have to respect these tests, as I do, because I had to take them too. It's a ticket for the next place you want to go.

Because Cerone had not resolved her own feelings about the value of the sort of knowledge represented by scores on standardized tests, she had been in an effective position to mediate the conflict between conventional knowledge and individual understanding in the situation with Kevin and Linda. Her personal conflict about the value of standardized knowledge was a resource upon which she drew in order to do her work in this classroom situation.

As the person responsible for settling disputes among her students about who is "right," Cerone represented the possibility of bringing these
potentially contradictory ways of knowing together in the public arena of the
classroom. Rather than siding with Kevin or Linda, she told them they were
both right.

I finally said to Kevin and Linda that they were both right. And I left it at that, and I let them handle it
from there. But I was kind of listening to what they
would do. Linda understood exactly what she was trying to
get across. Kevin understood it also. But they under-
stood on two different planes. I understood it on a third
one. I don't think there was any need for clarification,
but there was a need for them to know they were both
right.

Cerone did not throw out the textbook and tell Kevin and Linda it didn't
matter, nor did she tell Linda that she was wrong because she did not conform
to the book's expectation. She accepted both of their answers on two differ-
ent planes while putting herself on a third plane where she could value both
Kevin's standards and Linda's divergence from them.

Coping With Rather Than Solving Dilemmas

If Cerone had selected either the textbook's standards or Linda's indi-
vidual interpretation, she would have solved some problems and caused others.
A more reasonable strategy for her was to construct a way to manage the
tension between individual understanding and public knowledge that had come to
the fore in this incident in her classroom. What Cerone did was make Linda's
personal interpretation of the question publicly acceptable by facing her own
inner conflict. She embraced the tension between public and private knowledge
rather than resolving it when she said that Kevin and Linda were both right.
Since she had some authority as the teacher in this situation, they took this
judgment seriously even though it was ambiguous. Both of them came out with a
different, more complex view of knowledge. Kevin was told that the answer in
the teacher's guide is not the only right answer in the public setting of the
classroom. Linda was told that the textbook answer has validity even though
she sees things differently. Thus Cerone managed to deflect the vehement competition between these two students by issuing a more complex set of rules for their judging of one another's answers.

Telling Cerone either that she should honor Linda's answer or that she should defer to the authority of the textbook would not produce a solution for her in practice. Taking either of these opposing courses would only exacerbate her conflict. She would still be left with managing the particular dilemmas that are implicit in doing both of these things in classrooms. What appears to be a "solution" from her perspective as the teacher in this situation is quite different from solutions that would be offered by many cognitive psychologists or curriculum experts.

In my math class, I had made it more difficult to draw the line between teaching that favored girls and teaching that favored boys. By muddying the waters with small-group instruction, I pushed the social conflicts that this dichotomy suggested further into the background. Cerone did a similar thing when she said Kevin and Linda were both right. She confused their ability to judge one another's knowledge and thereby mediated the conflict between them. Like my actions, hers did not eliminate the conflict; rather she acknowledged the potential for more destructive disagreements by avoiding them for the moment.

Even though Cerone's dilemma arose directly out of the use of instructional technology to produce subject-matter knowledge in students, the same qualities characterized the work she did to manage it as were present in my work on social conflicts in my mathematics class. Cerone argued with herself about the contradictions implied by solutions to a messy set of problems. She did not seek to resolve her dilemma; she used the tension between contradictory views of knowledge as a pedagogical tool. By working as a mediator
between Kevin and Linda and between Linda and the textbook, rather than taking one side or another, she accepted and used conflict constructively. She found a way to live with the problems of maintaining equal curriculum standards for all students and encouraging individual understanding of a subject, but she did not choose to solve these problems once and for all.

