2

Reinventing Teaching

DEBORAH MEIER
Central Park East Secondary School

Since I began teaching, some twenty-five years ago, I have changed the way I think about what it means to be a good teacher. Today it is clear that since we need a new kind of school to do a new kind of job, we need a new kind of teacher, too.

The schools we need require different habits of work and habits of mind on the part of teachers—a kind of professionalism within the classroom few teachers were expected to exhibit before. In addition, to get from where we are now to where we need to be will require teachers to play a substantially different role within their schools as well as in public discourse. Teachers need to relearn what it means to be good in-school practitioners, while also becoming more articulate and self-confident spokespeople for the difficult and often anxiety-producing changes schools are expected to undertake. If teachers are not able to join in leading such changes, the changes will not take place. Politicians and policymakers at all levels may institute vast new legislated reforms; but without the understanding, support, and input of teachers, they will end up in the same dead end as such past reforms as "new math" or "open ed." For all the big brave talk, they will be rhetorical and cosmetic, and after a time they will wither away.

Four experiences over the past twenty-five years have influenced my thinking and led me to this conclusion. The first (and latest) is my experience on the National Board for Professional Teaching Standards, which has spent the past three years trying to define the qualities of excellent teaching. The effort we have spent has been well worth it (whether trying to test for it will be as successful I am not yet sure). The National Board has done a superb job of trying to describe the complex set of knowledge and skills that an experienced "master" of teaching must possess. It is a daunting description, but it tells us little about what might go into the making of such a teacher or how such a teacher can be an agent and shaper of the reforms the National Board argues must go hand-in-hand with such an upgraded concept of the profession. I urge you to read it over carefully: It is an important starting place.[1]

The other three experiences that have gradually shaped my thinking on this subject began, not surprisingly, with my own early experiences as a student—my elementary, secondary, and college education. My fortunate and

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favored personal history had the advantage of making me acutely aware of what distinguished America's best from its worst schools. It was, as a result, not until I started teaching in the Chicago public schools in my early thirties that I experienced what it meant to be treated with disrespect, both personally and intellectually. It was in the role of schoolteacher, not student, that I first had such an experience, and it hit me like a ton of bricks.

The next formative experience was working in the school system, as a kindergarten and Head Start teacher, then as a teacher "trainer," and finally as a teacher director and principal trying to shape a school environment. Twenty-five years of experience in urban public schools has not numbed me, but it has made me aware of the constraints on change, of the enormous difficulties under which my colleagues work, our students learn, and their parents labor—difficulties that are profound, long-standing, and deeply imbedded in our system and our mind set.

Finally, my recent work with the Coalition of Essential Schools, in seeking ways to force-feed changes in a whole interrelated set of entrenched school practices, has required me to think about larger social policy questions as they affect school reform: How can we use "top-down" reform to influence what, in the end, must be "bottom-up" change?

In all these years, surprisingly, I have not spent a lot of time thinking about how schools of education could assist in this task of school reform. They never fit into my bottom-up or top-down agenda. Since I have thought about a lot of issues, this may take some explaining. It has probably been a by-product of the fact that I did not enter teaching through that route, nor have many of the teachers whose work I have known best. Perhaps it has also been influenced by the fact that while I was always a "good student," I have never enjoyed "student-hood." Unlike many of my friends, I have never taken a formal course voluntarily since I got my M.A. thirty-five years ago. Finally, I will admit that the courses I did have to take in education were not a sample of the best that could be found, but generally of the worst.

Above and beyond my personal educational history, and based on literally hundreds of in-depth experiences with new teachers, I have yet to see the best or worst schools of education exert much influence. The so-called better schools often attract "better" students, but it is hard for me to see what value has been added. The dominant educational impact—99 percent—had already happened. I am referring to the cumulative influence of their own schooling.

