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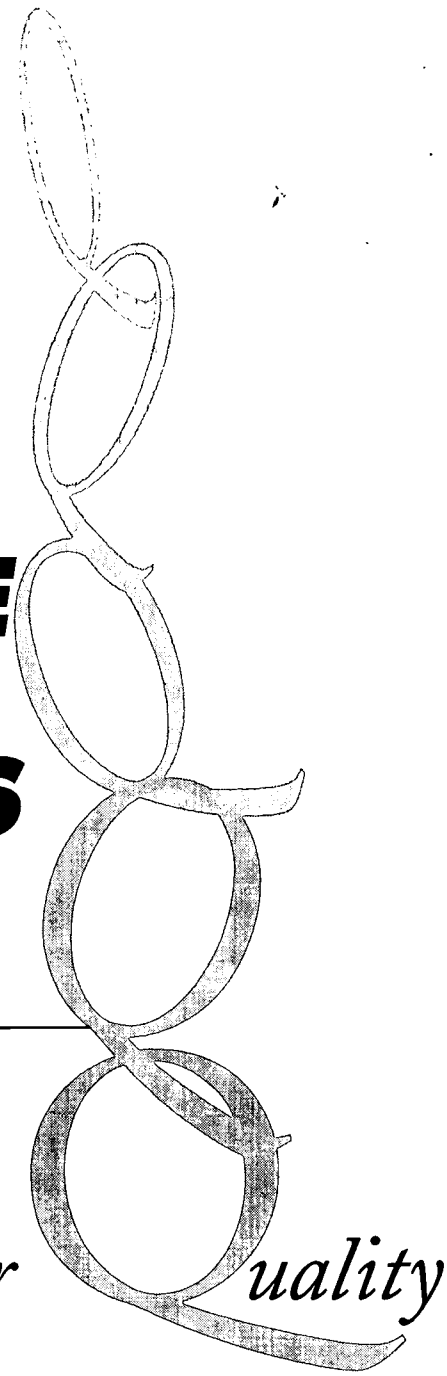
ABSTRACT

This publication presents papers given at a 1998 joint meeting of the American Federation of Teachers and National Education Association which focused on teacher quality. One common thread of this conference was criticism of the growing practice of granting emergency certification to unprepared or underprepared teachers. The papers address how to keep high standards and still hire enough top-quality teachers. The papers include: "Teacher Quality and Professional Unionism" (Sandra Feldman); "The Union as a Professional Lifeline" (Bob Chase); "Building a National Partnership for Teacher Quality" (Richard W. Riley); "Organizing around Quality" (Julia E. Koppich and Charles Taylor Kerchner); "Professional Development is the Job" (Anthony Alvarado); "The Implications of TIMSS for Teacher Quality" (William H. Schmidt); and " A Caring, Competent, Qualified Teacher for Every Child" (Linda Darling-Hammond). (SM)

SHAPING THE PROFESSION THAT SHAPES THE FUTURE



Speeches from the AFT/NEA Conference on Teacher Quality

Shaping the Profession that Shapes the Future

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Conference on Teacher Quality

September 25-27, 1998
Washington, D.C.

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Introduction

In the fall of 1998, teams of teachers, administrators and other educators gathered in Washington, D.C., for an unprecedented event. For three days, they set aside any differences and, together, took a hard look at one of the most important issues facing our schools today: teacher quality.

What made this gathering historic was that it was sponsored not by a blue-ribbon panel of high-level policy makers or academics, but by the teachers unions themselves. Not long ago, that might not have been possible. But today's unions know that improving education is as much the union's business as negotiating working conditions and that strengthening teacher quality is the straightest road to educational improvement. We believe that *all* students have the right to teachers who know their subject matter and how to teach it, who care about children, and who know how children learn. We believe in holding teachers to high standards, creating incentives for them to meet those standards, and providing supports to help them in that hard work—and we believe that those who don't measure up, even after extensive help, should be counseled out of the profession.

Teacher quality, in other words, is our business, and the speakers at the AFT/NEA Joint Conference on Teacher Quality knew it. They talked about the need for mentors and induction programs to throw a lifeline to beginning teachers, who are otherwise left on their own to sink or swim. They talked about breaking down the isolation of the traditional classroom and giving teachers time to work with one another and learn from each other. They talked about peer-assistance and review programs, about partnerships with management and colleges of education, about meaningful professional development, about the need for pension portability and reciprocity in licensure.

Among these common threads, one stood out: Over and over, speakers criticized the growing practice of granting emergency certification to unprepared or underprepared teachers. "You cannot set standards and then immediately discard them when you need more warm bodies in the classroom," said U.S. Secretary of Education Richard W. Riley, and other speakers agreed. But the problem is growing: Efforts to reduce class sizes, combined with rising enrollments and spot shortages of teachers in some locations and some fields, have pressured many school districts—especially large urban districts—into hiring less-than-qualified teachers. And like so much else in education, and in life, it is our poorest, most vulnerable children who are most hurt by this insidious practice.

But can we keep our high standards and still hire enough top-quality teachers to go around? Teacher educator Linda Darling-Hammond, executive director of the National Commission on Teaching & America's Future, believes the answer is yes, and in her presentation, she lays out a coordinated series of steps designed to ensure that there is a caring, competent, qualified teacher for every child.

It won't be easy, and it will take concerted action on the part of many players, beginning with your unions. The American Federation of Teachers and the National Education Association have made a commitment to work together to strengthen the profession. This historic conference grew out of that commitment; specifically, out of the deliberations of the AFT/NEA Joint Council, which was created to provide opportunities for the two unions to collaborate on critical education issues such as teacher quality, discipline and school infrastructure.

The Teacher Quality Conference is the beginning of a great collaboration of the AFT and NEA. And the ideas unleashed at this conference are only the beginning of our joint efforts to make sure that all children—no matter their parent's wealth or the status of their neighborhood—have truly equal access to the most essential element of a good education: well-prepared, fully qualified teachers.

Teacher Quality and Professional Unionism

Sandra Feldman
President, American Federation of Teachers

Nothing is ultimately more important to the quality of education than the quality of teaching—nothing. According to studies cited by the National Commission on Teaching & America's Future, the combined effects of teacher expertise, plus smaller class sizes in the elementary school grades, outweigh the effects of poverty, race and language background in explaining the differences between high- and low-scoring districts. When teachers are certified, when they have master's degrees, when they are teaching in their field, students make greater gains in every grade and subject and are less likely to drop out of school. We know this to be true, yet standards for teachers are routinely waived, especially in districts and schools that have low-income and predominantly minority students. In low-income, predominantly minority schools, students have less than a 50 percent chance of having a certified math teacher as their instructor, and that is a disgrace.

Time To Move On, a recent study by Public Agenda and the Public Education Network, reported that, when it comes to education, black and white parents want the same things for their children. They want high academic standards. They want their children to achieve. One finding in the study got very little attention, however: Black parents said they want high-quality teachers, regardless of race, but they also expressed much greater concern than white parents about the quality of their children's teachers. At a time when vouchers are gaining more and more credibility among poor and minority parents, this is a situ-

ation we must correct, and the unions are as well equipped as anyone to do so.

We know that, across the board, new teachers get little or no mentoring. In most schools, teacher evaluation has no connection to professional development; that is, if the school has any real professional development at all, rather than just paying lip service to the idea. Even experienced teachers have no way of sharing what they know with each other. Teachers have no formal, official way of calling on each other for help. Of course, teachers talk to each other in the hallway and in the lunch room, but there is no institutionalized strategy for teachers to work with each other. The culture of schools should include a way for teachers to work with each other and to talk with each other about the problems posed by students or situations that arise in the classroom. Some schools that are reforming themselves have built such structures in. I have seen it done, and there is nothing like it when it happens.

But with rare exceptions, teachers' time and teachers' workplaces simply are not structured so that they can go to their peers for help. We ought to think about what this means to children, who are, after all, the people most affected by it. Children have no reasonable assurance that the professionals who work with them and on whom they are dependent for their education will get the support they need. (Imagine if that happened in a hospital!) Teachers need appropriate professional supports, from preservice to their very last day of teaching—not just for their own sake, but for the sake of the children.

For us as a profession, the issue of teacher quality is fraught with danger, and for us as unionists, it is even more so. It isn't easy to take on teacher quality and professional development when members may not see the connection between the union fighting for their rights and benefits and, at the same time, raising these issues. A big part of what we have to do as unionists is to help members see that connection.

Our members know that one incompetent teacher, one unprepared teacher in their school, is one too many. They know that the children suffer, and they know that when those children move on to the next grade the following year, whoever teaches them will suffer. We have

to help them to see the connection between wanting something done about that unprepared teacher and the union's necessary involvement in teacher quality, and we have to make it clear to everyone else involved in education that we see this issue as an integral concern of professional unionism.

Many people are already doing this. Dozens of locals in the National Education Association and the American Federation of Teachers have negotiated peer assistance, intervention and review programs. These locals met together last spring in Columbus, Ohio, under the auspices of the Columbus Education Association, and they are continuing to network. I hope that work goes on and gets broader and deeper.

In addition, the NEA and AFT locals that make up TURN, the Teacher Union Reform Network, are sharing mutual support and having discussions among unions that have stepped up to the plate on reform and negotiated a wide variety of cutting-edge programs. Within both national organizations, there are teacher centers, Educational Research and Dissemination (ER&D) programs, and networks of people who are talking to each other and constantly moving forward on those fronts. In the NEA, for example, large and middle-sized urban districts meet on a regular basis. In the AFT, we have recently started a network of districts struggling with reconstitution, and they have been able to turn that phenomenon from a primarily destructive one to one in which the redesign of low-performing schools is constructively addressed.

Soon, we hope to bring together local and state organizations that are fighting the waiving of teacher standards and the wholesale issuance of emergency credentials. The New York State United Teachers has achieved agreement with the state to end the issuance of such waivers within five years. And the Texas Federation of Teachers is waging a statewide fight on this issue, connecting the widespread issuance of emergency credentials to a serious teacher shortage and calling for a substantial raise in teachers' salaries to combat the shortage.

A great deal is happening, but a great deal still needs to be done.

The teacher quality issue is tougher and more consequential than ever before, and it is ripe with opportunity as well as danger. We are facing the need to replace two million teachers over the next decade. Where will those teachers come from? Who will they be? Professional opportunities for women and minorities—the traditional mainstays of the teaching force—are much better today than they were the last time we faced such a massive turnover in our ranks. That is a good thing, but it also hurts the profession. We are struggling to get our fair share of talent nationwide. And in our poorest districts, serving our poorest youngsters, where the need for the very best teachers is the most urgent, the struggle is the most acute and the shortages are the greatest.

The explanation is not mysterious: For all of the fashionable talk about market mechanisms in education, very little is being done to raise salaries and improve working conditions for teachers, especially in the poorest districts where the pay is lowest, the need is greatest, and the conditions are toughest. And at the same time that labor market conditions for teaching are tougher than ever, so are the circumstances of our children. The world they face is much more competitive and much less forgiving, especially of the vulnerable. The standards that we need to teach to and that our students need to reach are much higher than they've ever been before, and that's good. The need for a good education in order to have a decent future is greater than ever before, and that's good. But not enough is being done to help our students reach those high standards and get that kind of good education.

That means the next generation of teachers must be first-rate. They have to be dedicated people who have a wide and deep understanding of their subject and a repertoire of proven strategies for delivering it to students. And because the acquisition of deep knowledge and skills is not something you do once and then are done with forever, the next generation of teachers must have opportunities to constantly upgrade, hone, and refine their skills—and they must be rewarded for doing so.

It is important to remember that there are powerful anti-education

forces afoot, and they are making a lot of headway. They want to see public education, and this nation's traditional commitment to equal educational opportunity, go under. We have to work harder than we ever have before to make sure that the right things get done to ensure teacher quality. We must make sure that, as unions, we continue to fight for a constructive role in matters that have traditionally been considered the prerogative of management. We have been largely excluded from the decision making in many of these matters, yet we bear the full blame when things go wrong.

The Union's Role

What should unions do? In an ideal world, we would be involved in every aspect of teacher quality, from teacher education, to setting entry standards, through professional development. We would be involved in hiring, advancement, and tenure decisions, and we would be involved in the evaluation systems on which those decisions are based, from peer review and assistance for new teachers all the way through peer review and intervention for experienced teachers who no longer measure up. That's in an ideal world, and as I've said, many of our locals are ushering in that ideal world. Their efforts are bearing fruit: Achievement is up. Graduation rates are up. There is a greater consensus on standards, and we are seeing improvement across the board in school districts, especially urban school districts, throughout the country.

None of this could happen without the cooperation and help of management, of course, and I want to acknowledge the people from the management side in these pioneering districts. In an ideal world, again, blame placing and conflict with management would virtually disappear, but most of us operate in a less-than-ideal world right now. In many of the states and districts where the professional issues of teacher quality are being taken up, those issues are still matters of controversy and conflict. Moreover, no local union, no state federation or association, not even the national unions can tackle these issues alone. We have to do it together.

One of our first orders of business, then, is to consort with our erst-

while adversaries—school boards, superintendents, elected officials—to negotiate and lobby for improvements in teacher education, for higher standards for entering the profession, and, as long as there are teacher tests, for tests that are meaningful. Tests cannot show whether people are good teachers, but they can show whether people can read and write and do basic math and whether they know their field. We must negotiate and lobby for tenure procedures that preserve due process but get rid of teachers who should not be in the classroom. We must negotiate and lobby for an end to emergency credentials and the misassignment of teachers, for higher academic standards, for curricula that embody those standards, and for tests that actually reflect what teachers are supposed to teach and children are supposed to learn. (That would be a welcome change.) We must negotiate and lobby for support of candidates for National Board Certification, for teacher centers and ER&D programs, for mentor programs, for peer-assistance and peer-review programs.

