Building a 21st Century U.S. Education System

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Finally, my wife Carolyn, my daughters Susan, Mary, Jenny, Linda, Karen and Sandy, and all of their children are my reasons for being involved in education. It is for them, and for all the current and future teachers and students in the US who deserve the best system we can provide, that my colleagues and I continue our efforts.

Bob Wehling

Preface

by Bob Wehling

Years ago, I saw a cartoon in a magazine that showed a guy seated on an airplane. In his hand, he held a glass half-full with a martini. A look of confusion crossed his face as he held the glass straight while the drink inside was sharply slanted downward. I sometimes feel the same way about our public education system. We sit comfortably in our jet with no realization that it is headed down. I wanted to publish this book to help sound the alarm, to provoke serious discussion about public education at all levels of society, and to try to push public education back to the top of the national agenda. I'm also doing this book because I don't feel I could face my grandchildren ten years from now if I hadn't done everything possible to push for a better system for them—one that gives each child a genuine opportunity for a world class education. Further, I simply don't understand why politicians, the news media, and even educators themselves aren't more alarmed by the fact that dozens of other countries make education improvement a top national priority and are making significantly better progress than we are. Why aren't more people concerned about the implications of this for our economy and the future of our society?

This topic matters to me because I love this country, and I truly believe that our children are our future. Right now, I don't think the future we are handing them looks as bright as it should. We currently provide such grossly uneven opportunities for our children to learn that we are dooming millions of kids to a life of poverty wages, welfare, or the criminal justice system. I've had children and grandchildren move around the country to find dramatically different standards, expectations, and opportunities for their education. I've also spent a lot of time in classrooms across the U.S. and around the world. The differences within the U.S. are significant and the differences between American schools and those in many other countries are startling. It is time to raise the collective attention of policymakers, educators, administrators, scholars, politicians, the business community, and the general public. Organizing this project was my attempt to take that first step.

My work is premised on these convictions

I believe that everything Thomas Friedman envisions in *The World Is Flat* is true. As part of this, our future economy and the availability of well paid, career ladder, full benefit jobs for our children and grandchildren depend upon radical improvement in the outcomes of our public education system.

I believe that every system is perfectly designed to get the results it gets. Our current public education system is designed to produce a million or more dropouts per year; high school graduates with inadequate knowledge or skills for further education or the work-force; and education opportunities that are closely linked to the wealth and education of a child's parents and community.

The only solution I can see that offers promise for all children is a fundamentally national system of education. This would include national standards (benchmarked against the best in the world); a national curricula framework in core subjects developed by the best teachers in each discipline; a national testing system which is fully aligned with the standards and curricula and which, in addition to measuring knowledge and understanding, provides teachers and students with the diagnostic data needed to improve; a uniform national standard for teacher training, certification, licensure, and professional development; and a new funding system which provides the best in courses, technology and opportunities to all students regardless of the wealth or commitment to education of their communities.

It is inconceivable that 16,000 school districts and 50 states will all wake up tomorrow and agree to enact what we all know as best practices. In many districts, even if they wanted to, they couldn't afford it. Ergo, the only answer I can see is a national system. At a very minimum, we need a new funding mechanism that is not dependent on the wealth of communities and which, at a minimum, grows with inflation.

The sole purpose of this book is to stimulate broader discussion of what we need to do to truly provide all children with a world-class education opportunity and to once again make education a top priority in every state and the nation as well whole.

How did this project come to be?

Several factors contributed to the genesis of this project. Many things happened within a relatively short period of time, which, collectively, said to me that we had to do something to stimulate discussion about changing our public education system. These factors were:

- Data, which showed that we continue to lose ground versus other countries between grades 4 and 8 and again between grades 8 and 12.
- Polling data which showed the top issues on the minds of voters as we head into the 2008 elections. Education was not on the list.
- Awareness that many other nations have education as a top national priority and the accompanying realization that we are likely to lose more ground unless we do the same.
- Lack of widespread attention to the high number of American dropouts, which implies that a million or so dropouts a year seems to be "okay" with the public, politicians, and news media.

As I personally reflected on these factors, I often found myself in conversations with friends and colleagues who all agreed we must raise awareness and generate action. And so, this book project was born. Almost every participant is someone I have worked with

on education issues over the last forty years. The one or two exceptions are people I've heard great things about from others I respect. As I looked for participants to contribute chapters, I found that almost everyone I asked shared my concerns and they were eager to add their perspective to the dialogue.

Why now?

I have been motivated to pull this together now for four reasons. First, since *A Nation at Risk* in 1983, I have observed or participated in a number of education improvement efforts at the local, state, and national level. I have seen dozens of promising pilot tests and model programs, which, for one reason or another, failed to be scaled up successfully to impact the broad population. I'm now convinced that our efforts to address pieces of the problem (standards, curricula, assessment, teaching quality, technology, etc.) one at a time will not get the job done. We've learned enough about what works over the years to be ready to engage in major systemic reform to benefit all children. We know what to do; we just seem to lack the collective will to do it.

Secondly, it is discouraging to see polls and surveys discuss the issues on the minds of politicians and voters. The most recent lists I've seen include war and terrorism, social security and Medicare/Medicaid, immigration, energy prices, inflation, the budget deficit and the debt we are building up for our children. These are all important issues, but public education needs to be on that list and hopefully at or near the top. Why? Because only through education will we have the economic growth and the informed citizenship to compete effectively in the world over the rest of the 21st century.

This relates to the third reason. Other countries do have education as a national priority. China has an ambitious plan to have the best education system in the world by 2020. The last I heard, the plan is on track to achieving its goals. Other countries which already have strong programs (Singapore is a good example) are working on a priority basis to further improve. In this environment, the modest progress we keep making will cause us to fall further behind in international comparisons, thus depriving our children of opportunities for success.

Fourth, it is simply the "right thing to do." I can't understand why we aren't already morally outraged by the uneven education opportunities our children have all over the United States. We get extremely concerned when one child has a life threatening situation or when hundreds are harmed in a storm, crash, or other disaster. Why don't we have the same concern with roughly a million dropouts each year over the past several years? For reasons which mystify me, we seem to accept this as inevitable, especially in our large urban and poor rural areas.

So, how do we get there?

It is the sincere hope of each contributor to this project that our book will begin to address this crucial question. More importantly, we each hope to raise general awareness and stimulate conversation about the need for deep, systemic, and sustainable changes to America's public schools. The wonderful people who have contributed to this book sug-

gest new ways to address the issues facing our current system. Hopefully, someone reading these suggestions will come up with even better ideas. One way or another, let's make this subject one we discuss at every opportunity until we find a way to build a new system which gives every child a legitimate shot at the American Dream by giving them the best education we know how to provide.

Before we can make genuine improvements to the current system, a large percentage of policy makers will need to agree on the facts about the current system. The authors of this book believe that there are many things we know about the current system which, collectively make the case for change. These truths about where we are today include:

We know we have a system which produces over a million dropouts per year. Since it does this year after year with consistency, it stands to reason that it is not the fault of individual teachers, principals, students or parents. It is a systemic problem and must be addressed as such.

We know that there are great inefficiencies in our system. For example, about half of all teachers leave within five years and this turnover has a huge cost for both the schools and for individual students.

We know that about 15 percent of all students are held back a grade each year and over one-third are retained sometime in the elementary years. We also know that there is a strong correlation between retention and eventual dropout. It is too embarrassing to be labeled as "not very smart." This leads to mental dropout in grades 6-8 followed later by actual dropout in grades 9-10.