The lessons drawn from sixteen or more years of school experience as a student remain largely intact and dictate the way most people handle their role as teachers. This is hardly surprising. Many of those who enter teaching hope to do unto others what the teachers they knew and loved did unto them. In a few cases—and I tend to have a fondness, however short-lived, for these exceptions—teaching as a career attracts young people who did not like their

schooling or were not naturally successful at it. They hope that as teachers they might be able to do unto others what they wished their teachers had done for them. They have come into teaching to change practice, not perpetuate it—to break a tradition, not carry it on. But such teachers often leave teaching quickly when they discover that their students do not love them for being different, less authoritarian, more genial, smarter. They often leave with new ideas about what is wrong with "these" kids or the evils and stupidities of their fellow teachers—the ones who stayed. Some people, fortunately, enter teaching at a later age, not fresh out of school. They bring to their jobs a wider range of experience, and are accustomed to different kinds of institutional arrangements and ways of relating to colleagues. Sometimes they even come to teaching after they have had children, and if they are lucky, at least one of their children has not found school so easy. They are not quite so quick to judge parents at fault, and may have a special personal empathy for school losers. But in most cases the constraints of the job, plus old habits and a kind of societal nostalgia for what school "used to be like," make teachers part of the broader inertia that makes fundamental change hard to implement.

In short: The habits of schooling are deep, powerful, and hard to budge. No public institution is more deeply entrenched in habitual behavior than schools—and for good reason. Aside from our many years of direct experience as students, we have books, movies, television shows, advertisements, and myriad other activities, games, and symbols that reinforce our view of what school is "supposed" to be. Our everyday language and metaphors are built on a kind of prototype of schoolhouse and classroom, with all its authoritarian, filling-up-the-empty-vessel, rote-learning assumptions.

For example, the other night I watched a semi-documentary entitled "Yearbook." It purported to depict the life of a school by following a group of seniors during their last year in high school. We watch, with a kind of false nostalgia, the senior year so few of us truly had but believe we should have had: the selection of cheerleaders and homecoming queens in the fall, the pains of dating, the sports fields, the trivia of home economics classes, and so forth. There is not even a momentary bow to the intellectual purposes of high school. At Central Park East schools, we laugh sometimes about how our own students (and even our own children), many of whom have never attended any school but ours, still play "pretend school" in a traditional way—lining up the desks, and yelling at the children. Our Central Park East Secondary School (CPESS) high school students complain about not having lockers—that is where true high school life takes place, the absence of bells, passing time, proms, and so forth. They view these as essential rites of passage. My four-year-old granddaughter loves playing school with me—but I am required to be the mean principal who does awful things to bad children. She cannot wait until she gets to such a real school.

It is no easier to change such habits, built around age-old metaphors about teaching and learning, about getting ahead, than it is to change our personal habits (like giving up smoking), or our seemingly ingrained primitive ideas about the physical universe. It is current wisdom to recognize that despite all the correct information offered in physics and astronomy courses, including laboratory experiences and visits to the planetarium, the average citizen's real-life view of the universe remains amazingly heliocentric at best (and geocentric, if not New York–centric, at worst). We pile new theories on top of old conceptions rooted in childhood experience, language, and symbols, and they are absorbed in some odd commonsensical way. The sky remains up, as does the North Pole; we imagine looking up at the moon and therefore assume that the men on the moon must look down to see the Earth; we know that the moon is very far away—about halfway to Mars or Venus. This is now old-hat theory, yet few schools are successful in getting their students to see the world in post-Copernican terms. Habit and everyday common sense rule. So why should it be any different when it comes to teaching adults how to teach?

Until we are ready to engage students in a far different form of pedagogy, with far greater in-depth exploration, such commonsense habits will not be overcome in physics classes. Our graduates may be able to recite more modern ideas, but their understanding will remain paper-thin and school-bound. That may suffice for physics, because few have to base their future practices on a different view of the universe. In everyday life, in fact, the old pre-Copernican view works quite well.

So too with education courses, and pedagogical theories. As in physics, our habitual view of teaching as telling and learning as remembering is hard to dislodge. The difference is, of course, that we expect would-be teachers to overcome such views and then act on the basis of their new wisdom. We pretend that this can be so, despite the fact that we know that teaching, more than virtually any field (aside from parenting, perhaps), depends on quick, instinctive habits, behaviors, and deeply held ways of seeing and valuing. Teachers are confronted with literally hundreds of decisions and unmonitored responses every hour they work, which cannot be mediated by cool calculation. Nothing is more unsettling in the presence of real-live students in real-live classrooms than an uncertain teacher, searching for the right response. A doctor can examine patients slowly and carefully, and look up the answers in books before being required to commit to action. Not so a teacher.