We must also negotiate for time in the day when teachers can meet. American education is frequently compared unfavorably to education in other countries. People talk about the longer school day and the longer school year in Japan, for example, but Japanese teachers teach no longer than three hours each day. They spend a tremendous amount of time meeting with each other and working on lesson plans and curriculum. We need time for teachers to meet and discuss their students' learning and their teaching problems.

Finally, we must negotiate for salaries that reflect the worth and value of teaching. And we should also explore fair and objective ways of rewarding higher knowledge and higher skill.

As a local union leader in New York City, I struggled to do these things for many years, and I know how difficult they are. I've worked with so many chancellors and superintendents that I've lost count. I took my lumps from union members who wanted me to fight to preserve the status quo in their low-performing school instead of cooperating in the school's demise, and I worked with activists who worried, legitimately, that management would take advantage of us if we loosened long-held seniority provisions. We fought and debated and

discussed, and in the end we did some remarkable work that has helped to propel that vast New York City system forward. (Most of what we accomplished as a union in New York City is described in a new publication from the United Federation of Teachers, *Power Tools for Professionals.*) The great majority of those accomplishments were done jointly with the Board of Education.

Of course, the UFT has particular resources. When you have 130,000 members in a local, you can do things that most other locals cannot do. But to this day, neither the union nor the teachers get the credit they deserve for the improvement that is occurring in the New York City schools.

So, yes, I know how tough it is. I wish I could wave a magic wand and personally improve and reform education and teaching for our members and our kids. I wish that overnight I could make every single school a school we would all willingly send our own children to. I wish the union could make it happen alone, because I really believe if we could, we would.

But we cannot do this alone. We don't write collective bargaining contracts ourselves (although a lot of people don't seem to understand that). And we can't pass state laws by ourselves, or shape up teacher education by ourselves, or take over professional development. We do not have the authority and power to do so, and we do not have the capacity to do so—even at the national level. Certainly none of our affiliates, not even the largest ones, have the capacity to negotiate and monitor collective bargaining agreements, stay in constant touch with members, run various programs, and run a parallel school system when the school system is not doing the right thing. (I know this personally because I tried.)

It should be obvious that management cannot do it alone, either. No one can know everything. If we could, we would not be facing the problems we are facing today. If blame is placed, it should be no more comfort to management when unions get the blame than it should be to unions when management gets the blame. In the end, our fates are linked, and public education hangs in the balance.

We have to sit down together at the state and local level. We won't

always agree; that wouldn't be normal. We're going to have our fights. But family fights that end up with both sides going down the road together are very different from constant, ongoing conflict that stops progress dead in its tracks.

Politicians have tried to separate our members, the teachers, from their unions, and they've always been unsuccessful. They have failed because our unions are democratic. Our leaders are in touch with teachers' needs, with what they think is wrong, and with what they think will work. Our members trust us because we have fought their battles for them. What this means, among other things, is that union leaders can play an important role. We can get our members to undertake the hard work of change.

But management has to help us produce. Otherwise we cannot accumulate the credibility that we need to do the heavy lifting. The stakes are higher than ever before. Never before has our country actually faced a debate on whether we should have universal public education, but we're having that debate now. We came to teaching for only one reason, and that is to help children learn and grow. We are fierce fighters on their behalf, and the notion of not having universal free public education available and accessible to all children is one we will never accept.

We know that without unencumbered access to good teachers in a free, high-quality school, our children—especially our most vulnerable children—will have no future. And while we cannot do it all, we can do a lot, and we are determined to fight to make our public schools the best they can be.

The Union as a Professional Lifeline

Bob Chase

President, National Education Association

When I started teaching, desks were still bolted to the floor and hand-cranked mimeograph machines were the only copiers available. Some things, though, have not changed. When I meet new teachers today, for example, they seem every bit as anxious and uncertain as I remember feeling. On my first day in the classroom, in fact, I was so nervous that I misspelled the first word I wrote on the board. The worst part is, none of the students noticed it.

In my first year of teaching, I struggled mightily in the classroom. I felt isolated and ill prepared. If it were not for Loretta Murphy, the veteran teacher around the corner, I'm not sure what I would have done or whether I would have lasted. She pulled me aside and said, "You're a new teacher. You need help. Let me do what I can do to help you succeed."

Then, a couple of years later, a teacher by the name of Roberta Van Ostrand, who was the local association president, pulled me aside and said, "Bob, we'd like you to join the Association and do some work for us." If it were not for her, I'm not sure where I would have been either, because Loretta Murphy and Roberta Van Ostrand gave me the help of my colleagues and the support of my union in order to become a better teacher. Loretta, Roberta and the Association became my support network.

My guess is that most of you who are teachers had your Loretta Murphys and Roberta Van Ostrands who gave you a lifeline, who

took you under their wings while you were still learning how to fly. What's more, I guess that every one of you—not just those who are teachers—had a teacher during your student days who literally changed your lives. I know I did. It was my high school English teacher and track coach, Alan Carlsen, who planted the seed in my mind that maybe someday I could become a teacher. I think we keep faith with people like that in our lives by being the very best teachers we can be and by giving something back to the profession.

Aside from parental involvement, nothing is more important in a child's education than the daily engagement between teacher and pupil. And teachers want their union's active and assertive help in getting the support they need—in their classrooms and in their professional lives. As one teacher told me recently, "Bob, the Association should be where I go to improve my skills."

She's right. Polls of National Education Association teachers throughout the 1990s clearly show that our members want their union to do more to help them become better teachers. They want more and better professional development so that they can improve student achievement.

Interestingly, in a policy poll earlier this year, almost 70 percent of our teacher members said that they wanted the NEA and its state and local affiliates to expand bargaining to include education quality issues, while only 30 percent wanted us to stick only to bargaining salaries, benefits and working conditions. This mirrors the results of a public poll we conducted in 1997. The public also, overwhelmingly, wants the union to expand bargaining to quality issues.

Both the AFT and the NEA see teacher quality as a union issue. After all, it is our profession and our students' futures that are at stake. The AFT and the NEA are determined to work in partnership with state officials, school boards, superintendents and principals whenever and wherever we can to improve the quality of teaching. For us the bottom line is clear: We want to improve achievement, and we know that teacher quality is the most important variable in that effort.

This historic conference is a manifestation of our commitment to the issue of teacher quality. It is particularly encouraging that many of

you came here in teams from your school districts, because we cannot do this job alone. Working together, however, we can fulfill the challenge of the National Commission on Teaching & America's Future. We can put a qualified teacher in every classroom.

But let's not kid ourselves: This will take a Herculean effort. Serious "disconnects" continue to short-circuit education in all too many school districts.

Let me give you a few examples of what I mean by "disconnects." We have studied a number of districts that are pursuing standards-based reform, and many of them do not grasp the change in teaching practice that will be needed to implement higher standards. The few districts that do understand cannot marshal the resources to provide teachers with the time and the professional development assistance they need to teach to these standards.

When we asked one official what it would take to implement his district's new academic standards, he replied quickly and clearly, "A ton of professional development." Higher standards are great; we are all for higher standards. But teachers—not standards—teach students. Simply distributing thick wads of standards from on high will not work; nor will expecting to scare everyone into compliance through high-stakes testing. But a ton of professional development will work.

Another disconnect is that many reform-minded districts never really connect with the community colleges and universities within their districts. Higher education faculties can make a major contribution to K-12 education, and K-12 educators can make a major contribution to the higher education community. We can work together to calibrate academic standards high enough to prepare students for higher education and the world beyond K-12. We can work together to develop a standards-based curriculum, especially in science, math and English. We can also provide valuable professional development to each other.

One reform-minded urban district is Long Beach, Calif. The district has set a very clear goal: "Every student who graduates from the Long Beach Public School System will be able to enter the world of

work or higher education without the need for remediation or special preferences— every student." That is clear, simple, direct, to the point and measurable. Working closely with employers and with the faculties at Long Beach City College and California State University at Long Beach, the district and the teachers union have developed something they call "seamless education." The Long Beach school board and superintendent have invested substantial resources in professional development, thereby enabling teachers to teach to the district's new standards. It seems to be working—and working well. Elementary school math and reading scores are up. Scores on the University of California entrance exams are up. And SAT scores are up—indeed, they're now above the national average.

Still another disconnect is that many districts pay lip service to putting a qualified teacher in every classroom, but in reality they operate a sink-or-swim policy for new teachers. The trouble with this approach, of course, is that when the teacher sinks, so do the students.

I often tell the story of my first year in teaching. The first day, I spent all morning in the auditorium being spoken to—not with, but to—and then there were more meetings in the afternoon. The next morning, all the teachers came together from around the district to sit in the same auditorium and hear from the superintendent of schools and the mayor. Finally, that second afternoon, I went to my school and was given my books and my class rosters. I was a new teacher, so of course I didn't have my own classroom—I had six different rooms. Not only that, but I had the most difficult students and some of the more difficult classes, which is no way to help a new teacher succeed. And then I was told, "Go forth and teach."

This sink-or-swim approach, combined with low pay for new teachers, leads to an intolerably high turnover rate among new hires—up to 50 percent in the first five years in urban areas, and at least 30 percent in other districts. That is a terrible waste of resources, and it is no way to meet the nation's need for two million new teachers over the next decade. Instead, we should be connecting with those new teachers. We should be providing them with experienced and trained mentor teachers to help them over the inevitable rough spots. We

should ask whether they should carry a full load of teaching. Perhaps new teachers should spend part of the day with their mentor teachers learning firsthand. Perhaps they should spend part of the day in professional development opportunities, so that the next year, and the year after that, their skills will be enhanced and they will be doing a better job—and they'll stay in the classroom.

Where will we find the two million new teachers that we will need over the next decade? To ensure that those new teachers will be qualified and ethnically diverse, we need to get a lot smarter about recruiting and retaining new teachers. To attract more good young people into teaching, we will need to pay more competitive salaries. In California today, the average starting salary for a first-year teacher is thousands of dollars less than the average starting salary for a first-year prison guard in the state correctional system. And once we have hired a fully qualified new teacher, we have to treat him or her like a professional. No profession except teaching expects its apprentices to fly solo their first year.

As I mentioned earlier, seven out of every 10 of our members want bargaining expanded beyond salaries and benefits to include education quality. And, many of our members—and some of our more innovative locals in places such as Long Beach; Seattle; Pinellas County, Fla.; Glenview, Ill.; and Columbus, Ohio—have been ahead of our state and national leadership in this area.

The new unionism that we are espousing really is an effort to reconnect with these members. At the 1998 NEA Representative Assembly in New Orleans, the delegates overwhelmingly approved a two-year budget that was constructed like no other budget in our history. Every program and project within that budget had to undergo a simple but rigorous test: Does it enhance the quality of teaching or student achievement or school capacity? If the answer was no, the program was cut. The items that passed the test, such as those in our new Teaching and Learning unit, were allocated more funds.

To cite another example, NEA would like to see at least one National Board Certified Teacher in every public school in America. To that end, we are committing substantially more resources to help-

ing our members achieve National Board Certification. We will help National Board candidates to obtain the technical and financial assistance they need, and we will help our local and state affiliates secure legislation and bargaining agreements for teachers to achieve National Board Certification. For example, Florida now offers a salary premium of up to 20 percent to National Board Certified Teachers provided they agree to mentor other teachers.

In short, our Association is more focused on education issues than it has been since the days when we transformed a genteel professional association into a union. We are focused on teacher quality, from teacher preparation programs through beginning teachers, ongoing professional development, and National Board Certification. The reasons are simple: First, that is what our members want. Second, that is what is needed to achieve our goal of a well-educated citizenry.

Teaching is a transforming profession, and it deserves a transforming union—a union that builds transforming partnerships with administrators, schools boards and communities. The schools exist so that we can give students the very best, beginning with a high-quality teacher in every classroom. Let us keep faith with the teachers who gave us their very best. Let us keep faith with the teachers who built our unions. Let us transform this profession of ours.

Building a National Partnership for Teacher Quality

Richard W. Riley
U.S. Secretary of Education

I recently attended a conference on school safety where I was encouraged by the willingness of the participants to see safety as a community-wide effort. Our schools cannot do it alone. We need to do a much better job of making new links between mental health agencies, social services, law enforcement and schools to keep all of our young people out of harm's way.

This same need to build new links goes to the heart of how to improve teacher quality. We must create a broad and sustained national effort to improve teacher quality. Teachers have to be at the very forefront of this effort, but teachers cannot do it alone. I congratulate the American Federation of Teachers and the National Education Association for holding this Conference on Teacher Quality and for building partnerships with those groups that have a role in to play in this critical work.

In my back-to-school speech on September 15, 1998, I challenged college presidents, state legislatures, school districts and Congress to recognize the magnitude of the problem we confront when it comes to preparing the next generation of teachers. In the next 10 years, we need to hire 2.2 million teachers. One-half to two-thirds of them will be first-time teachers. At the same time, more than a million veteran teachers are on the verge of retiring. By my reckoning, we are about

five years away from a very dramatic change in our teaching force.

Many people ask me whether we have a teacher shortage. My answer is yes. We face a future shortage of high-quality teachers. We are already seeing spot shortages developing in specific fields of expertise—math, science, special education and bilingual education. The recent news that New York City recruited math teachers from Austria highlights this growing dynamic.

School districts usually find a way to put a warm body in front of every classroom. The problem is that too many school districts are sacrificing quality for quantity and issuing emergency licenses to meet the immediate demand. This is a mistake. Many of these emergency teachers are dedicated and want to do their best. But too many provisional teachers are teaching by the seat of their pants with no preparation and no guidance.