**Images of Teachers' Work and Their Implications for Improving It**

My story and Cerone's portray the teacher as an active negotiator, a broker of sorts, balancing a variety of needs that must be satisfied in classrooms. The teacher in each case initiated actions as solutions to particular environmental problems and defined herself as the seat of various alternative perspectives on those actions. Conflicts among those perspectives arise in the teacher both within the classroom and in the way she interprets her own past experience. In order to do her job, the dilemma-managing teacher calls upon this "self in conflict" as a tool of her trade, constructing a working identity that is constructively ambiguous. While she works at solving society's problems and scholars' problems, she also works at coping with her own internal conflicts. She debates with herself about what to do, and instead of screening out responsibilities that contradict one another, she acknowledges them, embraces the conflict, and finds a way to manage.

What can one learn from this image of the teacher as a dilemma manager about the nature of teachers' work and how to improve it? Images of what teaching is frame one's construction of the tasks teachers perform; one's sense of the work involved in successfully accomplishing those tasks form the basis for designing improvements. Whether the actions of the two teachers I have described here should be thought of as typical strategies or be promoted as expedient practices will remain an open question. These stories are intended only to illustrate an image of teachers' work that can help
researchers think about the nature of classroom practice. In order to learn something from the pictures I have drawn of two dilemma-managing teachers about how to improve practice, it is necessary to compare them with other images of teachers in the literature and to contrast the influence those images have had on the kind of help researchers give teachers when they face classroom problems.

Most commonly, teachers are assumed to make choices among dichotomous alternatives: to promote equality or excellence, to build curriculum around children's interests or around subject matter, to foster independence and creativity or maintain standards and expect everyone to meet them (e.g., Gracey, 1972; Jackson, 1968; Bidwell, 1965; Spindler, 1955). These choices are thought to enable teachers to avoid dilemmas in their everyday practice. An example of this perspective can be found in Metz's analysis (1978) of how a group of teachers responded to the work tensions produced by the desegregation of their schools. Metz defined keeping classroom order and promoting student learning as "contradictory imperatives" for teachers, and she concluded that those she observed could not both maintain standards of behavior in the classroom and nurture students' commitment to learning; they divided themselves up into opposing camps. Part of the work these teachers would have needed to do, then, was to figure out whether classroom order or students' commitment was more important to their success as teachers and choose between them.

In this view, help from outsiders might appear in the form of arguments to teachers about why they should pay more attention either to classroom order or to student commitment. Much pre-service and inservice teacher education takes this form. Professors and staff developers use evidence from research, rationales drawn from educational philosophy, or personal charisma to convince teachers that one approach is better than its opposite.
Another view of pedagogical work is illustrated by McPherson's picture (1972) of the small-town teacher. She describes teachers' conflicts entirely in terms of contradictory external pressures; the teacher is a person besieged by other people's expectations. She cannot teach because of the need to defend herself against the inconsistencies in what students, administrators, colleagues, parents, and public officials expect her to do. Managing conflict is part of the teacher's job, in this view, but it is seen as a source of unhappiness and frustration rather than a positive way for the teacher to define herself. McPherson's view carries with it a sense of what must be done to improve teaching practice; there is very little worthwhile work that can be accomplished by the teacher "as long as the goals of our educational system are unclearly defined, . . . internally inconsistent, [and] inconsistent with dominant and often themselves inconsistent values in our larger society (McPherson, 1972, p. 215). More current literature on teacher stress takes a similar view: Unless the goals of the teacher's job are redefined, the only positive steps a practitioner can take to reduce the harmful effects of the tension produced by conflicting expectations are engaging in regular physical exercise and eating a healthy diet (Hoover-Dempsey & Kendell, 1984). These ways of looking at teaching see the contradictions in teaching as a problem to be solved by the way education is organized in society. Society needs to become more consistent about its own goals and what it expects of teachers, and thus conflict will be excluded.