In short, we come to be teachers knowing all about teaching. We have been exposed to more teaching and teachers than to any other single phenomenon. Most of us have spent more time with teachers than with our parents. To make matters worse, what we learn from our parents in a more informal pedagogy is rarely even thought of as having been taught. In fact,

the more "naturally" and "readily" we learn something, the less credit we give to those who taught us. Furthermore, our first exposure to teaching is done under the frequently scornful eye of experienced teachers who are quick to put down the green ambitions of innovators, whose early innovations are likely to be dismal failures.

If teaching and schooling are so entrenched, if our habits are so deeply rooted and so hard to change, is there no hope for school reform? The answer will depend on how serious we are about the need to change, and how long we are willing to stick with the effort to effect it.

At present, there is not a lot of evidence of a serious will to change. There is a desire, for sure, for youngsters to "do better," for much better results—especially on competitive test scores. But it should surprise no one, given the above analysis, that most people think improvement is a matter of all those involved trying harder—or even returning to former more didactic ways, which presumably we have mistakenly abandoned. Lots of people want parents and teachers to be more like they used to be in the good old days—if mothers would just stay home and teachers would just assign more homework, and so forth. More demanding, tougher, and more dedicated teachers might restore the high standards many of the critics suggest. Let the students face the consequences. Some suggest these nostrums will not work given the nature of "kids today" and some wonder about whether "those" children (read "nonwhite") are really able to meet high standards. But few see the problem the way the members of prestigious task forces do: as creating a different system to do a different job. Thus, the will thoroughly to restructure the institutions themselves, with all this implies in terms of resources for basic research and development, for massively retraining the educational work force, has little public backing.

Many things must be done if we are to alter this bleak picture. At the heart of it is the question of how teachers can be changed—even what it means to "retrain" the educational work force. The change that must take place among the work force involves three tough tasks: changing how teachers view teaching and learning, developing new habits to go with that new cognitive understanding, and simultaneously developing new habits of work—habits that are collegial and public in nature, not solo and private as has been the custom in teaching. Such changes cannot be "taught" in the best-designed retraining program and then imported into classroom practice. What is entailed is changing the daily experiences of teachers, substituting experiences that will require them to engage in new practices and support them in doing so.

If it were possible to escape the issue by somehow inculcating the next generation with a different set of habits, thus bypassing both teachers and their parents, it would be an attractive idea. Otherwise, this is a kind of pulling-oneself-up-by-the-bootstraps problem. Every revolutionary ideology comes up against this same conundrum and, historically, most revolutionaries

think they can resolve it only by totalitarian measures. Some try removing children from their families, sowing suspicion between generations, forcing prescriptive ideological training from infancy on up, or creating a network of "big brothers." They hope thus to breed a new generation that leaps over the weaknesses of the present misguided and corrupted generation. In a milder form, most school reform efforts are not so different in conception. It is the familiar design that rests on hopes for teacher-proof curriculum, reform by testing and monitoring, by penalties and threats. They will have no more luck.

One cannot impose such change—not because it is immoral or unpleasant, but because it does not work. And the price paid for trying to wipe out the past by fiat is enormous. Benign schemes for trying to do the same thing fail just as the obviously malign ones do. This is not surprising. It is illogical to imagine that we can produce thoughtful and critical thinkers by rote imposition or that we can build strong intellectual understanding through required amnesia. If the logic of it fails to impress, years and years of failed efforts to do so ought to. It is, at the very least, a great waste of time, a diversion of energy and resources that we can ill afford. We cannot pass on to a new generation that which we do not ourselves possess. That is the conundrum, the seemingly impossible paradox.

How might we approach such a riddle? We can change the schools so as to promote thoughtful and critical practices on the part of teacher practitioners, and in ways that undercut any need for teachers themselves to become lobbyists against change. Teachers must lead the way toward their own liberation.

Teachers were force-marched to the promised land of "new math," and the results should be a warning. Impatience for rapid improvement in math education following *Sputnik* produced a dud—and today, thirty years later, we are once again trying to introduce just such a math education. Had we been more patient thirty years ago we would be thirty years ahead of the game now.