A Changing Profession

The coming wave of retirements has enormous implications in our continuing effort to raise standards, develop successful recruitment strategies, and prepare new teachers. We also need to recognize that schools and the teaching profession are dramatically changing as well.

For example, we have a much more diverse student body, including millions of young immigrant children who need to learn English. In addition, many more children with disabilities are now learning in the regular classrooms. Another dramatic change is that technology is exploding all around us. Once, too, every teacher set his or her own academic standards. Now standards are being set by others as well, and we are asking teachers to be part of that process and rise to the challenge.

At times, the number of people who suddenly have an opinion about the teaching profession may seem overwhelming. But we must take that in stride and recognize that Americans are finally doing what we asked them to do, which is to make education a number-one priority.

Some of the ideas advanced to improve the teaching profession do not stand up to scrutiny, however. For example, a state legislator in

Georgia proposed that we arm teachers to reduce violence. And some believe that a "silver bullet" solution like vouchers will solve everything.

We have to sift the good from the bad while remaining open to new ideas. More important, we need to make sure that our classrooms are places where new and challenging ideas collide with the comfortable. That kind of teaching means a change in thinking, a change in school organization, and a change from the past.

Restructuring Teacher Preparation

What are we to do? I believe we need to take a hard look at the very structure of our current teacher training and support system and get on with the task of modernizing it. Building new schools will do us little good if we allow the teacher preparation system to frustrate and even destroy the hopes and dreams of many teachers.

Too many teacher education programs, for example, are focused too much on theory and not enough on clinical experience. The current certification process is a cumbersome obstacle course that has little to do with excellence and much more to do with filling out paperwork. And once new teachers enter the classroom, we allow a perverse sink-or-swim approach to define their first year of teaching. New teachers are assigned the most difficult classes in addition to all the extracurricular activities that no one else wants to supervise.

Then we wonder why we lose 22 percent of new teachers—close to 50 percent in urban areas—in the first three years. This churning process and over-reliance on emergency teachers simply won't do. Imagine the outcry if a quarter of all new doctors left the profession after their first three years. This is why I encourage local school districts to develop some type of long-term induction or mentoring program to help new teachers stay in the profession.

There are other steps we can take now to encourage more Americans to enter the teaching profession. One effort proposed by the Clinton administration is to develop teacher training partnerships that will link teacher education programs much more closely to local school districts. Another provision, championed by Senator Ted

Kennedy (D-Mass.), will help recruit students into teaching by forgiving up to $5,000 of student loans after a graduate teaches for five years in a high-need area. We also have worked very hard to provide Pell Grants for a fifth year to those college students who want to become teachers and need another year to meet state requirements. These are sensible and helpful provisions. And a new provision has been included to create State Teacher Quality Enhancement Grants to improve state certification standards, create rigorous alternative pathways into teaching, and hold teacher education programs accountable.

What else can be done to support teacher recruitment? I support the creation of some type of national job bank to match teachers with districts that have a growing shortage of high-quality teachers. I also believe we need new models of teacher recruitment, such as Troops to Teachers, which provides referral assistance and placement services to service members and civilian employees of the Department of Defense who are interested in beginning a second career in public education as teachers or teachers' aides. This program has helped us get many more minorities and men with strong math and science backgrounds into the teaching profession. I challenge corporations to develop their own models of teacher recruitment along these same lines.

At the same time, the increasing mobility of Americans will require states and school districts to take a serious look at the portability of teacher credentials, years in service, and pensions. Teacher shortages should not develop simply because states have not brought their policies up to date.

Federal efforts to enlist thousands of Americans to go into teaching can have an impact. Our best hope, however, is the strong encouragement of parents and grandparents whose lives have been touched by good teachers. I am distressed when I hear parents discourage their children from going into teaching. Teaching is about serving your country and being patriotic.

I also challenge the myth that teaching is only for those who can't cut it in other professions. Anyone who has ever spent an hour in a

classroom full of demanding second-graders or had the challenge of motivating a group of teenagers knows how difficult the job can be.

America's teachers are some of the most idealistic and patriotic people in this country. I am extremely proud of them. So many of them have entered teaching because they want to change the world, and many of them do—child by child.

I challenge the leaders of America's great colleges and universities to make teacher education a much higher day-to-day priority. Teaching teachers has to be the mission of the entire university. Some colleges may focus on winning a national football championship. I want them to start competing to win a national teaching championship as well. And I urge teacher-leaders to meet with university presidents and trustees and ask for their direct involvement.

Our nation's colleges of education can no longer be quiet backwaters that get a mere mention in the annual report to university trustees. College administrators who complain about the high cost of remedial classes would do well to pay more attention to how they are preparing new teachers. Several suggestions come to mind:

- First, colleges of education should give basic skills tests to students entering teacher education programs prior to their acceptance and, at the same time, hold themselves more accountable for their graduates. This is why I endorsed the thrust for accountability by Senator Jeff Bingaman (D-N.M.) and Congressman George Miller (D-Calif.).
- Second, stronger links must be developed between our colleges of arts and science and colleges of education. Future teachers should major in the subject they want to teach. This type of course work is found in schools of arts and sciences—not colleges of education.
- Third, I urge teacher preparation programs to put a much stronger focus on giving future teachers rigorous grounding in developing the skills they need to teach. Knowing your subject matter is not enough. There is a skill and a craft to teaching, and that is especially true when it comes to teaching reading. At the first National Reading Summit, held in September 1998, I placed a special emphasis on the need for new teachers to have a solid foundation in the lat-

est research and strategies to effectively teach children this first important basic. I support increased professional development for reading. We will never raise standards if we cling to the status quo when it comes to improving literacy.

■ Fourth, colleges of education need to recognize that the numbers of special education students and those with limited proficiency in English are growing. These populations deserve much more attention in teacher preparation.

■ Finally, I urge colleges and universities to develop much stronger links with local schools. The Higher Education Act of 1998 includes an important new provision to encourage these types of collaborations. The El Paso school district, for example, has dramatically improved its test scores by working hand-in-hand with the University of Texas in El Paso to improve teacher education.

Challenges and Incentives

State governments and local school districts also have a powerful role to play in reshaping the teaching profession. This is why I challenge every state to create a demanding but flexible certification process. Becoming a teacher should not be an endurance test that requires future teachers to overcome a bureaucratic maze of hoops and paperwork.

I believe a much stronger focus should be placed on assessing the knowledge and skills of future teachers—however they acquired that knowledge and those skills. That is why I support rigorous alternative pathways into the profession, which can be helpful in recruiting mid-career professionals into teaching.

I challenge every state to eliminate the practice of granting emergency licenses within the next five years. You cannot set standards and then immediately discard them when you need more warm bodies in the classroom. New York state has taken the lead in doing away with emergency licenses, and other states should follow this good example.

States and local school districts must also end the practice of teaching "out of field." More than 30 percent of all math teachers, for example, majored in subjects other than mathematics in college. I

believe that all teachers should, at a minimum, have a minor in the subject they teach. Foreign education ministers who visit this country are totally perplexed when I explain our unusual habit of allowing teachers to teach subjects they have not studied in depth.

As we seek to raise standards for our students, we need to work much harder at giving veteran teachers the opportunity to continue to learn. We cannot ask teachers to raise their standards for students without giving them the support and the time they need to keep on learning themselves. This is why our current system of professional development, with its emphasis on "seat time," must become a thing of the past.

We need other incentives as well. The current system of providing salary increases for credits earned seems flawed in several respects. There is often no connection between the credits a teacher has earned and what he or she actually teaches in the classroom. And there is little incentive to encourage teachers to gain more knowledge or improve their specific skills for their classrooms. Excellence, in a word, is not rewarded.

Only 14 states, for example, currently provide salary supplements to those teachers who set out to become master teachers through the National Board Certification process. As a result, many of our best teachers are forced to leave the classroom to get a bigger paycheck as a school administrator.

This is why I ask states and local school districts to take a good look at a new and developing concept called knowledge- and skill-based pay in addition to additional pay for years of experience. Put simply, teachers are paid under this system for what they know and what they can do. They are rewarded for specific skills and knowledge that help a school reach its own established goals.

Now, a word about teacher salaries. As I have said many times before, we cannot expect to get good teachers on the cheap. Mary Beth Blegen, who was National Teacher of the Year in 1996 and is now on my staff, was being paid a salary of $36,000 with 30 years of experience—a fraction of what she deserved, and a fraction of what other professionals expect after years of service.

If we are going to entice more Americans to enter teaching, we need to offer them fair and competitive salaries. And, if we are going to ask teachers to meet new and demanding standards, we also need to pay them for their effort. Two states, Connecticut and North Carolina, have had the good sense to raise standards for teachers and raise salaries at the same time. I believe every state would be wise to follow their good example.

I have challenged many different groups to come forward and join a national partnership for excellence in teaching. It seems appropriate to challenge America's teachers as well. Teachers are the heart and soul of the renaissance of American education.

I challenge every teacher to think beyond his or her own classroom and engage in a total effort to raise standards for the entire school. I urge you to demand high standards for all teachers and help for those who are struggling. I ask you to sit down with your colleagues and get serious about developing new ways to help teachers keep learning. I encourage you to be tough minded about policing your own profession when it comes to "counseling out" teachers who need to leave. We must address the problem of incompetent and burned-out teachers through a process that is fair and is less cumbersome and less costly than the current practice.

Please continue your good work and go out of your way to recruit new teachers. Let others know the joy you get from teaching. Keep the standards of your profession high, and measure yourselves against the best. Do everything to encourage more teachers to become National Board Certified. Help us to continue to build new links to help you improve your profession. Above all, I urge you to take these challenges seriously and take action now.

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Organizing Around Quality

Julia E. Koppich
and Charles Taylor Kerchner
Authors, United Mind Workers:
Unions and Teaching in the Knowledge Society

It has been an extraordinary year. People told us that no one would pay attention to *United Mind Workers.* They told us that it was too academic and that teachers wouldn't understand the changes taking place in the educational institution. They told us that teachers unions would either ignore it or attack it. They were wrong. Instead, you have embraced the ideas, talked about them, and improved on many of them through your practices.

Now, we want to make two assertions about quality and unions, and we want to talk about how unions can organize around quality.

Assertion 1: Organizing Around Quality Is What Unions Can Do To Save Public Education

In the second chapter of *United Mind Workers,* we write about the need to move beyond the siege mentality in answering the critics of public education. There is no doubt that unions and teachers are vulnerable to attacks from the outside. Public education itself is vulnerable.

The question is whether there is a way that organized teachers can regain the momentum that they had in the 1960s and 1970s—a momentum that put them in the forefront of educational change. This time, the game is about improving educational quality and increasing student achievement.

Over the last 30 years, the American Federation of Teachers and the National Education Association have done something that the critics thought impossible. They got teachers organized. For the first time in the history of the republic, teachers spoke for their own needs in terms of economic security and working conditions.

But that was then; this is now.

In *United Mind Workers,* we argue that the task of contemporary unionism lies not simply in sustaining the existing institution through political protection or confidence-building public relations, but in constructing a successor to the industrial-era institution of education.

When teachers organized in the 1960s and '70s, it was around the conditions of employment: decent jobs, decent pay, decent treatment. Now unions face the challenge of organizing the other half of teaching—the teaching work itself; the substance of what teachers do every day. This time, unionizing is about organizing a profession and building a new institution of education.

We know there is no shortage of people laying siege to public education—certainly from outside the institution but sometimes from within it as well. Every state faces unfriendly initiatives and legislation. Take Proposition 226 in California as an example. It would have eliminated dues check-off for union members, and it took millions of dollars and thousands of person-hours to defeat it.

Another siege takes the form of vouchers. Vouchers are not going away any time soon. The Milwaukee voucher plan is probably headed for the U.S. Supreme Court, and no one is taking bets on which way the court would rule.[1]

Meanwhile, public opinion about vouchers is starting to change. In 1993, the Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools showed that 74 percent of respondents were opposed to using public money to support vouchers to private schools. The 1998 poll showed the public nearly evenly split for and against vouchers.

Even more sobering is the realization that there is a new coalition pushing for vouchers. As urban activists—many of them African-

[1] This speech was given before the Court declined to take the case.

Americans, many of them elected officials—begin to support vouchers, it can no longer be claimed that the effort is fueled only by a core of elitists.

And then there are the for-profit providers of education. American business sees schools as the next growth area for investment capital. The investment house of Lehman Brothers estimates that there is $1.6 billion in what they call the education industry.

Make no mistake about it; they are in it for the money. A survey reported in the Sept. 23, 1998, issue of *Education Week* showed that the potential to reap a profit ranked at the top of the list of reasons for investing private money in education. Concern over the state of education itself ranked dead last.

Another factor is the growth of alternatives to unions. Independent teachers associations are growing in nonbargaining states. Some 250,000 teachers already belong to such groups.

And finally, we have unionists who believe that change is optional. Too many teachers believe that the sea change taking place in public education is just a fad that will go away or that it will never affect them. They tell us, "This too shall pass," or "Everything is all right in my district." And then there are those who confuse solidarity with cheerleading.

Underlying these conditions are two choices: You can hunker down in the trenches and wait for the next assault. Or you can think and act your way to better futures. For more than a century, unions have called this *organizing*, and so do we.

Assertion 2: Organizing around Quality Is Union Work

Taking charge of quality is the new organizing task—and one of the big levers that unions have at their disposal. Building around quality connects teachers unions with the centuries-old traditions of craft and guild organizations; at the same time, it connects unions with the emerging world of work in which mental work is the key to many occupations. The title of our book, *United Mind Workers,* is much more than a play on words.

Taking charge of quality is not wimpy unionism. Locals that have

done it have had to assert their right to organize the other half of teaching. Not only do they have to convince management, but they have to convince their own members.