We know from kindergarten teachers that a large number of kids, particularly poor kids, come to kindergarten not physically, mentally, socially, or emotionally ready to learn.

We know that we have many disconnects in our system which cause problems for many students. One occurs between pre-school and kindergarten, one between the elementary and middle levels and another between middle and high school.

We know that there is a correlation between the dropout numbers and the prison population and an inverse correlation between reading ability and likelihood of incarceration. We also know that it is far less costly to effectively educate a person than to pay for long term incarceration.

We know that we are the most mobile society in the history of the world, yet we have differing standards and expectations for students from state to state and often district to district. I have had several grandchildren move across the country to face completely different expectations and requirements. Some have been pleasant surprises and others a real problem.

We know that teacher training varies across the country. There are roughly 1,200 teacher training institutions with widely varying programs. About 700 of these are members of The National Council for Accreditation of Teacher Education (NCATE), which helps assure that they meet reasonable standards. But unevenness still exists.

We know that we are not always attracting our best and brightest students into teaching (as evidenced by SAT/ACT scores of education students vs. other areas of study) and we know that almost half of the students in colleges of education do not go on to teach after graduation. Many look at teaching as a "back up" and many others lack the passion to take on the challenges of the system once they graduate. Conversely, in many other countries including South Korea, Finland and Japan, teaching is one of the most highly respected professions and teachers are paid a salary commensurate with other major professions, thus attracting and retaining many of the best students.

We know that our students experience a sharp fall off between 4th and 8th grade when compared on International tests to students in other countries.

We know that the number of hours our students spend on education over the course of a year is less than that of students in many other countries.

We know that teacher and student knowledge of the standards for each grade level and subject area has a positive impact on education results. Yet, many teachers and students in the U.S. lack this understanding. They think the "test" is the standard.

We know that, in many states, the standards, curricula, and assessments were developed independently and are not fully aligned. In some states, the assessments came before the standards.

We know that access to modern textbooks and the latest technology varies widely district to district.

We know that a high percentage of school levies and bond issues fail, further denying some students the opportunities they need. We also know that this is because over 75 percent of voters in most areas do not have children or grandchildren in the schools and many voters live on fixed incomes and must resist all tax increases. This causes not only staff and course reductions when levies fail, but it makes administrators spend more time on selling the current (and next) levy than on the core mission of quality education. Also, failure of levies often reduces extra curricular activities and "non essential" courses which help develop well-rounded students.

We know that, in most cases, the education opportunity of the child has a relationship to the wealth and education level of the parents and of the community in which they live. I know that there are significant exceptions to this, but in general we know this to be true.

We know that money alone, however, is not the answer. Some areas produce great results with far fewer dollars than others. Research shows that in many of these cases the community places a higher value on education, parents are more involved, teachers have higher expectations, and students are more motivated.

We know that if you compare our textbooks to those in countries which are outperforming us, in general the other countries texts have fewer chapters, but each one goes deeper into the material. We tend to favor breadth over depth and facts over concepts whereas in many other countries it is the opposite.

We know that little things count. In most schools I've been in around the world, children either wear a uniform or are smartly dressed (e.g., white shirt and slacks or skirt). The atmosphere is much like that you see in Catholic or many private schools in the U.S. Why should this be important? It seems to set a tone that says we're serious about learning.

We know that making every subject more relevant to the students can be helpful. If a child is interested in sports, some attention to the math and physics of the sport can help stimulate more interest in these subjects and others.

We know that regular diagnostic testing can be helpful to teachers, students, and parents in understanding where each child is at present and what needs to be worked on. I personally believe the work of Sylvan Learning Centers is a great example here.

We know that in many other countries teachers are more highly regarded and better paid. In many of these countries much more attention is paid to the continual professional development of teachers. Significantly more time is spent on faculty planning and sharing.

We know that when all of the teachers in a school share a concern for all of the students, good things can happen. Sometimes this takes the form of team teaching, but it can also be accomplished when each teacher shares successes and failures with all other teachers and when they seek each other's help for individual students.

We know that a huge number of teachers today are pressed into teaching out of their primary field and others are working with emergency certification and do not have the required training to help all students.

The chapters that follow offer the perspectives of a wide range of participants and therefore detail a diverse number of possible solutions to the current educational crisis in American public education. The following chapters present the views of current and former Pre-K through 12 practitioners such as teachers, principals, superintendents, and school board members; current and former policymakers in local, state, and national arenas; directors and chairs of educational organizations and leaders in educational advocacy; current and former leaders of nationally and internationally known businesses; and representatives from institutions of higher education such as researchers, academics, deans, professors, department heads, and executive officers. Each participant brings his/her own unique history and perspective to the key questions that guided our project. We hope that the chapters that follow challenge readers to consider new approaches to old problems so that we may all move forward toward a 21st century public education system that will provide equal access to a high-quality, world-class education for all American students.

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Foreword

Building a 21st Century U.S. Education System

By Bob Wehling

I've often wondered what would happen if, all in the same day, our country had a major earthquake, a tsunami, one or two hurricanes, a couple of tornadoes and a plane crash with a total of 100,000 or more kids killed, seriously injured, or rendered homeless. Without a doubt, there would be a national call to action with thousands of volunteers and unprecedented charitable donations to support the cause. Considering this scenario, I'm left asking myself why we don't get a fraction of that response to the situation of ten times that number of kids who fall through the cracks of our education system and are doomed to lives of minimum wage jobs, welfare, and/or prison every single year. How is it that we are compelled to action by unforeseen tragic events while simultaneously immune to the everyday occurrences which continue to produce lives without opportunity or hope?

Acknowledging Reality

Over 48 million students are currently being served by American school boards, administrators and teachers throughout our country's 16,000 school districts. In over 90,000 American public elementary and secondary schools, educators are working hard to do what's best for all children.[1] However, despite significant progress in public education in the United States, we remain far behind where we need to be. And the pace of progress is extremely uneven across the country. I believe we've proven that simply admonishing schools to do better and writing legislation that demands more accountability is not the answer. While it has certainly helped to have more data and accountability, we still have millions of kids not achieving to the level that they need to be.

The fact is that every system is perfectly designed to get the results it gets. 16,000 districts each doing their own thing; thousands of school levies failing in some districts and passing in others; uneven standards across our 50 states for both teachers and students; appalling levels of teacher turnover; insufficient attention to school readiness and other similar issues...until we adequately address these intertwining factors, we are doomed to continue generating over 1,000,000 dropouts per year and an equal number of high school graduates who are insufficiently prepared to succeed in higher education or in the adult workforce.

I've had the pleasure of working with thousands of school board members, superintendents, principals, and teachers over the last forty years. The vast majority of these people are truly dedicated and working as hard as possible to help students succeed. The fact that these people are not collectively producing better results is, in my opinion, not their fault. They are doing everything they can as members of a dysfunctional and ill-equipped system. The unfortunate reality is that our current educational system does not effectively educate all children – especially children who are physically, mentally, emotionally, or socially unable or unwilling to learn. For many children, it is difficult to care when there is no light at the end of the tunnel to motivate them to learn or encourage them to keep trying to catch up once they've already fallen behind. What must we do to create a system that motivates all children to hunger to learn and then to give them all outstanding educational opportunities?