The only route possible requires involving all parties to education in the process of reinventing schooling. Not, please note, revolution or reform, but reinvention is required. It is our mind set that needs changing, and the institutional arrangements that either support or impede the new mind set. However, you do not and should not fool with people's minds loosely. It requires the utmost respect, a stance that is not easy for us to assume. The changes needed are not changes in the solo acts teachers perform inside their classrooms, hard as that might be to accomplish. We are talking about creating a very different school culture, a new set of relationships and ideas. We are talking about changes that will affect not just teachers (although without them it is pointless), but also their constituents—parents and children. Given enough time—if we are not in too much of a hurry; if we allow for lapses and half-measures, and do not give up—we might begin to see changes. It

is through collective co-ownership of new designs for schooling, in an atmosphere that allows for reflective examination and reshaping based on experience, that something new might emerge.

We can change teachers only by changing the environment in which teaching takes place. Teaching can be changed only by reinventing the institutions within which teaching takes place—schools. Reinvention has to be done by those who will be stuck in the reinvented schools. It cannot be force-fed—not to teachers, nor to parents and children. All three constituents can sabotage the best-laid plans. While parents and children will put up with some dissonance and anxiety, the mismatch between what they expect and what they experience cannot be ignored or evaded. Their willingness to participate in change is critical. While such willingness can be encouraged by various public policies, a thoroughly "converted" and committed faculty is a must.

When school people visit CPESS they often dismiss our achievements—which I believe to be modest compared with the achievements that lie ahead of us—on the basis that we, after all, had the opportunity to start from scratch, whereas they must reform an existing huge, sluggish institution, only some of whose members want to change. If we had your freedom, they suggest, we too could produce Central Park East's successes. I think they are right, so I suggest they be given precisely the same freedom we have had. That is what public policy can create.

Our visitors argue that we have the advantage of having a student and parent body who chose to come to our school. I propose that all schools be given precisely the same freedom: a student and parent body of those who choose to come to their school. (Note that by "school" I do not necessarily mean a building. A single building can contain many such reinvented schools of choice.) Visitors argue that we had a chance to select our staff, from among those who agree with us. It is much easier to carry out a collective policy when people agree on the policy, they complain. We propose that all schools should have this same freedom. Professionals should work in a school that they want to work in because they share its assumptions. Visitors complain that our work is not replicable because we have been given the freedom to organize our day, select our curriculum, and design our forms of assessment in the way we think best—and to change them whenever we find they do not work. We propose that all other schools be offered the same freedom, along with the same responsibilities we have accepted.

If these are the four freedoms that you envy, we tell our visitors, why not demand the same for yourselves? But you have to want such freedom and you have to accept the responsibility that goes with it. It will be exhausting, even at times frustrating. The thing we keep telling our colleagues in other schools is that it surely will not lead to "burnout"—because people burn out when they are treated like appliances. This kind of teaching and schooling

is, in contrast, never dehumanizing. It rests on intense human interaction and involvement.

You can only change people's habits, at best, when they have strong reasons to want to change and an environment conducive to it. That is the first requirement. For teachers, this means sufficient support from those they depend on—schools boards, administrators, parents—to take some risky first steps. They need, furthermore, the luxury of being able to waste money on ideas that will not work, rather than feeling obliged to pretend that everything they do is successful. They need access to expertise without promising to follow expert advice. They need time. They need more time in a daily, weekly, monthly sense—to reflect, examine, redo. They also need recognition of the other kind of time—the years it will take to see it through. These are the conditions we know work whenever we are really in a hurry to do something difficult: cure cancer, go to the moon, invent new technologies, or win a war.

The greater the desire for change on the part of teachers, parents, and children, the less it will cost. Unpaid volunteer armies can defend their homeland better than highly trained and equipped mercenary troops. Very eager and driven reformers are ready to exploit themselves, putting in endless hours and sleepless nights—although they often also exhaust themselves too soon. But the more timid, the less eager, the less confident and self-motivated, the more ideal the circumstances must be before we get the necessary sustained effort. Money (for extra personnel, financial incentives, paid time, equipment) compensates for zeal. We will not get large-scale school reform in the United States if we count only on zealots, but we would be foolish indeed not to promote such zeal, and give such ardent reformers the room and space to work their hearts out as we build up credibility for more ambitious national efforts.

The job of those in policymaking positions who want to improve the quality of teachers must be to change the conditions of teaching. They must offer incentives for change, and above all the resources (in this case the key is well-designed staff development time) to enable teachers to learn from their changed conditions. Unlike most industries, we cannot retool by closing down the factories and sending all the workers back to school. We need to do everything at once. It is driving while changing the tires, not to mention the transmission system.