For example, in Cincinnati, it took a 15-year organizing campaign to convince people in and outside of the union that organizing around standards was the right thing for the union to do. Tom Mooney nearly lost an election over it. When the teachers union in Rochester, N.Y., negotiated its first breakthrough contract about a decade ago, Adam Urbanski received what he thought was a greeting card in the mail from one of his teacher members. It was a piece of green construction paper, folded like a greeting card. He opened it up, and inside was taped a screw. And in Seattle, when the union had negotiated a stunning contract full of all sorts of interesting and innovative things, the teachers at first turned it down.

These locals—Cincinnati, Rochester, Seattle or others we could name—have not given up an inch in advocating bread-and-butter items for teachers, and now they are in the forefront of negotiating for quality standards.

Finally, taking charge of quality is a refusal to declare one's self a victim no matter how grim the circumstances are on the outside.

How Do You Organize around Quality?

In our new book *Taking Charge of Quality,* we talk about organizing around quality. Here are some suggestions:

1. Make the title "teacher" matter. The first way to do this is through licensure. We now have two employment systems. In a number of districts, you can teach with a credential, and you can get the same job without one. In California, class-size reduction legislation resulted in an immediate need for thousands of new teachers. In districts like Los Angeles and San Francisco, people with neither experience nor training were put in classrooms. Statewide, there are 28,000 teachers with emergency credentials.

The superintendents said, "Well, we have to do it," the school boards went along, and the unions remained strangely silent. This is not only wrong, it's dangerous, because it is the unions that ultimate-

ly will be blamed for the poor quality of the teaching force.

What should be done? The answer is to restrict the title of teacher to those who have earned it. Publicize the licensure problem, including the school districts that use unqualified teachers. Campaign for teacher education programs that provide career ladders for bringing classroom aides into teaching.

Can you change the system overnight? No. But to do nothing is to offer tacit endorsement of what exists now.

2. Improve teacher education. Just as unions should not be in the business of defending incompetent teachers, neither should they be about giving aid and comfort to teacher education programs, or to teacher educators, who send unprepared or underprepared people into classrooms. Instead, unions should begin to cooperate with universities to build the kind of teacher education programs that really work.

Unions should get out of the business of debating the merit—or lack of merit—of alternative certification programs. Just as the AFT and the NEA have advocated for the National Board for Professional Teaching Standards, so, too, should unions make the public-policy case for a licensing exam for new teachers, patterned after the National Board's but geared to beginners: a tough examination of teaching skill and practice. Anyone should be able to sit for the exam. If you pass, whether you have come through the traditional teacher education route or taken an alternative path, you get a teaching license. If you don't pass, you aren't licensed to teach. Here's a way for the unions to be in the teaching-quality game from the beginning.

3. Support the National Board for Professional Teaching Standards. Encouraging teachers to become board certified has been a very important move for the NEA and the AFT. It has raised teacher quality higher on the union agenda. But you can do more.

Use the standards adopted by the National Board as a framework for redesigning teacher evaluation systems. Use the activities, exercises and requirements that lead to board certification as the architecture for professional development programs. Use the standards, frameworks and activities that are part of the National Board as a way to begin to rethink salary structures and reward teachers for knowledge

and skill. And put salary and professional development incentives behind the examination.

4. Use the contract to ensure quality. If you are serious about organizing around quality, the contract needs to reflect your intentions.

Last spring, we were doing some field work in Minneapolis, and we were in a classroom of eager sixth-graders who were working on a language arts project. The teacher had constructed on the board a rubric for quality. On one end was the notion of high quality and on the other was "not done yet." It seemed to us to be devilishly good pedagogy because the teacher was leading the students through an exercise in which they could identify what quality was. But underneath that exercise in one particular classroom at 2:00 on a Wednesday afternoon were eight years of work between the Minneapolis Federation of Teachers and the district that made teaching quality part of what the union does in Minneapolis and part of what the district does. The Minneapolis contract has three pages of text about salary and 47 pages of text about teacher quality and how to make it happen. The contract was drawn up that way for a simple reason: The district and the union agreed that teachers don't run around with board policy in the back pocket of their blue jeans. But they do carry the teachers' contract. They know where it is and what it says. It is a valuable instrument.

5. Institute peer review. We believe in peer review. We've experienced it, and it works. It doesn't take much to institutionalize peer review in a contract. Toledo did it in the first instance in one sentence. And that sentence, and the teachers' willingness to fight for that sentence through tough times—they almost struck over it—has kept the program alive for almost 20 years.

6. Invest in professional development. A good peer-review system is also the anchor for professional development. In Poway, Calif., teachers don't have to ask what it means to be a good teacher. There are standards, and all the teachers in the district know how to demonstrate them. Forty percent of the teachers have now gone through the district's peer-review system. Professional development is the way to

answer the question, "What do we do to get smarter?" In Poway, the peer-review system, as spelled out in the contract, provides a road map to get there.

Finally, we commend to you the words of your leaders. For example, the three-pronged test offered by NEA president Bob Chase at the beginning of this conference. For every union activity, ask: Does it enhance the quality of teaching? Does it improve student achievement? Does it increase school capacity? If you cannot answer yes to one of these questions, then it's time to reorder your priorities. We join AFT president Sandra Feldman's statement that the business of improving education and teaching is as much a part of the union as negotiating contracts.

Professional Development *Is* the Job

Anthony Alvarado
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The standards movement presents us with enormous challenges, and they don't always take the form we expect. We all know that if standards are to succeed in raising student achievement, there will have to be a massive change in the way we do business. Most people tend to look at the change in terms of its impact on students: The kids will have to do more challenging and rigorous work, and they'll be held accountable for their success. But after we set these high and demanding standards and we have assessments that tell us our kids are not performing to the standards, we'll turn to one another and say, "Our kids were not jumping very high before, and now we expect them to jump higher. What makes us think we can get them to do that?"

There are a million theories operating in the United States of America about what it takes to educate a kid and why we do things the way we do. When the theory is that the teacher and the child—that dyad—is where the rubber meets the road, all roads lead to professional development. But in the new world of standards-based education and helping our students meet them, it is professional development of a kind that we have not previously experienced. In the past, it has been a fairly mundane and superficial matter of speakers and workshops, with here a new technique or procedure for classroom management and there an inspirational talk about diversity. The new professional development must be different and much more powerful, and it will involve solving problems and collaborating at levels that we have never even contemplated.

Teachers and administrators will have to think together about how

to create conditions that allow, in fact ensure, that kids meet the demands of standards-based education. We will have to change practice, and to do that we need a theory of action. I have a very simple one: We want children to perform at much higher levels, and that will happen as a result of an interaction with teachers. Therefore, what teachers do will have to be different and much more powerful. We will have to find ways of getting deeply into the specifics of how to help students master subject matter. And we will have to create contexts that support changes in thinking and pedagogy on the part of teachers. The standards movement is, first and foremost, a challenge to the adults because it is what they do that will determine the quality of the work the kids do.

Deciding about the Cow

A little while ago, my office got a call from a representative of a dairy association. This was the message that was left on the answering machine:

> Every eight years, we bring a cow into the San Diego elementary schools, and because of the needs of the cow, it has to come in the morning. We are hearing that, because you have a morning literacy bloc, the cow is being denied entrance into the schools. We think this is a fabulous program. Will you call the schools to let the cow in?

We said, "That's a school-based decision." And of course the schools made different decisions about the cow for different reasons, some good and some bad. Some schools had already, when we talked about the literacy bloc, looked at their assembly programs and said, "You know, we have too many of these programs, and our kids are not reading enough." So they decided to pare down their assembly programs, and out went the cow. Some schools called the dairy association and said the district had said no to the cow. Other schools said, "Let's bring the cow in and create literacy work around the cow." And the next day, there were all kinds of student writing about the cow. Different approaches to the same question.

In this new world of standards-based learning, there are no uniform answers—even when it comes to making decisions about cows.

You have to ask yourself, what is the right answer for a particular situation and school. That decision has to be made in a context of standards-based education, and you can't think usefully unless every teacher, every principal, every district office member, and, most important, every student, has a focused, coherent and common vision of what is expected of them in standards-based classrooms.

When I talk about standards, I often tell the audience that if I handed out little slips of paper and asked each of them to define standards-based education, I would probably get as many different descriptions as there were people in the room. But unless and until we get a focused, coherent and common vision, standards-based education is just another big idea that will wreck itself on the shoals of implementation.

Olympic Standards

There is not much in our current educational system to enlighten people about how standards work, but Olympic competition does offer some useful parallels. Take Olympic diving, for example. There is general agreement about how difficult a particular dive is and also about what is good form when a diver executes a dive. Coaches help their students train to meet those standards. When you see an athlete dive off the board, hit the water, and then come up again, you may already see him going "Yes!" or "Phhht!" because he has a pretty good idea of how well he's done. Then—and this is very interesting—you have a panel of people from different countries who probably cannot speak to each other because they speak different languages. Five seconds after the diver comes up, you see 9.9, 9.8, 10, 9, and you never see a 1 and a 10 given to the same dive because the judges have internalized the standards and largely agree on what it takes to make a 10.

Students in our schools should be able to do something similar. They should be able to describe what it takes to get an A. Now, when we ask children, "What are you learning?" they may even say, "I don't know." Or, "We're studying...this is a history class." Or maybe, "We're studying the Civil War." What about...? "Oh, I don't know. Some fire." That's why education is in the mess it is in. With standards,

there are clear expectations, understood and internalized by students and teachers. Students know that their work has to meet those standards, and they have access to teaching that can get them there.

How would this vision manifest itself in the classroom? If you asked a student, "What are you learning?" he would say, in the context, for example, of a piece of writing, "I'm writing a descriptive composition, and I know my composition doesn't yet make the grade because my central idea is still too weak and my detail isn't rich or sharp enough. But I'll know when I meet the standard because I know what is required." And every other child in the class would also be able to answer such a question by measuring his achievement against the external standard. So would that child's teacher, all the other teachers in the school and the principal, so that there is coherence in what is expected and what is done in the school. The parents, too, would understand the standards on which teaching and learning were based.

That is the vision for what a classroom looks like—every child able to describe what he or she is expected to do; every teacher understanding the same thing. But then—and this is of the utmost importance—the teachers have to have access to professional development, to experiences, to knowledge, to skill that can give them the power to get every kid not merely to understand the criteria but to meet them. That is a daunting task; the expectation for teachers is as sophisticated and complex as the Manhattan Project was for the scientists who participated in it. Do we understand when we talk about standards-based education what we're really asking a system to do? This is tough, demanding work, and it requires a kind of professional development that is of a different order from any we've seen before.

Learning from a Master

What would professional development look like in this new world order of standards-based education? Here are some snapshots, but the truth is, they are merely suggestions because everything has to be based on what goes on in particular schools, and no two schools are alike. So schools have to invent their own versions because working on standards, above anything else, is intellectual work; it means think-

ing, solving problems, gaining knowledge and applying it in situations so that one can create a new situation.

One component of the new professional development would certainly be encouraging teachers to visit one another's classes. We all know that, now, our classrooms are separate units and teachers are essentially isolated from one another. If we are to do standards-based education in a meaningful way, we must move private practice into the public sphere. In a school where classrooms are open, teachers will be talking to one another and in each other's classrooms, frequently and with a purpose. This isn't social visitation: I am going into the second-grade classroom because I am looking at "writers' workshops," and I want to find out how this master teacher uses them to link reading and writing in this grade. When I understand, I don't just take my knowledge and go back to my classroom. I have a responsibility to spread what I've learned to the rest of the faculty. And I need to do it quickly—in weeks, not months or years.

The cycles of change in our schools are very slow. We decide to try out a new little idea in September, and we're going to check in June to see how well it's working. Well, you know what schools are like in June. So maybe we say, "Wait until September," and by then a year has passed. (And maybe we never bother to check.) We have to develop a sense of urgency, to speed up the pace, or we'll all be 110 and Godot will have arrived before we get change in the schools. Or, more likely, we will lose the franchise in the meantime.

What this means in practical terms is that the teachers who visit the writers'-workshop master take her ideas and try them out. The master teacher answers their questions and goes into their classrooms to help them make the idea work. Then, they make a presentation to the full faculty. In six weeks, a school working like this can get writers' workshops up to the highest quality of practice.

And this kind of activity doesn't stop because we think we've gotten there. The underlying vision for professional development is that it is continuous and that it is for everybody. The best people in the United States of America in any profession are the people who work hardest at improving their practice. Jerry Rice of the San Francisco

49ers is a great pass receiver, but he doesn't say, "I'm the best receiver in pro football today, so I don't have to work at it." No. He says, "In order for someone who does great work to get a little better, that guy has to work 10 times harder." If you run a mile in eight hours, it doesn't take much to run it in seven hours and fifty-nine minutes. But if you run it in three-and-one-half minutes, each one of the seconds you knock off is a killer. You may train a year to do it. That's the kind of attitude and approach to growth—the culture of growth—that has to be present in schools.

So, continuous visitation is one way of stimulating the professional growth I'm talking about. When I was superintendent in New York City's District 2, almost a quarter of our professional development budget always went right there: Teachers went singly or in pairs to visit other teachers in their school and they went to visit classes in other schools. We thought at the beginning that one round of visitations within a school would be enough, but that ignored the enormous possibilities for continuing growth that visitation offered. What it generates, at its highest level of practice, is what business calls "benchmarking." By comparing what they do with the work of other teachers, teachers become prolific creators of good practice. But there has to be an understanding that just that kind of constant comparison and effort to improve is the expectation—and there is a culture that supports it and money up front to carry it out.

What about the Money?