Asking the Right Questions

Simply stated, we need fundamental changes to our educational system to create the level of results which will enable all students to compete with their peers, nationally and internationally, as workers and as productive, educated citizens. To get at some of the systemic changes I believe are imperative, let me start with these questions:

- Why should a fourth grade teacher in Seattle have different training, standards and licensing requirements than a fourth grade teacher in Dallas or New York?
- Why should a family that must relocate from Maine to Louisiana find their children subjected to materially different standards, expectations, curricula options and assessments? After all, we are the most mobile society in the history of the world.
- Why should we accept the fact that most high school graduates in our urban cities and rural areas have been exposed to fewer educational options and opportunities than our students in affluent suburbs?
- Why should school administrators have to spend their time on tax levies and bond issues, rather than on instructional leadership and education excellence?[2] Why should teachers and students see vital programs cut because their community is poor or fails to support public education? Isn't there a more efficient and dependable funding system which adequately provides for excellent education opportunities for all students regardless of where they live?
- Why are we satisfied with a system that currently provides a 1-in-14 chance of the typical child having a "consistently rich, supportive elementary school experience"[2] when we know that early educational experiences are an important predictor of later success?
- Why are we willing to accept that the cumulative effect of over a million dropouts each year translates into a population where over 10 percent of all American kids ages 16-24 are high school dropouts,[3] especially when we consider that dropouts are 3.5 times more likely than high school graduates to be arrested at least once in their lifetimes?[4] I'd really like someone to tell me why we aren't morally outraged by this situation!
- Why do most Americans seem to believe that our good jobs are going overseas simply so that corporations can save money? Why don't they understand that many of these jobs are leaving to go where there is a well-educated workforce, with a very strong work ethic and a commitment to further learning? Why don't people seem to understand that this situation is very likely to get worse rather than better and will continue to deprive our children and grandchildren of well paid, career ladder jobs with adequate wages and benefits?

Using Our Resources

As in business, to hope for better results without changing the system is simply wishful thinking. I believe a U.S. public education system would produce materially better results by standardizing those elements necessary to ensure that every child has a high quality teacher and an equal opportunity for a great education. These universal elements would

include standards at each grade level and for graduation, curricula frameworks in key subject areas, one national assessment system, and technology to meet the needs of all students. Each of these elements would be the same regardless of geography and regardless of the wealth and education level of a child's parents and community. The new system would be completely aligned and therefore be easily understood by teachers, parents, students, and the general public.

While it is time to stop tinkering with elements of the system and change the system itself, I'm not calling for us to reinvent the wheel. Virtually all key elements of an improved system already exist. They are just waiting to be properly assembled. In every state, we have model programs and pilots. We have committed groups of teachers and administrators who know what to do. We simply need to take the best of all these models and join the elements into one cohesive and sustainable system for all children. The National Board for Professional Teaching Standards (NBPTS) has clearly defined "accomplished teaching" in 27 fields across the K-12 system. These standards can and should be incorporated into the curriculum of every college of education. All certification and licensing programs should be modeled on these standards, recognizing that it will take new teachers at least five years of practical classroom experience to fully reach the standards. Moving toward a more uniform system of teacher education and training which incorporates rigorous high standards will produce a core of teachers who have the same degree of training one would expect of doctors, lawyers, pilots, engineers or practitioners of other professions. Clearly this is not the case today, despite substantial progress led by NBPTS, National Commission on Teaching and America's Future (NCTAF), National Council for Accreditation of Teacher Education (NCATE), and many others.

Similarly, we now know what world class standards should look like in virtually every subject area. Consider the work of Achieve, Inc. – a national organization composed of governors and business leaders and staffed by educational policy experts. This organization is able to review the standards of any state and compare them with others in each subject area. Right now, the decision to use this resource is completely voluntary, and states can choose whether or not to have their standards reviewed. Currently, less than half of the states are participants in Achieve's American Diploma Project (ADP)[5] network, a project also sponsored by the Education Trust. We should insist that every state employ the services provided by organizations like Achieve, Inc. with the aim that all 50 states operate at the same high quality standard in all key subject areas.

Overall, we have abundant examples of proven principles and practices which can be seen across various parts of the U.S. Consider, for example, the work of the KIPP Academies, the Baldridge based schools, and numerous K-12 schools with close partnerships with one or more colleges or universities. Likewise, consider the impact of National Board Certification which has recognized and certified over 50,000 highly-qualified educators across the country, as well as organizations like the Sylvan Learning Centers that diagnose and support the needs of struggling students.

The truth of the matter is that we have numerous resources available to us. We know what we need to do; we just need to do it. We know how students learn and what schools must

do to support them from decades of research and practice. We know that when teachers and students truly understand the standards and expectations, and use data to track growth and performance that improvements almost always occur. We know that there is work to be done. The Pygmalion principle is alive and well. Children will generally live up to our expectations. But, our expectations are inconsistent state to state and community to community. In order to move forward, we must have the same high standards in place for all students. It is possible, as evidenced by numerous international examples.

Learning from Our International Peers

In order to provide accountability for high standards of teaching and learning, many countries around the world maintain a basic curricula framework which is tied directly to clear, high standards as well as a national assessment system. By measuring educational achievement in this way, all students and parents are subject to the same high expectations – and opportunities - whether they are in a country village, an urban center or a suburban area. Individual schools can and do supplement the national curricula with special offerings to meet the diverse needs of students in different regions.

There are many lessons to learn from our international peers if we are to create a truly world-class, globally-competitive education for all American students. In general, kids in other countries spend more time on education than we do here in the United States. Part of this is a belief in true "time on task" by both educators and parents. Further, Americans tend to think educational success is based on a combination of student intelligence and teacher quality. While both are undoubtedly a part of the equation, there is a fundamental belief in other countries that educational success is based on how hard you work, and there is general consensus that more effort means better results. Community and parental expectations are generally higher, and there is a greater stigma attached to lack of effort and performance at school. Similarly, I've seen a greater degree of school pride in the Asian and northern European schools that I've visited than I've seen here. Overseas, for example, it is most common to see students dressed in blazers that proudly identify their school name or logo and very uncommon to see litter, graffiti, or disorder on the school campuses. Overall, there seems to be a greater respect for the public school systems in the countries I've visited. While I acknowledge that there are no perfect school systems in other countries and that even widely celebrated examples in Asian countries also have their shortcomings, I believe there is a lot that can be learned from the value that the general public places on education in these countries. If nothing else, we must do something to move in this direction. What must we do to challenge current attitudes about public education in this country?

While challenging the general public's opinions will undoubtedly take time and effort, there are other lessons from overseas that can be more easily implemented. There is a clear difference, for example, between textbooks and curricula frameworks in the U.S. versus other countries. In general, this can be described as breadth (U.S.) versus depth (international). While American textbooks are frequently longer and contain more chapters, many international textbooks focus more intently on fewer topics. In America, we also tend to emphasize facts and dates over broader concepts and stimulating questions, unlike other countries. Our American approaches to curriculum also make teachers' jobs more difficult

with much less time for planning, observing, and collaborating with other educators than our international peers. Generally speaking, teachers in other countries are not isolated to the same degree that we often see in this country. Teacher collaboration in other countries also supports their more consistent and standardized national systems. Further, because there is a national assessment system in many of these countries, everyone in every city and village knows what to expect and how to prepare. Here in America, we already have a national test in place that could fill this need. Currently, the National Assessment of Educational Progress (NAEP) test is used to provide subject-matter achievement results for groups and populations of students, but it could easily be expanded to provide scores for individual students, schools, or districts. A national system of public education, like the ones in place in widely-celebrated systems overseas, provides the most potential for sustainable, systemic change to American public education.