Our schools must be labs for learning about learning. Only such labs can teach both children and their teachers simultaneously. They must create a passion for learning, not only among children, but also among their teachers. Both have become "passion-impaired." In the words of Ginny Stiles, a kindergarten teacher at Reek Elementary School in Wisconsin, "It's my job to find the passion, to open eyes and weave a web of intrigue and surprise."

Indeed, she notes, too many teachers have themselves become what she calls passion-impaired. The motivator par excellence is our heart's desire, our taste for "the having of wonderful ideas," as Eleanor Duckworth calls it.[2] How better to impart such ideas than by engaging in the having of wonderful ideas oneself?

If I could choose five qualities to look for in prospective teachers they would be: (1) a self-conscious reflectiveness about how they themselves learn and, maybe even more, how and when they do not learn; (2) a sympathy toward others, an appreciation of their differences, an ability to imagine their "otherness"; (3) a willingness to engage in, better yet a taste for, collaborative work; (4) a desire to have others to share some of one's own interests; and (5) a lot of perseverance, energy, and devotion to getting things right.

Since we cannot count on finding enough teachers who already possess all five qualities, we need to create the kind of schools that will draw out these qualities. Of course, when I say we need schools that will encourage such characteristics, I include liberal arts colleges and schools of education as well as schools for children and adolescents. Nothing we have discovered lately about how the brain works is uniquely true for children versus adults, or would-be teachers versus would-be anything else. The kind of education that is best for teachers is one that is best for learners in all subjects and domains.

We will change American education only insofar as we make all our schools educationally inspiring and intellectually challenging for teachers, not just students. It is not enough to worry about some decontextualized quality called teacher "morale" or "job satisfaction." Those words, like "self-esteem," are not stand-alones. Neither happy teachers nor happy students are our goal. What we need is a particular kind of job satisfaction that has as its anchor intellectual growth. The school itself must be intellectually stimulating—organized to make it hard for teachers to remain unthoughtful. High teacher (or student) morale needs to be viewed as a by-product of the wonderful ideas that are being examined under the most challenging circumstances. During our first year at CPESS we went around muttering under our breath that our job was not to make the children happy but to make them strong. That goes for teacher education too.

Mindlessness as a habit may drive employers crazy, but it is a habit we have too often fostered in schools. The habit of falling back on excuses—"I had to," "that's the way it's supposed to be"—can be rooted out only by major surgery. It will be painful, and it will not all come out at once. Expecting teachers to take responsibility for the success of the whole school requires that they begin to accept responsibility for their own as well as their colleagues' teaching—surely no overnight task. At the very least, one must imagine schools in which teachers are in frequent conversation with each other about their work, have easy and necessary access to each other's classrooms, take

it for granted that they should comment on each other's work, and have the time to develop common standards for student work. They need frequent and easy access to the kind of give-and-take with professionals from allied fields that is the mark of a true professional. They need opportunities to speak and write publicly about their work, attend conferences, read professional journals, and discuss something besides what they are going to do on Monday. There must be some kind of combination of discomfiture and support—focused always on what does and does not have an impact on children's learning.

What would be the role in such schools of administration and supervision? I do not think the answer is yet in regarding the nature of school governance best suited to faculty growth. Insofar as the faculty are prevented from blaming others for their problems, they are more likely to look to their own practice. So some form of work-place democracy is essential, but there are numerous possible candidates for the form and style that best frees teachers to work together on professional matters. What is certain is that this kind of collegiality works best in settings that are sufficiently small and intimate so that self-governance and staff-development schemes do not exhaust teachers' energies or divert them from their central task.