Most school districts, if they looked in their budgets for their professional development money, would have a hard time finding it because it doesn't amount to much. You can talk all you want about professional development and have high-toned conversations about models, but if the money isn't in the budget to do professional development, you don't care about it. And that's something for school board members, for superintendents, for school-based committees, for everybody to understand. They've got to put their money where their mouths are; and if professional development is the lever for change—and I'm convinced it is—they've got to put the money there.

In my first year in District 2, barely one-tenth of 1 percent of our budget went for professional development. By the time we were spending 3 percent, people were writing papers about our professional development program. When I left District 2, 6 percent was going to professional development—and I know that's nowhere near the amount of money necessary to do the job. By the way, I'm not talking just about getting new money but also about determining to spend the money you have in new ways. Although the federal government has been encouraging us to use Title I money for professional development, we still use a lot of it for pullouts. (And when we get rid of a pullout by making it a push-in, we often think we've accomplished something great, without even asking whether people have changed what they're doing.) In fact, there are massive amounts of money in reimbursable programs that are not being put toward professional development, often because management has its sacred cows and so does labor. Decisions to stop doing some things we've always done can be very tough. People could lose their jobs if money is rerouted into professional development to support the learning of teachers. We've never had to face these kinds of issues in a real-world environment.

Another sacred cow we're going to have to sacrifice—and this will also sound tough—is spending money on service for kids. The theory here is that better practice, not more practice in the old mode, creates learning. If I have a choice between spending $10 on a teacher or creating another little intervention, I'll spend the $10 on the teacher because, in the long run, the rise in professional knowledge and skills lifts all boats. The afterschool stuff doesn't do anything to change most of the practice in schools.

The lion's share of professional development money has to go for what we usually call "master teachers," people adept, for instance, at teaching decoding to kids who are just learning to read or teaching important beginning math concepts and skills. Coaching is at the heart of this. It is stupid to believe that you can give a teacher a book and say, "Here are the second-grade reading standards. Go and implement them." Unfortunately, this is the way we generally do things. Teachers are starved for access to practice that can help them

improve what they do in the classroom. They need other teachers whose practice has reached a very high level standing there with them, observing, giving them feedback, modeling the right way to do things. A generalized version of mentorship won't do. We need something specifically focused on practice if we hope to get kids' performance up.

Of course the standards for selecting these master teachers have to be high and demanding. Tennis players who want to improve their game won't get anywhere if they always play with people who are at their level. They need a tennis pro who is highly skilled—and the same goes for master teachers.

Sometimes administrators are less than enthusiastic about recognizing master teachers in their midst and using them in this way. They ask, "How can I take my best teacher out of the classroom? The PTA president's daughter is in her class." This attitude is understandable, but it loses sight of the goal, which is to raise all boats, rather than create isolated masters.

There are many other ways to create professional development based on the idea of continuous improvement; they will vary with individual schools or districts. For example, in District 2, we sat down with the union and created the Distinguished Teacher Program, a variant of the master teacher idea. The idea was to identify an outstanding teacher and assign him or her as a consultant—or visiting expert—to a struggling school. In the case I'm thinking of, the distinguished teacher co-taught the literacy bloc with other teachers for part of the day and then spent the rest working individually with other teachers. The results were dramatic. In one year, the school moved from having only 27 percent of its students meet the state reading standard to 70 percent.

Are cadres of National Board Certified Teachers part of this story? They could be, but our efforts in that direction are still minuscule. If we're serious about making them part of the continuous professional development I'm talking about, somebody has to get moving. I hear, "Oh, I have eight National Board Certified Teachers" (in a system of 150,000 kids). Or "Oh, I have 10 National Board Certified Teachers." Unless we step up the pace, Godot's son will have arrived before board

certification has had an impact. Again, the issue is not, "Is this a good idea?" It is, "Will this work in my school?" and "How quickly?"

A New Brand of Collaboration

The professional development I've been talking about rests on money and on time. Unless teachers can visit classes in their school (and other schools), unless they can be coached and coach, there is little possibility of affecting practice in this way. It also rests on collaboration. The basic collaboration is the one between a teacher and a master teacher or coach. It is about the practice of a particular person, and it cannot be figured out in the central office or legislated by a school-based council. Ideas and frameworks for what might be done can come from lots of places, and the process can be jointly developed. But the kinds of changes I'm talking about have to be worked out where the teaching takes place—in a particular teacher's classroom.

But inventing and refining practice in one or two classrooms is not enough; invention has to go on throughout a school or school district, and to achieve that, we need collaboration among all the levels of the school or district. For example, we need a new kind of collaboration between teachers and principals—indeed, we need a new role for principals. Since professional development, as I am describing it, is not something that happens at certain times and places, the principal has to be involved, on a day-to-day basis, in making the new professional development work: scheduling, arranging, facilitating, monitoring. Instead of being a very occasional classroom visitor and the person in charge of discipline and keeping the physical plant running, the principal must now be as vitally engaged in teachers' ongoing professional development as teachers are themselves.

We will also need a new kind of labor-management pact that is geared to the intellectual expectations of standards-based education and this view of professional development. School boards and administrators on the one hand and teacher unions on the other have been struggling for a long time to collaborate over contractual and management issues, and we've been making progress; we're growing up. But the issues we've previously squabbled over are trivial compared to

the ones we face now. This is no longer about who said what or how the third item in a checklist for classroom evaluations should be worded or even about a policy for hiring and transferring teachers—important though that is. These issues will not even get us into the ballpark of standards-based education, with the professional development we need to make it work. But we don't have any choice; we have to put our heads together; even though there is going to be tension and debate about how we do it.

The necessity of speeding up the pace of change will intensify some of the tensions we'll face. When we thought we had all the time in the world, we—and I mean teachers and their colleagues, teachers and administrators, labor and management—often had a hard time collaborating about mundane issues. Now, with pressure from the outside and a sense that we have to accomplish a great deal in a short time, we are also trying to get together on some very tough intellectual issues. So this is a hard nut, but we'll have to crack it if we're going to be successful.

The kinds of things that now pass for professional development—one-shot workshops on diversity training, cooperative education, classroom discipline—won't do a thing to improve practice. But we do know from research a lot of things that we don't pay any attention to. We know cross-role training works. Why? Because the principal might actually know something about how to think about and change classroom practice and might be able to help teachers make necessary changes. We even have research—David Cohen's study of mathematics networks in California—confirming that when teachers receive professional development dealing with the content that they're supposed to teach the students, the students learn more.

Why is it then, that school systems continue with the same old patterns and traditions when it comes to professional development programs? One of our problems is that we are besieged by the outside world—by herds of cows, if you like. Every snake-oil salesman who has a program comes knocking on the door, and we have to learn to say no so we can focus on stuff that's important. But in order to separate the wheat from the chaff, we have to be able to think, and we

have to know what instruction is. Otherwise, we'll buy any program that's out there because we need salvation. That's why every single program that has ever been invented, however lousy, is in use in some teacher's classroom. This is not because teachers are dumb—or administrators, either. It's because we are starved for ways to improve practice, without having any way of focusing on how to do it and, thus, separating the good from the worthless.

Many school districts—perhaps most of them—still have a very constricted view of professional development. It goes like this: Some of us are teachers; some are administrators; and professional development is something we go somewhere to have doled out to us. The point I'm trying to make is that our work is professional development. Thinking about our work and improving what we do—these things are professional development. So is collegiality—teachers talking about their practice and how to make it better. It's a big mistake to think that teaching is what we do every day and professional development is an occasional seminar or workshop or institute. No! The job is professional development, and professional development is the job. When we learn that—really learn it—we'll be on our way.

Professional Development in District 2

A good example of how the ideas described here have been put into practice is New York City's Community School District 2, a racially and socioeconomically diverse K-9 school district, where Anthony Alvarado served as superintendent from 1987 to 1998.

For an account of how District 2 integrates professional development into the daily life of teachers and principals—and the effect this has on student learning—see Kate Maloy's "Building a Learning Community: A Portrait of New York City Community School District #2."

To order the video and companion report, call, write or e-mail Nancy Israel, 3939 O'Hara St., Room 806, Pittsburgh, PA 15260; (412) 624-7452;nisrael+@pitt.edu.

The Implications of TIMSS for Teacher Quality

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When the public hears about international comparisons of student performance, such as the Third International Math and Science Study (TIMSS), some people think we should find out what the top-achieving countries do, and then emulate that in the United States. "Singapore did very well on most of these tests," people say, "so let's go to Singapore and find out what educators there do, and somehow that will work here." That idea is naive. You cannot lift something out of one cultural context, put it into another cultural context, and expect it to work. That's not what international research is all about. I'm not going to prescribe what I think we ought to do differently; rather, I want to challenge some common assumptions about education, many of which you may not be conscious of, and suggest some alternative ways of doing things.

The TIMSS Findings

First, let me briefly review the TIMSS findings, and then I will turn to their policy implications, because that's what's really important. The horse race—who comes in first, second and third—is not partic-

ularly important in and of itself. In fact, the ranking of nations is simply the two-by-four by which to get people's attention and tell them there is something important to think about.

At the fourth-grade level, in both math and science, the United States did reasonably well on the TIMSS. Our students scored above the international average in both subjects. In science, in fact, we came very close to realizing the National Education Goal of being number one in the world. Our fourth-graders were second only to Korean students in science, so our performance in that area was quite stellar. In mathematics, on the other hand, our performance was only decent; it was above average, but it was not in the top tier of countries. Nonetheless, at the fourth-grade level, we did reasonably well. (Detailed findings, including tables and graphs, can be found at our Web site, *http://ustimss.msu.edu,* or at the U.S. Department of Education's TIMSS Web site, *http://nces.ed.gov/timss*).

By eighth grade, however, the United States dropped down to the international average, slightly above average in science and slightly below average in mathematics. In other words, just four years along in our educational system, our performance was essentially only average or even below average. I believe that one of the single most important policy implications of the TIMSS study is this precipitous decline in our international ranking from fourth to eighth grade.

The decline continues, so that by the 12th grade, our performance is essentially near the bottom of the international distribution. One part of TIMSS had to do with what the typical graduating senior knew about general mathematics or general science. In mathematics, U.S. students outperformed students in only two other countries: Cyprus and South Africa. The same results hold for science.

Some people might ask, "What difference does it make if we can't do fancy math problems?" It does make a difference. A typical item on the TIMSS math test shows a wrapped present and asks how much ribbon it would take to tie around it. Math teachers will recognize that this question is about the perimeter of a solid object, but to answer the question, you don't need to know what perimeter is, and you don't need to know what a solid object is. You simply need to trace

logically around the package, adding up the dimensions that are given for each side, and then add the right amount for the bow, which is specified in the question. Only one-third of U.S. graduating seniors can do this problem, however. This is serious. This is the two-by-four that gets people's attention. And these results deserve attention, because they suggest a serious weakness in the knowledge of the typical graduating senior in this country.

The other part of the 12th-grade TIMSS study involved advanced students, those taking advanced mathematics and science courses, including calculus, AP calculus, and college-prep or AP physics. The results are quite startling: We are at the bottom of the international distribution. In the past, when international results have been reported, many people have suggested, "It's really not a problem because our best students are doing okay. This is really about those 'other' kids in the cities who are pulling our averages down. Everything is really okay at our best schools." That's simply not true: Even our best students are not world class. The problems we must address affect not only our average kids, but even our best kids.

Now, these results are somewhat meaningless because they give only a total math score and a total science score. If you really want to understand the TIMSS results, you have to examine our performance in certain areas of the curriculum within math and science.

When you look at the performance of eighth-grade students in different math and science content areas, you will find that U.S. performance is remarkably different in different areas of the curriculum. In science, for example, U.S. students are virtually number one in the world in the area of life cycles and genetics. (We're outperformed in this area only by the Czech Republic, and only by half a point.) Our students also did very well in the area of earth processes, or earth science, which has to do with such things as weather, climate and plate tectonics. From the teacher data, we know that U.S. teachers spend a lot of time on life cycles and earth processes. One area where we do particularly poorly, on the other hand, is in including topics about physics and chemistry. In fact, our performance is not stellar on any of the physics topics.

Interestingly, Singapore was number one in science at eighth grade, but students there were not number one in all of the different science areas. No country can do it all. Different countries focus on different parts of the science curriculum, and their students perform correspondingly differently depending upon the area. Countries like Ireland, Korea, Sweden, Slovenia, the Czech Republic, Japan and Bulgaria are all number one in some area, and Singapore is number one in only six of 17 science areas. The overall rankings, then, are rather misleading. The overall rankings are the result of aggregating the various scores in a certain way. Their relevance to understanding cross-national differences is limited.

One of the most important findings from TIMSS is that the differences in achievement from country to country are related to what is being taught in different countries. In other words, this is not primarily a matter of demographic variables or other variables that are less affected by schooling. This is about the fact that schooling makes a difference. It's about one of the most important features of schooling: what is taught—the curriculum. Consider the performance of Bulgarian students. They were tops in the world in the area of the structure of matter, but almost dead last in the area of physical changes. How could essentially the same children be number one in one physics area and at the bottom in another? The only logical explanation is that Bulgarian schools cover the structure of matter but not physical changes.

Consider, too, the remarkable variations in U.S. performance in mathematics. Our eighth-grade students did their very best in mathematics in the area of rounding. Our kids are among the world's best rounders. I'm not sure why, and I'm not sure how important rounding is. But I know we are essentially at the bottom of the international distribution in the three areas that have to do with measurement. We are obviously teaching rounding, but we are just as obviously not doing an adequate job of teaching measurement, and that is not simply because we have not yet joined the rest of the world in using the metric system. We are also behind in teaching about perimeter, area and volume. We are also weak in geometry.