While I believe a truly national system is the answer, I want to be totally clear that I am not advocating a government system which is heavily influenced by political considerations. Rather, I envision a system in which our best educators are commissioned to develop and enact national standards (not voluntary); a national curricula framework for at least the most important core subjects; a national assessment system which is fully aligned with the standards and curricula; modern technology to help meet the differing needs and interests of students; a compensation system which rewards excellence and which will help attract our best students into teaching; a national framework for teacher training, licensure certification, and professional development; and a funding system which ensures that all of this is accessible to all students. What is holding us back from creating a new system which works for all teachers and students?

Challenging Old Ideas

Perhaps we are held back by our connection to old ideas that no longer serve the diverse needs of America's students. Although it won't be easy, we must be willing to shed these outdated beliefs to make way for innovative new approaches. Some of the resistance comes from the fact that many of my suggestions fly in the face of our historic belief in local control. However, while I once fought for local control as a school board member and president, I'm now convinced it is the foundation of an uneven system which does not offer all children a world-class education opportunity. Only by moving from local control to local support can we begin to make widespread progress toward educational equity. So what's the role for states and local districts in the system I envision? At the state level, I think the principal role will be supporting local districts, sharing new learning and best practices, and serving as an efficient communication link between the national leaders/experts and the local districts. The local district's role will be providing support for teachers, implementing ways to make courses most relevant to the needs of local students, overseeing close supportive relationships between local universities and K-12 schools, fielding athletic and extra curricular activities, and finally, finding ways for the unique needs of individual students to be met by innovative solutions such as distance learning, tutoring, and/or other learning opportunities inside and outside of the school.

Similarly, we must re-frame the way we think about our American system of public education. We need to stop compartmentalizing our schools by grade level and geography and start thinking in terms of a Pre-K through graduate school system that is as seamless as possible. All teachers, at all levels, should feel a responsibility for all students and a responsibility to support one another. We must also become less reactive and more proactive when it comes to student achievement by shifting the focus to diagnostic testing that will benefit both the teacher and the student. Overall, we must once again make education our top priority! Today, in our Post-9/11 world, education often follows war, terrorism, energy prices, immigration, health care, and other economic and political issues on the list of America's concerns. While there are numerous obstacles to overcome, we must not let this prevent us from facing the challenge.

Facing Funding

While we certainly face ideological struggles related to school system redesign, we face financial barriers as well. Perhaps one of the greatest obstacles blocking the road to sustainable educational improvement is school funding. This road is littered with failed approaches that continue to benefit some students over others. We must design and implement a materially-different funding system for public education if we are to provide all of our children with reasonably equal basic educational opportunities. Today, the well-being of a school and the options available for students depend on the financial prosperity of the community, the education status of its population, and the percent of homes with children or relatives in the school system. Clearly, this system has inherent flaws that contribute greatly to the ongoing problem of educational inequality. The most egregious problem with the current system is that the children in the system are powerless and totally at the mercy of school levies whose success or failure is based largely on the votes of only 20 percent of the population who have children or grandchildren in the schools.

I believe it is unarguable that the way we fund schools is a significant part of the problem. Depending on roughly 20% of the voters in each of 16,000+ school districts to tax themselves to provide quality education for all students is a root cause of the unevenness we see all over the country. The fact that most levies and bond issues fail simply widens the gap between students lucky enough to live in affluent, well educated communities and those who live in poorer areas with lower education and more people on fixed or non-existent income who cannot support any taxation.

This situation which goes on every day all over the U.S., and which I am convinced most people understand and many accept or ignore, causes a number of closely related problems. It forces school boards to cut all but required courses and often to curtail professional development as well as technology upgrades and basic maintenance. It forces many superintendents and principals to focus on budgets and on the next levy rather than providing educational leadership and teacher support. Districts are forced to curtail school buses, extracurricular activities, and other "luxuries" such as mentoring and tutoring for students who fall behind. We continue this unfair and inadequate system of funding in the name of "local control." This may have been okay 50 or 60 years ago when students who did not have great education opportunities and who did not achieve academic success could still find meaningful employment with salary and benefits sufficient to support a family. But those days are long gone.

I believe we will be unable to compete effectively in the 21st century until we change "local control" to "local support" and create a combination of federal and state funding which will give each student genuine access to the very best education we know how to provide. In my view, this means restoring education as our clear number one national priority and raising education as a percent of the federal budget from 6-7% today to 20%+. The same priority and funding emphasis should occur at the state level. Local districts should get out of the school tax business and focus instead on mentoring, tutoring, coaching, helping in the schools and supporting principals, teachers, and individual students.

While I believe a bipartisan national commission should be created to study and propose a new, more equitable and dependable system, I'd like to share the following funding possibility. One option which should be explored is to take all the monies currently being invested in public education by the federal government, by each state and by local counties and communities and convert that into a national education fund. That fund, administered by a bipartisan or apolitical group, would be dispersed evenly across the country on a per student basis. Future increases would come from a consumption-based national education tax sufficient to provide every child with quality education options and technology and to provide each teacher a level of income commensurate with training and student results. At the time the consumption-based tax is implemented, all current state and local property and income taxes supporting education would be eliminated, though each community would continue to be able to tax itself further for supplemental programs and activities.

Currently, we spend about $540 billion each year on public education.[6] If this total investment were to be increased by just 20 percent, we would have an additional $100 billion to serve America's school children. While there are numerous possibilities for the allocation of these funds, I envision an increase in each of the approximately 3 million American teacher's annual salary by about $20,000 each year. This would cost an additional $60 billion a year, but would undoubtedly help to attract the best and brightest to the field of education. I propose that the other $40 billion should be used to equip every school with distance learning capabilities and provide for at least two weeks of annual teacher training each year. These additional funds could come from a variety of sources, such as the national sales tax of approximately 10 percent proposed above, or additions to federal, state, or local education budgets. According to 2005 research by the National Center for Education Statistics, on average the federal government currently supplies only 8.5 percent of the funds to operate American public schools.

From my perspective, if we truly want our children and grandchildren to be productive and contributing citizens in a growing economy with meaningful and rewarding jobs, we need to increase our spending on education by $100-150 billion per year as a country. Only an increase of this magnitude would enable us to: 1) make teaching a sufficiently well paid profession to attract our best and brightest students; 2) ensure that every child and every school has state of the art technology and software to meet the needs of all the students; 3) vastly improve the curricula and texts we use in order to have our students compete effectively with their peers around the world.

Our curricula needs to focus much more on concepts and to give students a depth of understanding in all key subjects rather than just an emphasis on raw facts, dates and numbers.

I believe the time is right to look at all aspects of our educational system versus those in other developed countries, including how we fund schools and reward teachers in order to provide the framework for a new system which will give all of our children and grandchildren the education they deserve and must have to compete in the 21st century. These are just a few of the myriad of possibilities to consider. Imagine how changes like these could equalize access to a high-quality, globally-competitive education for all students.

Shifting Our Focus

While I acknowledge that many of these suggested changes to the current system will be highly controversial, I challenge naysayers to shift their focus toward calculating the societal cost of maintaining the status quo. We simply cannot continue to provide disparate educational opportunities and expect equally-successful outcomes. We cannot continue to blame American job-loss on lower foreign wages, when it is also higher qualifications that attract U.S. companies to hire overseas. To win back these jobs, and keep many others, we need a better system of education that gives Americans a globally-competitive advantage. If we fail to move in new directions, I am convinced we will be convening meetings each year for the foreseeable future to commiserate about the results and to keep tinkering with a broken system, meanwhile continuing to lose a million or more kids each year through the cracks.