There are doubtless many models of how a university faculty could work with such restructured schools. It is easy to see how they could play critical roles, probably involving far less emphasis on running full-time education programs for would-be teachers. Most of the models I can envisage would take place primarily around the work site itself, although school people (like other professionals) need opportunities to "get away" from time to time for more distanced reflection, sometimes with people other than those they daily contend with. "Distance" can become an advantage. That goes for the distance that the university faculty bring to the work site, and the distance that teachers can experience when they go away from their work site. I can envisage countless ways in which an empowered and self-confident school faculty could use the expertise of university people. For example, university faculty could teach occasional mini-courses to children under carefully observed and even videotaped conditions; they could meet with faculty to examine curriculum in their fields of expertise; they could observe classes and act as friendly critics; they could videotape instructional settings for teachers and act as guides in looking them over; they could read student papers and discuss ways to support better writing; they could lead reading groups on issues of pedagogical or school reform; they could give lectures on issues the faculty as a whole wants to learn more about, including lectures on particular literary texts, historical disputes, or mathematical discoveries, not just pedagogy; they could recommend important readings or circulate articles relevant to each school's situation. They could include "school teachers" of his-

tory in professional historical associations, acknowledging them in the brother- and sisterhood of historians. And, of course, they could teach differently in their own courses.

Above all, our university colleagues can commit themselves to the equally difficult task of taking teaching and learning seriously in their own institutions, to reinventing universities as educational institutions. They can observe each other, consider why and how their students are or are not learning what they intend to be teaching. They can provide models of a lively intellectual community for their students. They can team teach, creating courses that are contentious so that students are forced to deal with different viewpoints, make judgments between them, consider evidence, and ask questions.

Psycholinguist Frank Smith tells a story about a lecture he gave, attacking courses on "thinking skills." After the meeting, the superintendent of schools came up to him and said that he was in a quandary. The week before another speaker had presented just the opposite viewpoint. What should he do, he asked Smith. Well, said Smith, we cannot both be right can we? So you will just have to think about it and then make your own decision. That is what thinking is all about.

The world of schools has habituated us not only to teach children that there is always one "right" answer, but to think that way ourselves. Even where we have taken the giant step of considering that how we teach is worthy of serious intellectual thought, we rarely think about the impact the institutional arrangement of teaching and learning has on our lives and on the lives of our students. We do not imagine that thinking about that is part of our job as teacher educators.

Colleges and universities, not just public elementary and secondary schools, bear considerable responsibility for having given the vast majority of those we send out into schools as teachers the same mis-message that Frank Smith's superintendent labors under. The vast majority of those who enter teaching attended colleges that also rewarded mindlessness and rote learning. The thing that is wrong with prescriptive teaching is not that it does not "work"—it does work. It produces just the kind of miseducated people that society may once have been looking for, or in any case not seriously minded. But for the kind of educational purposes that are now being demanded, such mindlessness will not do.

Since the public at large plays such an important role in decisions about education, perhaps the only specific education requirement that all colleges should have is one directed at all its students, not just those considering teaching as a career. Reflecting on learning, becoming more sensitive to how human beings in general learn as well as how each of us individually learns—as well as addressing issues of schools as institutions—would be foundation courses at least as appropriate, if not more so, for liberal arts stu-

dents as for would-be teachers. Maybe Ed 101 should be mandatory for all students, or its content woven into all courses.

The Central Park East schools were created, invented if you will, with all these considerations, plus a few more, in mind. They were efforts to imagine the kind of collegial setting in which adults could and would learn side by side with their students. We sought to create an intellectually transformative environment, a culture of mutual respect for others, a set of habits of mind that foster inquiry as well as responsibility. We based our work on some simple principles, familiar enough to those who work with young children, but less familiar to those who work with adolescents or adults. We started with the premise that there is far more in common between a five-year-old, a fifteen-year-old, and a fifty-year-old than there are differences. Our common humanity means we learn in much the same way. That was, in fact, our first principle. Good kindergarten practice is probably on target at any age, including the age of teachers.

For example, we knew that five-year-olds learn best when they feel relatively safe—physically as well as psychically. (Young children need to feel comfortable about going to the bathroom, for example. How about teenagers? How about teachers?) Feeling safe includes trusting at least some of those "in charge," not to mention being able to predict with some degree of accuracy how the place works. The same is true for adults. For young children we know it also means that parents need to see the school as safe so that they can reassure their children that "those people are okay," "you can trust them to care for you," "they are not our enemies." It turns out that this is also critical for the development of fifteen-year-olds. They too suffer if they come to school carrying wary or hostile warnings from their families. The appropriate rebellion of adolescence cannot be carried out successfully in a setting in which the adults may truly be seen as dangerous. Healthy "testing out" rests on a basic trust that there are adults prepared to set limits. Is it so different at fifty? Do we not need a work place that is safe, predictable, and on our side, if we expect to do our best work?