Why is the geometry performance of U.S. eighth-graders so poor? Because we don't teach serious geometry until high school. In other words, the content of the curriculum really does matter, and when you look at specific areas of the curriculum, you see that no country scores well in every area. In most instances, the only logical explanation for a country's varied scores is the nature of that country's curriculum.

Implications for the Curriculum

Curriculum, then, is a powerful part of our understanding of differences across nations, and it is a central feature of what schooling is all about. That understanding provides a context for four policy implications that relate to curriculum and teacher quality.

First, the curriculum in the United States is not focused. We try to teach more topics at every grade level than any other country. If you look at state curriculum frameworks, you'll find more topics at each grade level than in all other nations. If you look at U.S. textbooks, you'll find more topics than there are in textbooks in the rest of the world. And finally, if you look in the classroom—and TIMSS asked teachers about the number of specific topics they taught—you'll find that U.S. teachers cover more topics than the teachers of any other country. No matter which way you look at it—frameworks, textbooks or teachers—we try to do more at every grade level than anybody else.

In fact, according to TIMSS data, eighth-grade mathematics textbooks in Japan have five or six topics, and the German textbooks have the same number. But U.S. eighth-grade textbooks have about 35 topics. There is no textbook in the world that has as many topics as our mathematics textbooks, bar none. We're number one.

This is a very important implication of the study. It says that our teachers work in a context that demands that they teach a lot of things, but nothing in-depth. We truly have a curriculum that is a "mile wide and an inch deep," a curriculum that tries to do everything, but nothing in any depth.

In science, the situation is even worse. In the United States, eighth-grade science textbooks have 65 topics in them, compared to the same five, six or seven in the German and the Japanese books. This is what

I mean by lack of focus. There is no serious context in which high-quality teaching can occur when the milieu demands that teachers try to teach every conceivable topic every year.

Second, U.S. curriculum is highly repetitive. We keep repeating topics year after year after year.

Third, the U.S. curriculum is incoherent. Math is really about three or four big ideas, but in the United States, it appears that school topics are unrelated to each other. Instead, the curriculum is a long laundry list of separate topics that teachers are expected to teach.

Finally, the U.S. curriculum is not very demanding by international standards. This is especially true in the middle school years, when the performance of U.S. students declines. During these years—essentially grades five, six, seven and eight—the rest of the world shifts its attention from the basics of arithmetic and elementary science to chemistry, physics, algebra and geometry. Of course, other countries are not teaching high-school-level courses in the middle grades, but they begin the serious study of those disciplines early and progress gradually over the years, building the concepts of algebra, geometry, physics and chemistry.

While the rest of the world is doing that, what does the U.S. curriculum deal with during the middle school years? Arithmetic and basic, elementary science—body parts, rocks and environmental science. We continue to repeat for four more years what students learned during their first four years of school. This is one of the most powerful and important policy implications from TIMSS: the lack of seriously rigorous, intellectually challenging material during those middle school years.

In high school we try to make up for it, but it's too late. You can't give children nothing for the middle third of their education and expect that, in the end, they will somehow rebound. By then they're bored, and they don't want to take the courses that would give them a chance to make up for these deficits.

Implications for Teacher Quality

What we have in the United States compared to the rest of the world,

then, is a highly repetitive, unfocused, unchallenging, incoherent curriculum, especially during the middle school years. Good teaching cannot occur in that kind of context. A good curriculum is the necessary, but not sufficient, condition for good teaching. Most teachers in the rest of the world work in an environment that provides them coherence, focus and a challenging curriculum that is not repetitive. They have standards that articulate what teachers need to teach. But U.S. teachers don't have that context, and without that context, it is very difficult to provide high-quality instruction.

One popular response to a study like TIMSS is to blame the teachers, to say that our students scored poorly because the quality of teaching is so bad in the United States. But the teachers in this country are simply doing what we have asked them to do: Teach everything you can. Don't worry about depth. Get it all in. Your goal is to cover 35 things briefly, not five things well. That's what we're asking teachers to do, and that's what they're doing.

The point is that it is the system that is wrong. Our system fosters the kind of teaching that does not necessarily produce high-quality learning. It does not foster the kind of context that must be present to allow for good instruction.

A second point has to do with teachers' knowledge of subject matter. Content is important not only for providing a coherent context; it is also an important part of the definition of good teaching. Too often in this country, we have focused discussions of teacher quality primarily on pedagogical skills and classroom management skills. Of course, these skills are important. But one powerful lesson from TIMSS is that our definition of teacher quality must also include deep subject matter knowledge.

The implications of that are profound. Teacher education needs to focus seriously on teaching future teachers the subject matter they need. No one has defined or articulated what that is in this country. We have no set of standards defining what fourth-graders in this country need to know. Yes, we have the National Council of Teachers of Mathematics' standards, but we also have 50 states' worth of standards and 16,000 school districts' worth of standards. We do not lack

for standards; we have a plethora of them. What we have is a splintered vision. We have so many different, fragmented visions of fourth-grade math that no one knows exactly what fourth-grade math should look like.

Other nations have standards that articulate what each child should know at each grade level, and teacher preparation courses at the university can then be tied to those standards. Teachers who are going to teach in, say, grades one through four, should study the mathematics that will help them with what they need to teach in those years. Part of our problem, then, is a lack of articulation between university training and what is expected in the schools, because the latter is not well defined.

Some might suggest that the solution is to require prospective teachers to simply take more math and science classes, but that is not the answer. Do you remember your university math and science classes? They are the splintered vision of the university world. I remember my first university biology class, which is why I went into math instead of science. There were what seemed like 600 terms I had to learn, and I finally said, "That's stupid. If I study math, all I have to learn is a few ideas, and I can prove the rest. That's much easier." Simply requiring more courses is not the answer. The answer, again, is a more careful articulation of what is important and what students need to learn.

What about professional development? Here I think we have something to learn from other countries. The professional development in most top-achieving countries is geared to the content teachers teach at that particular grade level. Most professional development in this country I am told is more generic, more process oriented. You might have seminars on manipulatives in mathematics, or on group learning, but group learning for what or to what end? And what are you manipulating, for what purpose? The content gets lost. A recent study in California showed that where professional development was geared to the content of instruction, students learned likely because their teachers better understood the content as well as the pedagogy of how to bring that content to students. The answer lies in connect-

ing professional development and teacher training with the curriculum, which must be a unified vision of where we want our children to go and what we want them to learn.

A third point has to do with sorting. If curriculum is really important, then teachers in this country need to focus less on sorting children into different categories or tracks and worry more about how to teach them what is fundamentally important. In the United States, some schools have six, seven or eight different variations for the content of mathematics at the eighth-grade level. In the rest of the world there is one class; it's called eighth-grade math, and everybody takes it. The focus is on teaching all students algebra and geometry. In our country, on the other hand, we apparently believe, or at least act as if we believe that most of our students—80 percent of them—cannot learn algebra and geometry, so we don't try to teach those subjects to everyone at eighth grade. We reserve algebra and geometry for the elite few.

It is time to stop the immoral practice of deciding *a priori* which children can learn which content. The curriculum is for all children. Even countries that track children by ability provide the same content for all of them through the eighth grade. It is time that we did the same for all children, be they black, white or brown, be they rich or poor. It should be their inalienable right to be exposed to the fundamental content that they need in order to function in society.

My fourth point has to do with instruction or pedagogy, which is, along with subject matter knowledge, the other key to teaching quality. In this country, we apparently believe there is one perfect way to teach a certain subject matter. This is true especially in math and was true in reading until a short while ago. It's as though if you're not doing what's currently in vogue—if you're not a constructivist—you cannot possibly be a good teacher. But if you look at top-achieving countries around the world, you'll find that their teachers do not all teach in the same way. My advice to U.S. teachers is to stop looking for the holy grail of teaching; it doesn't exist. There is no one magical, perfect way to teach.

In fact, our data show that there are four different conceptions

underlying approaches to the teaching of math and science. Some teachers focus heavily on the nature of the discipline and its definitions, and that is the prominent feature of their instruction. Others focus on the procedures; that is, they focus on algorithms and other surface features of the discipline, rather than on its deeper structure. The third group, which is sizably represented only in the United States, focuses on process, by which I mean trying to teach "problem solving" without correspondingly recognizing the nature of the discipline itself. This focus on process without content is uniquely American. It is only here and in one or two other countries that you find a sizeable number of teachers who teach this way. The fourth group is those teachers who recognize both process and the nature of the discipline. Their understanding of the discipline is coupled with attempts to get children to explore the processes that underlie mathematics, such as problem solving.

Among the top-achieving countries, you will find that different approaches predominate in different countries. In Japan, for example, instruction in mathematics is heavily focused around the nature of the discipline. My point is not to say there is something wrong with constructivism. Rather, I want to suggest that there appear to be many ways to teach math well.

Some principles that we learned from the TIMSS study, then, help us define good instruction. The first is the importance of having a thorough, deep knowledge of your subject matter. The second is that it is not enough to teach facts and algorithms; you also need to teach those topics well enough to develop their conceptual underpinnings.

In the United States, we have an artificial dichotomy that says either you teach facts and algorithms, or you teach problem solving. That perspective is unique to us in the world. Other countries teach both, and part of the secret of their success, I believe, is that balance. Their students get an understanding of the discipline, but they also practice doing the algorithms computationally. You don't want to have to work through the multiplication process every time you need to multiply five times four. You don't want to have to think, "four plus four plus four plus four plus four equals 20." You want to know that

five fours are 20. On the other hand, you want to have some understanding of the process so that, if you're confronted with a problem on which you've forgotten the rule, you can reason your way to an answer. It's not either or; it's both.

And then there is the problem of what I call fuzzy math, which is defined as "do anything so long as you do it with problem solving." Fuzzy math results from focusing too much on process with teachers who do not have a strong background in math. The teachers don't understand the math, but they understand the process. They pull it apart and do manipulatives and group learning, but the content is lost. That's fuzzy math. The serious problem for teacher quality is how to keep the connection between content and process in a context where a lot of teachers don't have a very strong math background. And that, of course, goes back to my point that subject matter knowledge has to be part of the definition of teacher quality.

Another point has to do with time. The typical U.S. eighth-grade math lesson is about 50 minutes long, but 10 minutes or less are devoted to instruction for two-thirds of U.S. children. What happens in the other 40-some minutes? If the students have done homework and seat work, the teacher has to grade it. And that's what most math lessons are about. Is that a high-quality experience for students?

Finally, the TIMSS says something really important that we should accept once and for all. TIMSS tells us that schools matter. It is time to stop our silly debate about whether schooling or socioeconomic status is the main determiner of what children learn. The answer is clearly schooling. Why our students perform the way they performed on the TIMSS has to do with what we teach them—or, more appropriately, what we don't teach them, especially during the middle school years. Schools do matter. And the part of schooling that we ignore—what we teach, the curriculum, and how we teach it, the pedagogy—are centrally important.

If we want to have high-quality teaching, we need to start out with standards that articulate what children need to know—all children in this country. Then teachers' creative powers can be turned loose to help their children learn that content. We don't need a national cur-

riculum; we need standards. Teachers should always be left to determine how they take their students to those standards. It's not about federal mandates; it's about having a sensible vision for our system. Given that, the rest can be addressed more sensibly. We can train our teachers better, we can give them serious professional development, and we can have them teach 20 hours a week instead of 30, and spend the other 10 hours working with other teachers about how best to bring all students to the standards.

But let's begin with subject matter knowledge. That must be considered part of the definition of teacher quality, and when we seriously address that, then we can seriously address the rest.

A Caring, Competent, Qualified Teacher for Every Child

Linda Darling-Hammond
National Commission on Teaching & America's Future

Four years ago, the National Commission on Teaching & America's Future set out to determine what it would take to ensure that all students, in all classrooms and all communities, had the opportunity to learn and meet the new high standards set out for them.

In *What Matters Most: Teaching for America's Future*, we concluded that the answer rests on teacher quality. If we want all students to meet new standards, we have to enable the system to meet new high standards. We have to support the work of teachers and create systems that invest in the knowledge, skills and commitments that teachers bring to their task.

We called for a day in which every child would have a right to a caring, competent, qualified teacher working in a school organized to support his or her success; a day when every teacher would have a right to high-quality preparation and professional development opportunities and a principal who understands teaching and learning and knows how to run a high-quality collaborative school. And we called for a day when every principal would have a right to the preparation he or she needs to do this job well.

The commission's report was comprehensive and hard hitting. We

talked about getting serious about standards for teachers as well as students, from teacher education through licensing and advanced certification. We called for an overhaul of teacher education and professional development from preservice through induction and ongoing career growth. We called for incentives to get qualified teachers in each classroom and the need to get rid of incompetent teachers. We called for rewards for teacher knowledge and skills and the redesign of schools to support teaching and learning.

These recommendations were unanimous, and it surprised many people that a group whose members ranged from CEOs to legislators, governors, teacher union leaders, principals, and practicing classroom educators would endorse such a hard-hitting, straightforward set of recommendations. I won't say it was always easy for us to come to consensus, but no one wavered on the question of doing what it takes to get a qualified, competent, caring teacher in every classroom.

Much has happened since that report came out in 1996. Twelve partner states and nine partner districts are working to implement recommendations to create an infrastructure for supporting teacher quality. Six more states hope to become partners this year, and more than 20 states passed legislation last year based on the commission's recommendations.