Looking Ahead

American public education stands at a critical juncture, teetering over the edge of our increasingly "flat" world. The way I see it, we are in public education today where we were in American politics before women and minorities all had the right to vote and fully participate in our society. If we are to move forward as a nation, we must come together to address the realities of the out-dated systems that continue to hold us back. Recognizing the unjust and uneven distribution of educational access and opportunity that exists in our public schools today is a bold, but necessary first step toward securing our society's place in the future. We must work together to build a 21st century U.S. education system which takes everything we know about quality education and applies it to every school. It's the only way to secure a future for each American child, and therefore the only way to secure a strong future for our country. As Mortimer Adler, a professor at the University of Chicago in the 1930's reminds us, "The best education for some is the best education for all."

Endnotes

1. For detailed information on American public elementary and secondary schools, see Hoffman, L., and Sable, J. (2006). *Public Elementary and Secondary Students, Staff, Schools, and School Districts: School Year 2003–04* (NCES 2006-307). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
2. Toppo, G. (2007, April 2, 2007). Study: Teachers failing in class. *USA Today*, p. A7.
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4. *"The Impact of Education on: Crime,"* Fact Sheet, Alliance for Excellent Education, November 2003
5. For an up-to-date look at participation in the American Diploma Project sponsored by Achieve, Inc. and Education Trust visit their website at www.achieve.org.
6. This number is based upon 2003 data from the U.S. Department of Education and speaks to the total annual investment of federal, state, and local funds in American public education.

Voices from the Field

CHAPTER 1

Education and Freedom

Rebecca Palacios

"Education is our freedom, and freedom should be everybody's business."
Dr. Hector P. Garcia

As an early childhood teacher for over 30 years, I have seen support for public education erode through the lack of funding for public education from our elected officials at the local, state and national levels. The late Dr. Hector P. Garcia, a Presidential Medal of Freedom recipient from my hometown, Corpus Christi, Texas, focused on the need for all to have access to a high quality public education. His quote had driven me to understand, especially in my community of South Texas, that an equitable system must begin at birth with family education programs and work through the higher education system.

Public education should provide:

- a fair, equitable means to access education birth through college;
- an integral approach to meet the needs of students, whether they are cognitive, physical, social or emotional;
- a high quality education based on consistent standards across the United States of America for teachers and students;
- a way to sustain the gains of students' progress through social and economic support systems;
- an opportunity to showcase the opportunities for employment;
- access to higher education opportunities for all students.

I began teaching in 1976 with an incredible first year of support through a Follow Through Program federal grant to our school district. This support included consultants from the Southwest Educational Development Laboratory, modeling bilingual lessons and strategies that scaffolded not only student learning, but my learning as well. This mentoring provided for me an important and rare opportunity to build a foundation for what was to come.

In 1987 I was elected to be a Director of the National Board for Professional Teaching Standards. This pivotal point in my career allowed me to "view" the public school arena through the eyes of the other Directors of the National Board for Professional Teaching Standards. Discussing policy and practice for the teaching profession in the early years of the Board developed for me a sense of finally understanding the underpinnings of public education and the support that it provides students to advance their learning. However, the epiphanous point of my professional career was going through the National Board process. I understood then, that accomplished teaching is not just what I know and what I am able to do, but what all teachers should know and be able to do to make a difference for each and every one of our students and their families. Public education is what we all do together to create a humane system for all American students.

To begin to turn the tide back to excellence in public schools, birth through college, policymakers working together must sustain public schools and their support programs 100 percent. Too many of our politicians have not supported a fair, equitable means to access education birth through 16. Rather they have purported equity through the guise of "voucher" programs, many of them targeted to minority and disadvantaged children. Charter schools, receiving these students, are not held to the same level of accountability as their public school counterparts and the funding for public education is redirected to these schools. Public school access for all students should remain fair and equitable and offer a variety of school structures that will attract students and will capitalize on their talents and on the expertise of the community and stakeholders.

High standards for teachers and students must continue to be the banner for the public education system across the country. Holding a National Board Certified Teacher certificate meant for me that I must continue to hold myself accountable to the standards throughout my career. This year, I was one of the newly renewed candidates, undergoing the renewal process after 10 years of National Board Certification. National Board Certification and high standards are important in all communities across the country as the standards provide the ways and means for teachers to create and develop pathways for students based on rigor, analysis and reflection. Many disciplines and content area groups have developed standards for students that can guide school systems in developing their own frameworks for excellence and accountability.

High standards for students acquiring another language are as important as reaching high standards for teachers. According to the U.S. Department of Education, one in nine public school students in K-12 settings come from a home where a language other than English is spoken, with this statistic becoming one in four by the year 2025. Teachers must be trained to work with these changing student demographics. As a bilingual classroom teacher for the past 31 years, I have seen the efficacy of effective bilingual programs that have highly trained teachers—those that know how to develop lessons and utilize strategies important in meeting the diverse needs of English Language Learners.

Teachers licensed in their fields must be in every classroom, and leading the way for those teachers should be teachers certified by the National Board for Professional Teaching Standards. This highly rigorous process is proving to make a difference in classrooms across America, especially with poor and minority students. The curriculum and instruction should be focused should be on the way that teaching impacts student learning. The curriculum should provide the core knowledge crucial to competing in a global economy and support the development of competitive, competent citizens. Technology should be at the forefront in the delivery of instruction, but should also be an important part of how the students respond in the classroom and how they produce products aligned to future workplace knowledge and skills.

While the public education system can meet many cognitive, physical, affective and social needs, many students now come to school with other issues that the school is under-equipped to handle: substance abuse, sexual abuse, family violence, behavioral issues, illiteracy, and homelessness. One issue that I have found has the greatest impact on our classrooms is the lack of support and resources for our students with emotional needs. Inclusive programs, while positive in many ways (I myself work in a proactive inclusion program with the Preschool Program for Children with Disabilities in our dual language pre-kindergarten program) has not allowed for professional development for teachers, help for students and families in emotional crises. The students in our class-

rooms that act out, run away, or are depressed or violent are especially in need of support. Our public school system, due in part to a lack of federal and state support, has not looked at better ways to serve students with multiple emotional issues. Instead, we "look the other way" and do not have a consistent nationwide plan to deal with children with emotional issues.

Support for these students must be organized through public schools where students and families can access medical support, social and welfare workers, family education programs, agency referrals and work assistance programs. I have seen examples of thriving school communities: Families come to school and can check out books and materials from the public library, can attend GED classes in the evening, can meet with social workers while their children play at the city recreation center gym— co-owned by the school district and used during the day for public school physical education classes and at night by the city. Student cognitive gains may be better supported if students' needs are being met emotionally, physically, socially. Collaborations across city, county/parish, and state governments for this purpose would be a better way to spend the decreasing tax dollars.

As these collaborations increase, stakeholders must take part in public school opportunities set up to inform the students about employment and career opportunities. The many facets of our changing world and the way that needs are met through media connections, technological connections and advances and increasing communications must be opened up to our students. They need to take advantage of opportunities to discover interactive medical communities, distance learning and other less costly and prohibitive learning mechanisms for higher education. Students in south Texas will be able to learn about the advances in veterinary science, perhaps, with students from Washington, DC and San Diego, watching a surgical procedure performed at the London Zoo. Other employment opportunities in the local community and beyond should be part of the education provided in our public school system, with a placement component opportunity partnered with higher education and public and private enterprises.