Yet another way of portraying teaching, which might be thought of as a response to this abstract hope for unified goals, arises out of the work of social science researchers and government policy makers. These problem solvers have teamed up to find ways to help teachers increase student achievement. They turn away from conflicts that might arise in the classroom and
assume that the teacher is a technical production manager who has the responsibility for monitoring the efficiency of learning. In this view, teaching can be improved if practitioners use researchers' knowledge to solve classroom problems (see, e.g., Brophy & Good, 1974; Gage, 1972; McNeil, 1982; and Slavin, 1984). The teacher's work is to find out what researchers and policy makers say should be done with or to students and then to do it. How much time should be spent on direct instruction versus seatwork? Where should certain kinds of students be seated in the classroom? How many new words should be in stories children are required to read? If the teacher does what she is told, students will learn. Taking this perspective suggests that practical conflicts can be avoided if researchers' solutions are correctly implemented by teachers.

Some educational scholars reject this image of the teacher as a black box through which researchers' knowledge about how to produce learning passes on its way into the classroom (Borko, Cone, Russo, & Shavelson, 1979). In their view, the teacher has an active role in deciding how to teach; she makes decisions by putting research findings together with the information available in the classroom environment to make choices about what process will produce the desired objectives. Because cognitive information processing has been used as the model in these studies of teacher decision making, however, a "decision" is seen only as a process of mathematically ordering one's choices on the basis of unequally weighted alternatives (Clark & Yinger, 1977; Eggleston, 1979; and Shavelson, 1976). At each point in the thinking process, the decider is assumed to see clearly which of two alternative routes is preferred to reach a given goal (Clark & Peterson, 1984, outline this model on pp. 63-69).

Improving teaching, therefore, involves practitioners simplifying their alternatives by screening out contradictory concerns so that any reasonable
person would make the same correct choice using the same information. The process is mechanical, not personal; in fact, some scholars would have people believe that it can be done better by unbiased machines than by people. Braybrooke and Lindblom (1963) cogently outline the problems with mechanical information processing as the ideal model for describing human decision making in situations fraught with conflict (p. 246-7). More recently, Weizenbaum (1976) argued against assuming that human judgment results from anything as simple as the sorts of calculations that can be done by even the most sophisticated computers. This theory thus cannot help teachers to figure out what to do about the sort of unsolvable conflicts in their work that I have described (Shavelson & Stern, 1981).

These images of teachers— as cognitive information processors, as implementors of researchers' knowledge about how to produce learning, as stressed and neurotically defensive against others' expectations, and as members of opposing camps— portray the conflicts in teaching as resolvable in one way or another. In contrast, the image of the teacher as dilemma manager implies an acceptance of conflict as a continuing condition with which persons can learn to cope. This latter view does not replace the idea that the teacher plays conflicting roles in society or the idea that it is useful to note patterns in the relationship between behaviors and their outcomes in order to be productive, but it puts the teacher in a different problem-solving relationship to the social conflicts and behavioral patterns in her work. It suggests that, in addition to defending against and choosing among conflicting expectations, she might also welcome their power to influence her working identity. The major difference, then, between the image of the teacher as dilemma manager and the other images I have described is that the dilemma-managing teacher accepts conflict as endemic and even useful to her work rather than seeing it as a bother that needs to be eliminated.
There are, of course, many incentives for teachers and scholars to want to eliminate conflict and think of classroom problems as solvable. If pedagogical problems could be separated one from another rather than mixed up in a web of contradictory goals, then they could be solved in some sort of linear progression—shot down like ducks coming up in a row at a penny arcade. Thinking of one's job as figuring out how to live with a web of related problems that cannot be solved seems like an admission of weakness. Sorting out problems and finding solutions that will make them go away is certainly a more highly valued endeavor in American society. Strategies that merely enable people to cope or manage go against one's deep-seated hopes for making progress by gaining control over one's interactions with others. Many people (including teachers) believe that if only scholarship in psychology and the social sciences could come up to the levels achieved by the natural sciences, and if only, with the help of technology, individuals could achieve the ideal of control over the environment represented in such scholarship, then everyone could live happily ever after. The work of managing dilemmas, in contrast, requires admitting some essential limitations on people's control over human problems. It suggests that some conflicts cannot be resolved and that the challenge is to find ways to keep them from developing into more disruptive confrontations.