Why is everyone dealing with this issue now? I believe it is because there is finally a recognition that the task of teaching diverse learners for deep understanding and high standards is difficult and cannot be "teacher-proofed." For almost a hundred years, we have tried to improve education by fiddling with the widgets of the school system—a new curriculum, a new testing program, a new management system—as though somehow teaching, and the quality and content of teacher education and teacher development, didn't matter. The task of helping students who learn in a variety of different ways to accomplish very challenging work requires what Lawrence Cremin called "infinitely skilled teachers." It requires teachers who understand their subject matter and know how to connect it to the different experiences and understandings that children bring with them. It requires teachers who understand how people learn, and how differently peo-

ple learn. It requires teachers who can perform the creative act of integrating that understanding into curriculum that is engaging and powerful, that deals with central concepts and that develops high levels of skills.

What the Research Says about Teaching Quality

Researchers are finally beginning to document what teachers have long understood: that teacher quality matters. The commission reviewed literally dozens of studies that concluded, over and over again, that the single most important determinant of student achievement is the expertise of the teacher.

In his studies in Texas and Alabama, for example, Ron Ferguson discovered that about half of the variation in student achievement could be accounted for by two factors in schools. The first and most influential factor is teacher qualifications and expertise; the second is the size of schools and classes. Great teachers who know a lot, working in settings where they know kids well, are the fundamental influence on student learning.

We also looked at a study that examined 60 other studies of student achievement and estimated, for every dollar spent on different kinds of changes in schools, what increase in student achievement would be likely to result. This study found that the single most productive use of an education dollar is increasing teacher education. If you want students to learn more, in other words, you need to ensure that their teachers have access to knowledge about how to teach. Professional development for teachers is difficult to sell at local and state school board meetings, because many people see it as taking something away from students, but those findings are clear and present and recurring.

Another frequent finding is that most of the differential in achievement between white and minority students in this country is a function of differences in the qualifications of their teachers. Teachers are the most inequitably distributed resource in education. In a high-minority low-income school, a child has only a 50 percent chance of being taught math or science by a teacher who has both a license and

a degree in the field in which he or she teaches. The number of teachers who lack certification—about a quarter of all entering teachers each year—is four times as high in low-income schools as in more affluent schools. The issue of teaching quality, then, is particularly important for equity and particularly important for those students who are our most vulnerable and who need the best teachers our society can provide.

We also found that teacher education matters: Fully prepared teachers are more highly rated and more successful with students than teachers who are unprepared or underprepared. And we found that those teachers who have had more teacher education are more effective than those who have had less. This should not be surprising—if all students can learn, surely all teachers can, too—but it is not a widely accepted fact.

When we have trouble finding highly qualified teachers, one common suggestion is, "Let's give them 'teacher ed lite'"—that is, give unqualified prospective teachers three weeks of study in the summer and then send them into the classroom. But teachers prepared this way are less skilled, less effective and much more likely to leave teaching. A study of the alternative certification route in Dallas found that the teachers who had come through the alternative program were from two to 16 times as likely as traditionally prepared teachers to be rated "poor" on evaluations of various aspects of their teaching, especially on instructional methods and classroom management. Only a quarter as many were rated "outstanding," and more than five times as many were rated "less than satisfactory" on teacher evaluations. Most important, the students of teachers who had come through the short summer program learned significantly less than the students of traditionally prepared teachers, particularly in reading and language arts.

Raising Standards for Teachers

We need to arrive at a day when, as Adam Urbanski has put it, we are no more willing to let somebody go into teaching because they think they would like to teach than we are to let them practice surgery because they think they would like to cut. The creation of new and

more rigorous standards for teachers brings us closer to that day. Teachers themselves have begun to take charge of setting standards that ensure members of the profession will know the subjects they teach and how to teach them to children; that they will understand how children learn and will know what to do when students are having difficulty; and that they will be able to use effective teaching methods for those who are learning easily, as well as for those who have special needs.

The National Board for Professional Teaching Standards has developed rigorous standards and challenging examinations to document and recognize accomplished teaching among veteran teachers. The 30 states that are part of the Interstate New Teacher Assessment and Support Consortium (INTASC) have banded together to create more rigorous licensing standards and assessments for beginning teachers. The National Council for the Accreditation of Teacher Education (NCATE) has incorporated both sets of standards into the lenses through which it evaluates teacher education programs. This means that accredited programs must now demonstrate that they prepare teachers with deep knowledge of the content areas they teach and with solid understanding of learning, teaching, curriculum, assessment and the uses of technology, among other things.

This new wave of teacher preparation includes five- and six-year programs. These programs begin to resemble teacher education in many other countries, which require an internship or student teaching experience of at least a year in a school that functions like a professional development school. In such schools, new teachers work with master teachers in classrooms, engaging in state-of-the-art practice that is connected to their learning about learning and about teaching, methods and content.

Research finds that teachers from these programs not only go into teaching and stay in teaching at higher rates than is typically the case, but as first-year teachers, they are as effective as veteran teachers typically are after many years of practice. Mentoring programs for beginning teachers, in which veteran teachers take responsibility for bringing their young colleagues into the profession, also strengthen the

competence of entering teachers and increase their likelihood of staying in the profession. The typical attrition rate of 30 percent of beginning teachers drops to about 5 percent in districts where that kind of support is available. Peer-assistance programs in Cincinnati, Columbus, and Toledo, Ohio; Rochester, N.Y.; Seattle, Washington; and elsewhere have demonstrated that we can develop competent teachers with careful support throughout the beginning of their careers.

But as quickly as teachers are taking leadership in setting standards, loopholes are being created, such as emergency hiring. California, for example, has very high standards for teachers, but if you cannot meet those standards, you can still be a teacher. Some 28,000 teachers are teaching on emergency credentials right now, primarily in a few districts—Compton, Los Angeles, Pasadena and others that serve urban and minority students.

Alternative routes to certification are another back door, often designated only for cities and only for children whom others are willing to write off. As NCATE's standards rise for accrediting teacher education, alternative accreditation proposals have been put forward to allow education schools to continue to practice with the imprimatur of accreditation, without having to meet external scrutiny against rigorous profession-wide standards.

Why is it so hard to hold the line on standards? The answer is simple: If we don't hold the line, if we allow people to enter the profession through the back door, we can keep salaries low and keep the education school the cash cow that funds the law school, the medical school, the accounting department and the engineering school.

It is also difficult to hold the line on standards because the United States, unlike other countries, has chosen to create a school bureaucracy rather than a professional organization. Frederick Taylor, the efficiency expert who was largely responsible for developing the modern bureaucracy in the 1920s, argued that some people should plan and manage the work, and others should do the work, and they should never be the same people. Those who plan and manage should not do, and those who do should not plan and manage. That belief took hold

in business and education alike, leaving us with an image of schooling in which teachers were viewed as semiskilled workers.

"We hire people as teachers in this country, in contrast to other countries, without too much scrutiny," former AFT president Albert Shanker once said. "We take whoever walks in off the street. Then, because we can't trust anyone who is willing to work for so little money, we hire lots of other people who are more highly paid to watch over them and tell them what to do." That is no way to run an education system. The result, as former NEA president Mary Futrell noted, is that schools often treat teachers "like tall children."

The result is also a system in which teachers are relatively poorly paid and are given very little time to learn or to work and plan together. Instead, we hire lots of other people to supplement and augment the work of teachers. In contrast to schools in other countries, U.S. schools have substantially larger nonteaching staffs. In Japan, Belgium, Luxembourg, China, Spain and France, for example, from 70 percent to 80 percent of school staff members are classroom teachers, but classroom teachers make up only 43 percent of the staff in American schools. Furthermore, the amount of the school budget that is spent on teachers' salaries is now down to about 35 percent.

Consider the example of schools in Riverside, California versus schools in Zurich, Switzerland. For virtually the same number of children in Zurich, there are twice as many teachers as there are in Riverside, 10 times as many doctors and nurses, but only a tenth as many administrators. As a result, in Switzerland—as in other countries—teachers have 10 or 15 hours a week to work with one another, to observe each other teach, to plan curriculum, to develop lessons and assessments, and to learn how to teach. Furthermore, teachers' salaries in Switzerland and in much of Europe are substantially higher than those in the United States, and that goes for most of Europe. Consequently, few countries have shortages of qualified teachers.

Can We Raise Standards and Have Enough Teachers, Too?

How can we afford highly qualified teachers who are knowledgeable about their work? And how can we afford to give them the support

they need? The answers have to do with how we organize schools in general, as well as what we do about specific teaching policies. We need to design new models of schooling to meet the demands of new standards and today's students, not just new policies for teachers. That will be no easy task. There's an old Russian proverb about innovation within a bureaucracy: "It is possible to teach a pig to dance," the Russians say, "but the effort is frustrating, the results are not particularly graceful, and it tends to irritate the pig."

But can we raise standards and have enough teachers, too? Is it possible to require the extensive training that teachers really need to do the job well, to give them the tools they need to enter the profession without one hand tied behind their backs, and still encourage enough people to enter and remain in teaching—especially in a time of growing demand? It is estimated that we will need two million new teachers by the year 2006, which leads some people to say, "We had better lower standards, or we will never get enough people in the classroom." These people are thinking within the confines of the system as it is organized today and without much knowledge about the actual situation. The answer depends on policies that are currently being developed and put in place around the country.

Although we have a sizable recruitment challenge, it is not impossible to achieve success. In fact, the number of new teachers prepared each year is more than enough to satisfy the demand. We currently prepare nearly twice as many new teachers as actually enter the classroom, and many states have large surpluses of teachers whom they cannot hire. Nationally speaking, then, there is no absolute shortage of teachers, but there are major distribution problems. There are surpluses in some states, including Maine, Connecticut, Minnesota and Wisconsin, where in some cases, only one out of every 10 teachers who are prepared get hired. And there are shortages in states like California, Texas and elsewhere where there is high enrollment growth and very few schools of education preparing teachers relative to the need. Spot shortages also occur because there is little reciprocity in licensing across states. As a result, it is difficult to get teachers from where they are prepared to where they are needed. If you have

been prepared in Maine, for example, it is a real chore to get licensed in California, where there are additional barriers even after you've passed a licensing test and finished all of the requirements.

In addition, there are inequalities in salaries and working conditions across states and districts. In other countries, schools generally are funded centrally and equitably. Salaries in those countries are comparable across school districts, with the exception of bonuses offered to attract teachers to remote areas. In the United States, if you work in the lowest-income schools, you not only have the largest class sizes and the fewest teaching materials, but you can earn only two-thirds as much as your colleagues who work in better-staffed schools with better working conditions and students who bring many benefits from home. These inequalities contribute to the fact that there are teacher surpluses in Scarsdale and Great Neck on Long Island, while New York City sometimes has trouble hiring teachers. The same is true in any state across the nation.

Many states and districts create their own shortages. The Commission found that the hiring of underqualified teachers in many communities was not so much a function of labor market shortages as it was of hiring procedures. Before its overhaul in recent years, the 62-step hiring process in Fairfax County, Va., mirrored those in other large districts where there are plenty of qualified applicants but a bureaucracy that cannot find a way to hire them. If you've gone through the hiring process in Chicago, New York or Los Angeles lately, you know it's a perseverance test to see if you will still want to teach in that district after your phone calls have not been returned, your files have been lost, you have been fingerprinted for the third time, and someone has asked you to stand in line for six hours only to tell you they can't see you today but you might possibly get an interview after Labor Day.

Other barriers include late budget decisions on the part of state and local governments, lack of pension portability and credential portability across states, and loss of salary credit for teachers who move. And, unfortunately, it is still the case that some districts engage in patronage hiring, and others would rather hire an untrained teacher who

costs less than a well-qualified teacher with greater education and experience.

In some fields, however—such as math, science, special education and bilingual education—real shortages do exist, because the knowledge and skills required by teachers command more compensation outside of teaching, and there are inadequate numbers of slots in schools of education to supply teachers in those fields. For example, we have had a chronic shortage of math teachers and physical science teachers since the 1950s. We made a dent in that shortage in the 1960s and '70s with the National Defense Student Loans, the Urban Teacher Corps, and recruitment scholarships from the National Science Foundation. Many of us came in to teaching with the help of these programs, all of which were eliminated in 1981. We now have no infrastructure to provide the incentives to bring people into the profession when there are huge differentials in salaries between what they could earn in industry and what they could earn in teaching. We need to address the issue of supports and subsidies for preparing teachers in these fields.

As a result of all these factors, large numbers of underprepared teachers are hired each year. In 1994, 27 percent of all new teachers had no license or a substandard license in the field in which they were hired to teach. And a disproportionate number of these teachers were assigned to teach the most vulnerable students in the lowest-income schools. Depending on how states and districts manage recruitment, and on the policies that are enacted in the coming years, the number of new teachers who are underprepared could grow substantially larger or smaller. A key question is whether states and communities are willing to invest in recruitment and induction systems with appropriate incentives and supports for teaching in high-need areas, rather than lowering standards for the teachers of our least powerful students.

What Can States and Districts Do?

Some states have simultaneously enacted incentives and created teacher development opportunities on the one hand, while raising

standards and eliminating shortages on the other. They have raised standards and enhanced equality of opportunity across the board. It is possible to do both. I want to offer you, in a David Letterman Top-10-style list, my own sense of what works to solve the dual problems of supply and quality.

Number 10. Raise teacher standards while equalizing teacher salaries. In 1986, Connecticut enacted the Educational Enhancement Act, which provided funds to local school districts on an equalizing basis—more to the poor districts, a little less to the rich districts—to raise the minimum salary for beginning teachers. At the same time, the state raised licensing standards, introduced tests of basic skills and content knowledge for teachers, and instituted an assessment of teaching skills in the first year of teaching, coupled with mentoring. Within three years, the shortages that had existed in New Haven, Hartford and other Connecticut cities for years were gone, and the state has had teacher surpluses ever since. Connecticut's standards for teachers are among the highest in the country, and its teachers are among the best prepared—all because the state invested directly in the combination of standards and incentives. And in subsequent years, Connecticut's fourth grade student achievement has risen to the top of the national distribution in both reading and mathematics.