Higher education should be a visible partner in the nation's public schools, seeking to align standards with PreK-12 schools and providing collaborations in all fields. Placements of student teachers and professors in the schools already exist in many locations including mine. A professor with a field-based class meets with students for half of the day and the other half of the day, those students are assigned to classrooms based on their certification choices to teach mini-lessons under the supervision of the professor and a clinical teacher. Examples of these types of collaborations exist in public school systems now and include encompassing music students in music classes, supporting technology programs for computer science majors, and dual credit programs.

The key, I believe, to a successful public school system would be to include the above components and create viable links with all stakeholders at the local, state and national levels. The more links and connections that we can make with the "real-world," the greater the gains for our nation's students. American students then would have an equal opportunity to access an educational system that is consistent throughout the nation and would allow them to compete in a global economy.

One of the most difficult tasks for me as a pre-kindergarten teacher is thinking of ways that I can prepare my current students to be the graduates of the year 2021. With our world changing so rapidly, the impact I make must not be what is vogue now, but what will be. I must remember to prepare my students to discover and think, explore and create, and dream and believe. Our public education system, with all of the components I mentioned, will be expanded to create a place where

our students will need cognitive resources to apply, analyze and evaluate new systems that have not been invented.

A system that would produce these results would be one that would have all stakeholders involved in strategic planning to utilize the latest research on school leadership, school accountability, student assessment results, teacher quality, professional development, current and future demographics, policy decision needs and collaborations. One source could be the National Governor's Association that could help make the changes systemic among policymakers at the local, state and national levels. I have also seen changes made through the commission of reports by private foundations. These recommendations make a definite impact on schools and systems.

Now is the time to plan for this strategic and bold step among those silent voices that have let others dictate what is best for American education and have allowed others to erode our public education system. To make a difference, we must let our votes be counted at the polls and elect representatives that will continue to fund public education as it should be funded. Funding needs to come through direct appropriation to our public schools through local, state, and federal funding. Our dwindling budgets are felt at the classroom level every day. Everyone speaks of lowering taxes but no one speaks for our most silent constituents: our nation's children—those who cannot vote. As an early childhood advocate, I believe we must begin funding at the early childhood level with universal preschool for all our children. We need strong public education advocates to be the leaders in our state houses and our nation's Capital. We must be vocal in advocating for a quality public education system for all—one that does ensure freedom, the freedom to learn in a well supported public education system—that should be everybody's business.

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CHAPTER 2

Sustaining School District Success: An Urban Superintendent's Reflections

Arlene Ackerman

No Silver Bullets

As an educator with more than three decades of K-12 experience, I have spent most of my career developing and implementing systemic strategies designed to improve academic achievement for students who attend urban public schools. As a teacher, principal and district administrator, I have participated in numerous reform initiatives intended to boost achievement. Unfortunately, few of these initiatives manage to sustain student achievement increases over time.

Something is always missing. The progression of instructional, structural and governance reforms are always sold as the answer to what ails public education. Regrettably, time and time again, educators fall prey to the latest single answer solution only to be frustrated with the long term results. The silver bullet approach to improving achievement is misguided. No single solution can guarantee success. There are no quick fixes. What I know now is that without a coherent plan which includes strategic alignment of academic initiatives, fiscal and human resources and accountability systems, it will be difficult for any school district to improve and sustain achievement over time.

This chapter will provide readers with some insights into one district's efforts to improve academic performance for all children through the implementation of a coherent and integrated set of reform strategies. The San Francisco Unified School District has enjoyed six consecutive years of achievement progress and three years as the highest performing large urban school system in California. Here is our story.

Excellence for All – A Strategic Academic Plan

After listening to hundreds of parents, teachers, administrators, students and community members, it became evident that to change academic outcomes for students, the San Francisco school system needed a coherent plan. Thus, in the fall of 2000, the district embarked upon an important journey that began with a rational strategy that would eventually lead to positive results for children.

Central to the development of that plan, however, were five core beliefs:

1. Children come first.
2. Parents are our partners.
3. Victory is in the classroom.
4. Leadership and accountability are the keys to our success.
5. It takes the entire community to ensure the success of the public schools.

Excellence for All, the strategic plan, aligned and focused all reform initiatives on three guiding principles; improving achievement for all students by raising the bar and closing the performance gap; ensuring the equitable allocation of all resources; and, implementing accountability systems for students and adults.

By clearly articulating the core beliefs; guiding principles; and academic goals, then linking these to new policies, instructional initiatives and structural changes outlined in the *Excellence for All* document, the district laid critical groundwork for an educational roadmap that would drastically change achievement outcomes for all groups of students.

A Policy Framework for Change

In San Francisco Unified School District (SFUSD), the policy framework that was incorporated in the development of *Excellence for All* included the following set of beliefs about organizational reform in our system:

1. School choice is an important aspect of providing excellence for all students and their families. Therefore, there must be good schools in every neighborhood.
2. The people closest to the students (principals, teachers and parents) are capable of making good decisions for them.
3. The role of central office should be to clearly define the "what" (standards, curriculum, performance criteria, intervention processes and system-wide accountability) and these should be non-negotiable.
4. Schools should have the autonomy to decide the "how" (who to hire, what programs work best and how to spend the budget so that it is aligned with a clear academic site plan).
5. All schools should be accountable annually for student results.
6. Schools that fail to make consistent progress must be provided with additional support by providing targeted interventions and closer monitoring.
7. The primary responsibility of central office administration is to provide service and support to schools. Evaluations for central office should be linked to the success of schools.

This policy framework helped SFUSD clearly align all reform strategies within a conceptual structure which defined the responsibilities of central administration as well as the district's schools. The plan outlined a role for central administration to manage certain elements of the instructional core like, standards, curriculum, and accountability criteria; while, schools were empowered to make decisions about how they would meet the student performance measures through the site-based decision-making, academic planning and budgeting processes. Finally, when schools failed to meet the performance targets, instead of sanctions, principals and teachers were given specific additional resources and more frequent monitoring of progress.

The Academic Link

In many districts, structural and operational changes are usually implemented in isolation from academic reform initiatives. However, when San Francisco implemented the Weighted Student Formula

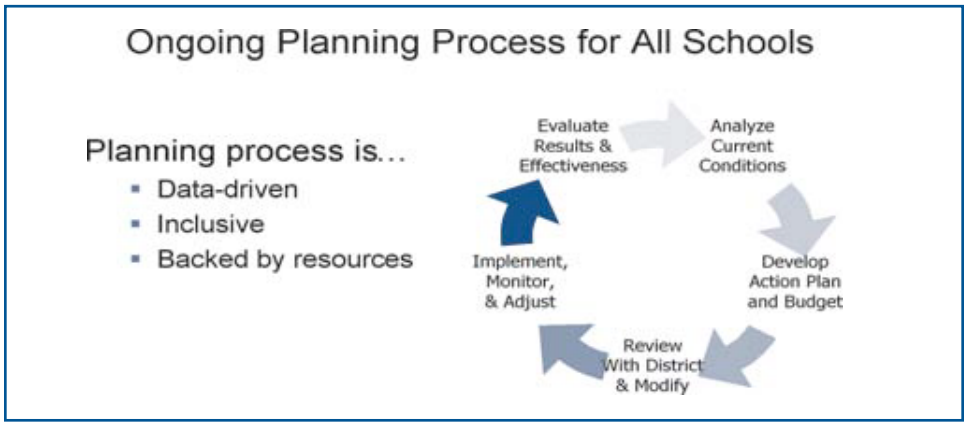
(WSF), a budget allocation methodology which distributes dollars to schools based on specific student characteristics, the new initiative was linked closely to the district's academic goals.