A second principle, one at the heart of the Coalition of Essential Schools' "Nine Basic Principles," can be put succinctly: You cannot teach well if you do not know your students well. That means size and scale are critical. Even prisons, or army units, are not as huge, impersonal, and anonymous as many schools for young children, not to mention the average American high school. It is not just children who suffer from this depersonalization of work; adults do too. All but a few stars become lookers-on, admirers, or wallflowers, not active participants.

Our third principle is an old familiar one: You cannot use the coach or expert well if he or she is also judge and high executioner. As my son explained to me one day when I was trying to convince him to ask his teacher to explain something to him, "Mom, you don't understand. The last person

in the world who I'd let know what I don't understand is my teacher." Schooling becomes a vast game in which teachers try to trick students into revealing their ignorance while students try to trick teachers into thinking they are not ignorant. Getting a good grade, after all, is getting the teacher to think you know more than you do. Is it so different for teachers, whose only source of help and support is precisely the person who rates and rules them? The metaphor "teacher as coach" is full of possibilities not only for the relationship between adults and children, but in all teaching/learning settings.

A fourth principle for an efficient learning environment is that we learn best when we are in a position to make sense of things—especially to make sense of things we are interested in. Human beings are by nature meaning-makers, trying to put the puzzle together. From the moment of birth until our death this is our preeminent mode. Schools rarely capitalize on it. A nursery school teacher uses the room itself to create interest and curiosity. She carefully sets up the environment so that it invites questions; and she spends her time moving about the room, prodding, inquiring, changing materials and tools so that curiosity is kept lively and current. She creates dissonances as well as harmonies; she creates confusion as well as serenity. Contradictions are accepted as natural. By the time students reach high school we have stripped the environment bare, and lessons are dry and "clear cut." No high school teacher (and surely not a college professor) worthy of her salt assumes the actual physical setting of the classroom is a relevant part of her job. The typical explanation for why we teach what we do is that it is required at the next grade level—or, at best, that it is required on a state-mandated exam. Teaching becomes simplified, focusing more and more on test-taking skill. Nor do teachers view the courses they are required to take to get a license or upgrade their status much differently. Teachers' own interests are often irrelevant, or sneaked into a high school schedule. A teacher with a love for physics and expertise in the field may teach biology because that is what is "needed." No wonder that the phrase "It's academic" means it is irrelevant.

Fifth, human beings by nature are social, interactive learners. We check out our ideas, argue with authors, bounce issues back and forth, ask friends to read our early drafts, talk together after seeing a movie, pass on books we have loved, attend meetings and argue out our ideas, share stories and gossip that extends our understanding of ourselves and others. Talk lies at the heart of our lives. This kind of exchange is never allowed in school, nor modeled there—not between children, nor between adults. Monthly faculty meetings are no better imitations of true discussion than the average so-called classroom discussion. The most powerful motivation for becoming learned—that we might influence others—is purposely removed from students and their teachers. No one among the powerful policymakers wonders, as they imagine the perfect curriculum, what it means to teach a subject year after year, based on someone else's design. We organize schools as though the ideal were an institution impervious to human touch.

If we intend dramatically to improve the education of American children we need to invent very different environments for them. Teachers must be challenged to invent schools they would like to teach in, organized around the principles of learning that we know matter. That is the simple idea we put into practice at Central Park East.

What did we do? First, children stay with teachers for two years, so it is worth getting to know each other well—students, their families, and the teacher. Even high school students do not move around every forty-five minutes, do not change courses in midyear, and stay with the same faculty for two years. There are no pull-outs, and no seven-period days. In the high school most students see no more than two to three different teachers a day, including an advisor who spends an hour a day with a small group of his or her own fifteen advisees. Furthermore, each teacher teaches an interdisciplinary course: literature and history or math and science, for example.

A typical class is long enough (often two hours) to include whole-class seminars, small-group work, independent study, and one-on-one coaching by teachers and fellow students. Students do their writing and reading in school, not just as homework, so they can get feedback and insight into how to read and write more effectively. Teachers, furthermore, teach in collaborative settings; four to five teachers work in physically contiguous rooms and with the same set of students so that they can easily make decisions, alter plans, rearrange schedules, regroup students, share ideas, and observe each other at work.