Number 9: Establish reciprocity across states. Using common standards and assessments like those developed by INTASC, states can create a pipeline between the places where teachers are prepared and the places where they are needed. Doctors, lawyers and those in other professions that have reciprocity in licensing can move to places where their skills are needed. But the teaching profession is still operating as though we are in the labor market of the 1930s or '40s, when you grew up in a little community, went to the local teachers college down the road, and came back to work in that same little local community. We are in a national labor market now, and we need to create policies that enable reciprocity from state to state. With more portable licenses, states that currently have shortages can take advantage of the fact that more than 60,000 new teachers each year do not find jobs in the states where they prepared to teach.

Number 8: Grant licenses to out-of-state entrants who have achieved National Board Certification. National Board Certification—like board certification in medicine, architecture and accounting—is granted only to highly accomplished teachers who have demonstrated their ability on rigorous assessments. About 20 states now have rules granting a license to anyone who meets the National Board's standards. Approximately 160,000 public school teachers across the nation have already engaged in professional development to pursue board certification, and we expect to have 100,000 board certified teachers by the year 2005. That will create a pool of excellent teachers who can move across the country to wherever they're needed, and it will give teachers an incentive to enhance their skills by pursuing board certification.

Number 7: Create a national clearinghouse of information about teaching vacancies and teacher qualifications, using online technologies. Districts like Fairfax County, Va., and New Haven, Calif., have already done this. But in most places, finding the right teaching job is difficult. You have to figure out which districts might be hiring people with your qualifications and which schools within those districts might want somebody with your abilities. It's all localized—there is no central place to ask, "Where do they want to hire somebody who can do what I want to do?" It's time we modernized the whole enterprise, so that teachers can learn about vacancies over the Internet, apply by e-mail, be interviewed by videoconference, have their credentials evaluated by state and local officials, and receive an answer from the district within days, rather than months, of application. Applying technology to this process will meet districts' needs and teachers' needs and ensure that children don't end up suffering in the long run.

Number 6: Create service scholarship programs to prepare high-ability candidates in shortage fields. One of the most successful state programs is the North Carolina Teaching Fellows, which pays for a college education in a teacher credentialing program for high-ability high school students—more than 4,000 of them so far—and augments and enriches their teacher training. In return, these students

promise to teach for at least four years in the North Carolina schools. That program has sent a large number of male and minority teachers and teachers in shortage fields such as math and science into school districts that need them. These teachers feel well prepared, and principals give them extremely high ratings.

Number 5: Expand teacher education in high-need fields. Currently, the funding for teacher education is not driven by the need for teachers in particular areas. We need to invest, as we do in medicine, in subsidizing the preparation of teachers in fields where we need them. Targeted incentives from federal and state governments to expand the number of teacher education slots offered in shortage fields would ensure that there are programs available for candidates to attend. This is particularly an issue in math and science. One of our national education goals is for U.S. students to be number one in the world in math and science by the year 2000. That's just one year away, and our students are still below the median for students in developed nations. We won't reach that goal until we invest in getting well-prepared math and science teachers into the classroom. And we won't reach that goal so long as districts are willing to assign teachers out-of-field rather than do a proper job of recruiting. This practice is common. In 1994, for example, a student in a physical science class in this country had a better than 50 percent chance of having an out-of-field teacher.

Number 4: Provide incentives for establishing better, more extensive, more intensive teacher education programs. If we really want to solve the teacher supply problem, we need to send teachers through better preparation programs that not only get them into teaching but keep them there. Studies have found that teachers who go through "teacher ed light" alternative certification programs leave teaching at the rate of 60 percent or more within three years. Those who go through traditional programs leave teaching at the rate of 30 percent within the first three to five years, and those who go through five-year or longer programs with an intensive internship leave teaching at the rate of only about 10 percent or 15 percent within the first three to five years. It turns out to cost less to prepare a teacher in an

extended program than it does to prepare candidates in shorter programs.

Number 3: Provide incentives for community college/college pathways that prepare paraprofessionals for certification. Another good source of teachers, especially minority teachers, is the pool of current paraprofessionals who are not yet in college. These teaching assistants often live in the communities where they work and know the students' languages and cultures. There are many successful programs that help people who are already committed to education complete their undergraduate education and certification requirements. Studies show that such programs have a high rate of participants who complete the program.

Number 2: Create high-quality induction programs for beginning teachers. Beginning teachers who have access to intensive mentoring by expert colleagues are much less likely to leave teaching in the early years. Districts like Cincinnati, Columbus, and Toledo, Ohio, and Rochester, N.Y., have reduced attrition rates by providing expert mentors with released time to coach beginners in their first year on the job. These young teachers not only stay in the profession at higher rates but become competent more quickly than those who must learn by trial and error.

Number 1: "Just say no" to hiring unqualified teachers. School districts, as I have noted, often have disincentives to hire qualified teachers or have inadequate systems for doing so. On the financial side, some districts refuse to hire more experienced qualified teachers who cost more when they can hire-less experienced, unqualified teachers at lower salaries. Often, a teacher with five years of experience and a master's degree will be passed over in favor of someone without a license or any training at all because the experienced teacher costs a few thousand dollars more. Some districts let go of large numbers of qualified teachers in retirement buy-outs, then turn around and hire large numbers of unqualified teachers the very next day. Many districts, as I've noted, have cumbersome hiring procedures that are not automated. Until recently, New York City had 30,000 file folders for applicants just sitting on tables or being passed around

among buildings because the board had not invested in automating the personnel function. And some districts prefer, unfortunately, to hire patronage candidates rather than qualified teachers.

States that do not allow the hiring of unqualified teachers have very careful management systems and legislative incentives to ensure a qualified teaching force. For example, Missouri allows salary reimbursements only for qualified teachers. Minnesota requires districts to hire qualified teachers and to reassign other fully certified teachers who are not currently in the classroom before hiring less-qualified teachers. And other states require specific procedures for recruiting and advertising before an uncertified teacher can be hired.

In addition, states can provide assistance for districts to automate and streamline their personnel functions. School districts can expand their outreach, create partnerships with local universities for preparation and hiring, increase the efficiency of hiring, and change their internal policies. In addition, they can provide incentives for teachers to teach in high-need areas. If we want teachers in schools that are hard to staff, we can get them there by lowering class sizes, by providing good leadership in those schools, by creating a rich and exciting curriculum. New York City has started more than 100 new small schools in the least few years, many of them created by teachers, principals and parents. In the same neighborhoods where the district couldn't get people to work in the 3,000-student warehouse-style, comprehensive high schools that graduated only 30 percent of their students, teachers are lined up down the block and around the corner wanting to teach in the new schools they have created. These schools are organized to support teaching and learning. Teams of teachers work together with groups of students over the course of a number of years in smaller, more personalized classroom arrangements. The teachers are lined up for these schools because they can succeed at teaching in them. We will solve the problem of hard-to-staff schools when we create schools that are good places to teach and to learn.

These 10 points constitute an ambitious agenda, but they have a substantial payoff. In a recent study, we found that the greatest predictor of student achievement at the state level is the proportion of

well-qualified teachers in the state. More than poverty level and language background of students, teachers with full certification and a major in the field they teach, make the differnce.

Action Steps

What goes on in classrooms between teachers and students may be the core of education, but it is profoundly shaped by what parents and principals do and by what superintendents, school boards, chief state school officers, state boards of education, governors and legislatures decide. If the actions of federal and state governments do not support the work of local school districts, and if school districts do not support the work of schools, very little of worth can be accomplished. When various parts of the system are working at cross purposes, the enterprise lurches around like a carriage pulled by horses running off in different directions.

State and local education leaders are the gatekeepers. They can use policies to encourage highly qualified people to enter teaching careers, ensure quality in teacher preparation programs, and set high standards for licensing and certification. They can develop policies that reduce, even eliminate, inequities in access to high-quality teaching. They can direct resources to professional development and reward excellence in teaching. Everyone from governors and state education agencies to parents and community has a role to play.

Governors and state legislators can:

- Increase the ability of financially disadvantaged school districts to pay for qualified teachers by raising and equalizing beginning salaries and providing incentives (from financial stipends to improved working conditions) for teachers to move to shortage areas. Then insist that school districts hire only qualified teachers.
- Make timely decisions about school budgets so that districts can recruit and hire qualified candidates in the spring of each year.
- Remove barriers to entry by ensuring pension portability, salary credit for experience and acceptance of National Board Certification as a portable license.

■ Provide incentives such as service scholarships and forgivable loans for teacher candidates who prepare to teach in high-need fields, such as mathematics, science and special education, and in hard-to-staff locations, such as inner-city or rural schools.

■ Fund the development of high-quality pathways to teaching, such as extended teacher preparation programs that include a year-long internship in a professional development school and postgraduate options for midcareer changers, paraprofessionals already in the classroom, and military and government retirees.

■ Create mentoring programs for first-year teachers to reduce attrition and enhance competence.

State boards of education, state education agencies and professional standards boards can:

■ Establish rigorous standards for teacher education and licensing that are linked to student standards so that teachers are prepared to teach in ways that will enable students to learn as the new standards demand.

■ Support the creation of high-quality pathways into teaching for undergraduates, postgraduates and paraprofessionals that meet rigorous accreditation standards. Then eliminate emergency, temporary and alternative certificates that lower standards for teacher knowledge and skill.

■ Conduct demographic studies that provide projections of anticipated teacher supply and demand by field and location and design policies—including scholarships and training grants in high-need fields and locations—to alleviate shortfalls before they become severe.

■ Base teacher licensing on demonstrated performance, including tests of subject matter knowledge, teaching knowledge and teaching skill that measure the INTASC standards. Then work with other states to establish reciprocity in licensing.

■ Design mentoring programs that provide sustained support to beginning teachers and evaluate their teaching skills before granting a long-term professional license.

Local school boards and superintendents can:

■ Design budgets, recruitment supports and hiring policies that allow the school system and individual schools to (1) know by early spring how many teachers can be hired, (2) engage in national outreach using online technologies and information clearinghouses, and (3) evaluate and hire qualified applicants efficiently and quickly.

■ Work with universities to create seamless transitions between teacher preparation, hiring and ongoing professional development. Create partnerships with local colleges to develop preparation programs that include (1) year-long internships in professional development schools, (2) pathways into teaching for paraprofessionals and midcareer changers as well as college students, and (3) supported internships for beginning teachers.

■ End the practice of assigning the most inexperienced teachers to teach the most disadvantaged students with the heaviest loads and fewest supports. Place beginning teachers in professional practice schools with reduced teaching loads, under the supervision of mentors.

■ End the practice of hiring underqualified teachers and placing teachers out of field by (1) aggressive recruiting and timely hiring of qualified teachers, (2) partnerships with universities for training candidates in high-need fields, (3) hiring bonuses for teachers in high-need fields, (4) salary benefits for teachers who pursue a second license in a high-need field, (5) retraining of teachers to teach in high-need fields, and (6) reassignment to classroom teaching of certified personnel in high-need fields who have left the classroom for other positions.

Colleges and universities can:

■ Work with state and local education agencies to identify fields of high demand and expand preparation programs in these fields.

■ Create extended teacher education programs with year-long internships in professional development schools and high-quality alternative pathways at the postgraduate level for midcareer changers, retirees and paraprofessionals.

■ Work with local school districts to create more seamless, sup-

ported approaches to teacher entry and induction, including beginning teacher internships in professional practice schools.

Subject matter associations can:

■ Help states develop standards for teachers as well as students that reflect professionally recognized standards in their subject area.

■ Advise states in collaborative efforts to develop reciprocity in licensing standards.

■ Assist teacher education programs, mentors and staff developers in applying subject matter standards to preservice curricula and advanced degree programs, induction programs, and professional development.

■ Foster greater communication and understanding between education and arts and sciences faculties on the knowledge and skills teachers need to teach subject matter effectively.

Teachers unions can:

■ Work with school district officials to streamline hiring procedures and create recruiting policies that will ensure qualified teachers, including minority teachers and teachers in shortage fields, for all schools.

■ Review district policies and contract language for teacher hiring, evaluation, assignment and continuation to ensure that criteria are closely linked to professional teaching standards that are, in turn, aligned to student learning standards.

■ Work with school district officials to develop induction programs for beginning teachers, incorporating internships in professional practice schools and mentoring through peer-review and assistance programs.

■ Work with school district officials to design district incentives—including forgivable loans, salary increments and career ladders for paraprofessionals—that attract fully qualified teachers to teach in hard-to-staff fields and locations.

■ Insist on equal enforcement of high-quality teaching standards for all students in the school system and develop fair and efficient procedures by which incompetent teachers will be assisted and, when

necessary, removed from the classroom with the support of the union.

Parents, community members and business representatives can:

■ Encourage the local media and community groups to survey school policies and practices on the hiring and assignment of qualified teachers for all children.

■ Support district efforts to invest in intensive recruitment, improved personnel management capacity, incentives for hiring top-quality teachers, and induction programs for beginning teachers.

■ Ask about state and district capacities to project teacher supply and demand and policies for recruiting and hiring adequate numbers of qualified teachers in all fields and locations.

■ Support policies that will encourage schools of education to become professionally accredited and teachers to meet professional standards for teaching, such as the INTASC and National Board standards.

■ Insist on the enforcement of high-quality teaching standards for teachers of all students in every classroom in every school.

I'm confident that we can ensure there is a caring, competent, qualified teacher for every child. Working with other educators and with elected officials, policy makers and the community, today's teachers will make that happen. Together, your efforts will create a day in which we can say not only that those who can, do, and those who understand, teach, but also that those who can, teach—and those who can't, go into a less significant line of work.

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