The academic planning process at each school began with a review of the student performance data from the previous year. Next, the site based governance team (comprised of the principal, teachers, parents and sometimes students) worked together to make staffing decisions, prioritize academic services and programs, then introduce new interventions that might promote higher achievement outcomes. Only after this extensive review process of the instructional program did the schools propose a budget that was aligned with the academic plan. (fig,1) Consequently, school plans were prepared, reviewed, revised and approved more thoughtfully. To further ensure accountability, academic plans were linked to the principals' evaluations and then used to inform the district instructional decisions and budget planning process.

A Cultural Change in the District

The successful implementation of *Excellence for All* and the theory of action previously discussed required a cultural change especially in our school system. In many districts, most decisions are tightly controlled by the central administration. When SFUSD decided to move to a site-based decision-making system it required a cultural change in our central office.

Figure 1



The transformation process required a more supportive and efficient central administration. Academic and operational departments had to learn to work more cooperatively to provide training, give accurate budget information, review and disseminate performance data related to the academic planning process in order to ensure the schools were successful in attaining their goals. It was the first time that human resources, budget and facilities staff members worked hand in hand with their colleagues on the instructional side of the district to serve the needs of principals and site teams. Serving together in cross functional teams, the central office staff learned to discuss and evaluate each school's academic plan. This new review process also allowed central office departments to clearly understand how their work directly supported student achievement.

"What gets measured gets done" is an old adage that had important meaning in SFUSD's reform efforts. To measure the quality of support provided by central office departments, principals and site governance teams were surveyed annually. The survey results provided input for improving the

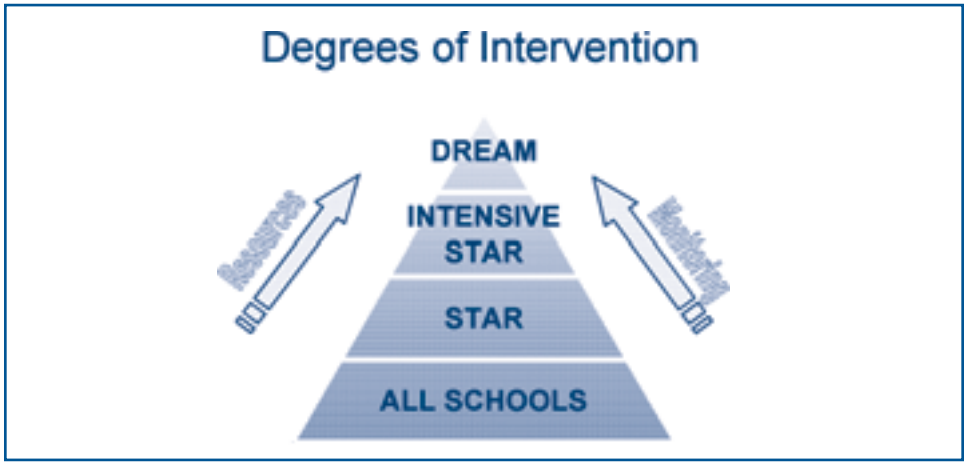
delivery of services to schools. The implementation of our strategic academic plan changed the culture of central office. Indeed, administrative departments became more service-oriented, customer friendly in order to better support school sites.

Helping Struggling Schools

We all know that improving achievement does not happen by accident or overnight. As previously stated, comprehensive and integrated reform strategies require that all other district resources and operations be aligned to support the goal of academic success. Additionally, there must be ways to provide intervention for struggling schools and monitor improvement more frequently.

In SFUSD, instead of giving struggling schools sanctions when they failed to meet performance goals, the *Excellence for All* strategic plan took an alternative approach by providing tiered interventions, targeted resources and closer monitoring. (fig.2)

Figure 2



In fact, a district review of the schools with large numbers of low-achieving students revealed some commonalities. What these schools lacked were coordinated resources to support the needs of a specific population of students whose instructional challenges were often related to larger societal culprits like poverty, violence, and lack of health care.

To change the student outcomes, underperforming schools were given tiered interventions. Some of the targeted resources included nurses, social workers, parent outreach workers and standard-based homework packets designed for parents to use with students on weekends and school breaks. Additionally, to better support the needs of staff each school was provided with a teacher coach, full time on-site substitute teachers and tailored professional development. The STAR (Students and Teachers Achieving Results) program was implemented with a focused objective: to increase the achievement of schools with large numbers of students who were underperforming by providing targeted interventions designed to address barriers that interfered with the process of teaching and learning.

Only after these low achieving schools were given additional support from central administration for two years and failed to show significant progress was a more drastic intervention considered. The Dream Schools initiative was the final option offered to parents as a way to accelerate student

achievement in chronically underperforming schools. Bound by the guiding principles of commitment, inspiration and excellence, the goal of re-opening failing schools as Dream Schools was to hasten increased academic achievement by ensuring that the instructional programs embodied the qualities of the best and highest performing schools in the San Francisco public and private community. The ultimate goal of establishing Dream Schools was to give to our most disadvantaged students (starting in preschool) a rigorous instructional program supported by opportunities to remediate and accelerate their learning and achievement. It is also clear that success in school is a compilation of what is learned inside and outside the classroom. Thanks to the generosity of some very special San Franciscans, Dream School students were exposed to an array of enrichment activities including but not limited to fencing, tennis, photography, golf, instrumental music, creative arts, mentoring and college readiness support.

Sustaining Progress

Almost seven years ago, San Francisco implemented Excellence for All, a strategic plan which aligned the academic initiatives, fiscal and human resources and district-wide accountability systems. Since then, the district has experienced six consecutive years of improved achievement at all levels; scores higher than the state average on standard-based tests. Indeed, this success in performance distinguished San Francisco Unified as the highest performing large urban district in the state of California for three consecutive years. In 2005, the district was one of five school district finalists to receive recognition as a Broad Prize for Excellence in Public Education.

I completed my tenure as superintendent of schools in June, 2006. And, while these performance gains are laudable, I realize that there is still much work to do in the district to close the achievement gap and make schools in every neighborhood viable choices for students and their families.

Will SFUSD sustain its progress? Only time will tell. Thus far, it has taken the dedication and commitment of the district teachers, administrators, support staff and the board of education to attain these positive outcomes. What I know for sure is that the integrated reform strategies executed in *Excellence for All* and, the subsequent progress made in student achievement over an extended period of time was strategic by design.

I am convinced the academic gains will continue if the district is able to keep an unrelenting focus on improving student achievement coupled with accountability systems, strategic instructional planning and the alignment of all resources as the core of its comprehensive reform strategy. More importantly, I know that if progress can be sustained in the diverse San Francisco Unified School District, it can happen in any urban school system in this country.

CHAPTER 3

The Missing Ingredient in School Reform: A Political Base

David Hornbeck

I am blessed with four amazing grandchildren. What I think public education should produce for all children is what I want for Holly, Tom, Jensen and Fyn. All children deserve as much.

All children deserve the education experiences that equip them to succeed academically in a high quality, four-year undergraduate college or university program (whether they choose to attend one or not).