Decisions are made as close to each teacher's own classroom setting as possible, although all decisions are ultimately the responsibility of the whole staff. The decisions are not merely on minor matters—length of classes or the number of field trips. The teachers collectively decide on content, pedagogy, and assessment as well. They teach what they think matters. The "whole staff" is not enormous—none of our Central Park East schools is larger than about 450 students, most are 200 to 300. That means a faculty that can sit in a circle in one room and get a chance to hear each other. Governance is simple. There are virtually no permanent standing committees. Finally, we work together to develop assessment systems for our students, their families, ourselves, and the broader public—systems that represent our values and beliefs in as direct a manner as possible. When we are asked "Does it work?" we have had a voice in deciding what "work" means. Our forms of assessment are constantly open to public review and what is open is direct evidence: Observers may visit our classrooms, read our students' work, examine our scoring grids, look at samples of graduation-level portfolios. We even invite experts to review our work and our students' performances, as a way to sharpen our insights and check our potentially overgenerous hearts.

The result: Our students succeed in far greater measure than their socioeconomic, ethnic, and racial background and prior academic skills would

predict. We have not closed the gap between rich and poor, we have not sent all our graduates to prestigious colleges, nor made enough difference to ensure that none will fall through the cracks of the larger society. But in a city in which nearly half of all students fail to complete high school, about 90 percent of those who attend Central Park East schools do complete high school, even after only four to six years in our elementary schools. While the fact that half of those who graduate from our elementary schools go on to college is a promising piece of data, the numbers are much higher for those who attend our secondary school. We hope, over time, to prove that their capacity to stick it out in college and hold good jobs and be strong citizens will be even more convincing. Whether they leave us at twelve or eighteen, they are far better able to join society as productive and socially useful citizens than are their counterparts.

It is not enough. It never will be. But the fact that schools cannot do the job alone is a far cry from claiming that schools cannot do their job better if they take seriously what they know about teaching and learning and practice it at every age and grade level. Period.

Just as our student body is not exceptional, but reflects the general population of New York City schools, our faculty are by no means exceptionally well educated, more learned than the average teacher in New York City, and certainly no more experienced. Many had virtually no prior experience as teachers and some had taken no courses in teaching. Many started as interns with us, spending their first year in low-paid assistant teaching roles. Some came from other schools where they had been good but not exceptional teachers (the most exceptional often build comfortable niches for themselves and are hard to woo away). But they all came with a willingness to learn from each other, although often vulnerable, prickly, and defensive, and they have all grown incredibly in the process of becoming better teachers. Today many speak about our work all over the country, something we consciously committed ourselves as a faculty to help each other learn to do. Others write about our work, again something we have helped each other learn to do. They see themselves first as the teachers of a particular group of youngsters, but they also see themselves as the governing body of a school and the carriers of an idea.

My colleague Ann Bussis claims that teaching is not so complex as to verge on the impossible or to defy conception at an abstract level, but it does defy concrete prescriptions for action—there is neither prescription for action nor a checklist for observation to assure intelligent and responsive teaching. All that can be offered is a guiding theory and abundant examples.

That is what schools must help us develop—guiding ideas and abundant examples, and then the opportunity to put such guiding ideas into practice and to learn from our abundant examples. It is hoped that someday, not too

far in the future, we will have abundant enough examples of what such reinvented schools might be like for them to become the norm.

In summary, if we want schools for the twenty-first century to resemble schools of the twentieth century, we can afford to tinker a little and leave the structure pretty much intact. Then teacher-training institutions need only follow suit, tinkering too. But if we want the least of our citizens to know and be able to do the kinds of things that only those lucky few at the top of the ladder have ever achieved before, then we need to begin a slow and steady revolution in how and what teachers must know and know how to do. To do this means we have to learn how to drive while changing not only the tire but the whole mechanism! Impossible? No, but very, very hard. The place it will happen is in the schools themselves—not the schools as we now know them, but reinvented schools created by school people and their communities. And it does not come with guarantees.

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Notes

1 National Board for Professional Teaching Standards, "What Teachers Should Know and Be Able to Do," in *Toward High and Rigorous Standards for the Teaching Profession: Initial Policies for the National Board for Professional Teaching Standards* (Detroit: NBPTS, 1991), pp. 13–32.

2 Eleanor Duckworth, *"The Having of Wonderful Ideas" and Other Essays on Teaching and Learning* (New York: Teachers College Press, 1987).