This connection of "limitation" with dilemma management needs to be clarified because people have come to identify classroom management with the teacher's ability to control students' behavior and direct them in learning tasks. This common usage most closely parallels the non-school definition of a "manager" as a person who controls or directs the affairs of others. Such control is certainly an essential part of the teacher's job. I use the term "manage" in a different sense, however. To manage to do something can also
mean to contrive to do it, implying that the capacity for invention or
improvisation is a necessary part of the manager's repertoire. This usage
suggests that a manager is one who is able to find a way to do something and
that action and invention are fused together in the management process. One
might also think of someone as managing when they are able to continue to act
or even to thrive in adverse circumstances. From the perspective of practice
represented in my experience with a pedagogical dilemma, the teacher's work
involves just this sort of invention and action in situations where potential
adversity makes solving some kinds of problems inadvisable.

In order to do the work of teaching, as I have portrayed it, one needs to
have the resources to cope with equally weighted alternatives when it is not
appropriate to express a preference between them. One needs to be able to
take advice from researchers, but also to know what to do when that advice is
contradictory or when it contradicts knowledge that can only be gained in a
particular context. One needs to hold at bay the conflicting expectations of
those who have the power to determine whether one can succeed as a teacher or
not and at the same time use those expectations as references in self-
definition. One needs to be committed to a particular ideology or its
opposite, and at the same time recognize the limitations of taking any single-
minded view of such complicated processes as teaching and learning in schools.
One needs to be comfortable with a self that is complicated and sometimes in-
consistent.

Perhaps it is the American belief in the existence of a solution for
every problem that has kept any significant discussion of teacher's unsolvable
problems out of both scholarly and professional conversations about the work
of teaching. But there may be other explanations as well. It may be that
many teachers are able to carry on with their work as if there were no
conflicts in what they are expected to do or that there are no conflicts in the way they define their jobs. It also may be the case that the sorts of people who become teachers and stay in teaching do not have the intellectual capacity to recognize the complications of teaching that I have described (Jackson, 1968). These possibilities certainly deserve attention.

But if dilemma managing is a significant part of the work of teaching, there are several questions that deserve further examination.

First, there are questions about frequency. I have argued only that it is possible for teachers to work in ways that suggest that some classroom problems are better managed than solved. How much of a role does this sort of work play in what teachers do? How often do dilemmas of the sort I have described arise in classrooms? How often are they managed rather than resolved? What are the characteristics of teachers who do more dilemma managing than others? What are the characteristics of classrooms in which dilemma management is common?

A second category of questions can be grouped around understanding and evaluating what teachers actually do when they manage dilemmas. My emphasis in this essay has not been on the particular strategies used by the teachers, but on the more general elements of the work involved. What different kinds of strategies are used in classrooms to cope with unsolvable problems? How could they usefully be grouped? Are there better and worse ways of keeping classroom conflict under the surface? How do the strategies teachers use compare with those used by other professionals who face similar dilemmas?

Researchers also need to know more about what kind of resources teachers have available to cope with contradictions in themselves and in their work. How do they learn to do it or learn that it is an appropriate thing to do? What characteristics of their working environment make dilemma management more
or less possible? How can teachers who have trouble coping with conflict get better at it? What role do supervisors, formal course work, other life experiences, and colleagues play in the development of one's capacity for actively tolerating ambiguity? How are the personal resources required to manage pedagogical dilemmas related to the skills that researchers and policy makers use to address educational problems or the knowledge that scholars use to analyze the tensions in the work of teaching? What resources besides skill and knowledge might teachers bring to this aspect of their work? Understanding of how teachers manage to teach might be enhanced if researchers explored what teachers do when they choose to endure and make use of the conflict in their work rather than seeking to resolve it for them. Such understanding would provide a different starting place for thinking about how to improve classroom practice.
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