All children deserve the education experiences that prepare them after high school to take the next appropriate step toward employment that is fulfilling and generates sufficient earning power to support a family at a level that encourages good health and happiness for a lifetime.

All children deserve the education experiences that contribute to the development of values such as courage, fairness, trustworthiness and a deep commitment to securing and maintaining the benefits and responsibilities of democracy for all, including those who have been historically left out.

I want them to have choices. The public school experience of my grandchildren[1] will help make them intellectually accomplished and curious; productive workers; good citizens; and happy people. That same opportunity must be accorded all children, not just those with the benefits of white privilege.

Modern education reform dates to at least 1954 when the Supreme Court declared that separate schools for black and white students were unconstitutional. That was followed when, in response to the Soviet Union's successful launch of Sputnik, the federal government passed the National Defense Education Act in an effort to produce the mathematicians and scientists required to keep up with the Soviets. Since then we have seen the:

- Elementary and Secondary Education Act (originally passed in 1965 and reauthorized several times since, most recently as the legislation that, given its deficiencies of funding and implementation, cynically promises to leave no child behind);
- Head Start established in 1965, followed by repeated attempts to increase access to quality preschool experiences;
- Title IX, enacted in 1972, seeking to end discrimination against girls and women in education; the Education of All Handicapped Children Act (originally passed in 1975, reauthorized several times, since 2004 in the Individuals with Disabilities Education Improvement Act);
- Competency-based education in the late 1970s;
- *A Nation At Risk* in 1983 declaring that we would have considered it a declaration of war if our education system had been imposed on us by a foreign power;

- Five Education Summits of governors and business leaders that followed an initial presidential/gubernatorial summit at Charlottesville in 1989; and
- Focus of the last 16 years has emphasized standards-based education and evidence-based instructional practices.

The result of this half-century of education reform effort has been remarkable in two ways. First, we now have the knowledge to educate successfully virtually all children, regardless of personal or individual circumstances. That is not to say that we should stop trying to learn more about how children learn and the features of effective instructional and management practices, theoretical and practical. It is to say that we know more than enough to base public education policy on the premise that we know how to educate all children successfully.

The second remarkable result of the last fifty years of efforts to improve public education is how significantly we have failed to take advantage of the knowledge we have generated about teaching and learning, especially in relationship to poor children, children of color and children for whom English is a second language. There is still not a single school system of any size or diversity in the United States in which virtually all children are even minimally well-educated much less to the levels I envision for my grandchildren and that should be accorded all children.

We Know What Works

As a result of my work in Kentucky helping design the Kentucky Education Reform Act; work with The Business Roundtable in developing their first set of Essential Components of a Successful Education System; chairing the Council of Chief State School Officer's Title I Commission; and implementing our comprehensive systemic reform effort, Children Achieving, in Philadelphia over six years, I am convinced that there is an identifiable set of components that must be present if all children are to succeed and that all will not succeed if one or more of the components is not present.[2]

However, it is not my intention here to argue a certain set of components as being necessary to radical change in delivering a quality education to all children. There will be some who would choose fewer than I, some who would suggest one or two more and some who would arrange or state them a bit differently. I am sure that most who seek real systemic change and I could reach essential agreement around which components will generate sufficient power through their synergy to move the huge and often recalcitrant school systems of America to what they can and must be.

I should also say that while I deeply disagree, there are those who come close to arguing that one silver bullet or another is all that is necessary…small class size or small schools or preschool programs or quality teachers for every child every year…and they point to research to support their contention. It is not even my point here to argue against those ideas since in each of these cases, the performance of children would be improved by passionate, faithful, widespread implementation of the chosen silver bullet. The best example is the proposition of providing quality developmentally appropriate early child-

hood programs. We absolutely know they work. We have at least 30 years of research to that effect. We know that they save huge sums of money. Virtually every family with the means ensures that their children have access to some sort of organized learning experience by age 3, many earlier. The only families that do not provide such experiences are families without the means. And yet not a single state guarantees the opportunity for an early childhood program, quality or otherwise, to all children beginning at age 3 and only a few pretend to do so beginning at age 4.

The Education Trust makes the point that we know what to do in a different way. They have identified hundreds of schools across the United States for which demographic data suggests they should perform poorly but instead perform much better than expected and in many instances better than district or state averages. They also note a number of districts in the country that perform substantially better than would be expected, extrapolating from district demographic data. The Education Trust cites four practices that are important in achieving these results: clear goals; challenging curriculum aligned with standards; extra instruction for those who need it; and teachers who are well prepared to teach the subject matter.[3]

My point is simply that we know what works and most of that knowledge has emerged over this 50-year history of school reform.

We Have Failed Miserably

The Education Trust reports that only 14 percent of Latino 4th graders are proficient in reading while 57 percent have not even reached the basic level of performance. In math, nine percent of 8th graders are proficient and 60 percent are below basic.[4]

The Trust also reports that for African American students the numbers are even worse. 12 percent of 4th graders are at the proficient level and 61 percent are below basic in reading. For 8th graders, only seven percent achieve proficient in math and, again, 61 percent are below basic.[5]

Graduation rates again provide significant evidence of failure to serve all students well.

The Harvard University Civil Rights Project reports the graduation rate for whites at 75 percent (not a number evoking great pride in itself) but for African American, Latino and Native Americans only half earn regular diplomas.[6]

For the richest country on earth, performance in an international context can best be described as modest. On the 2003 Trends in International Mathematics and Science Study (TIMSS), U.S. 4th graders were twelfth of 25 countries in math and sixth in science; at the 8th grade level, the U.S. was ninth in math and fifteenth in science.[7]

Public Will is the Missing Ingredient

If all students have the capacity to perform to high standards of achievement and the knowledge exists to help them do so, the reason they are not succeeding is the absence of the necessary conditions. And, the reason those conditions do not exist is that the public is not demanding that political leaders and policymakers create them.

There are many reasons for the absence of public will and political resolve. Among them are:

1. Many people continue to believe that black and brown children do not have the fundamental capacity to learn to the levels to which we aspire.
2. Many people believe that while black and brown and white low-income children may have the innate capacity to learn to the levels to which we aspire for our grandchildren, demographic, economic and family circumstances create such huge barriers that, as a practical matter, they will not learn.

   These first two groups include educators, legislators, business people and millions of ordinary citizens. They even include some of the parents of the children who are ill served and some of the children themselves. The cultural and racial belief mantra that black, brown and low-income white children cannot or will not learn is so deep that too many with whom we have failed have bought the myth themselves, making it a self-fulfilling prophecy. It is manifest most often in young people exhibiting low self-esteem and parents who tolerate low expectations of their children and ascribe low performance to the conditions within which they live.
3. Many believe that, with sufficient intervention, children with whom we have historically failed might learn to higher levels but feel that the cost is too great to provide the interventions, especially if the cost is to be borne by them.
4. Many think that the barrier is the education bureaucracy; that even if the knowledge exists to educate all children, public school systems are so broken, teacher unions and school boards and administrators are so incompetent or self-serving or calcified that the system cannot be reformed to do what is necessary.
5. Many without children of school age simply think that it is not their responsibility to provide a quality education to all children.
6. Some with political power believe that the soul of public education has been captured by secularism and the result is a corrupt, godless system that must be abandoned in favor of alternatives that permit prayer, single religion hiring and other exclusive ways of thinking about and organizing education.
7. Finally, and perhaps most damning of all is a combination of apathy, feeling like we don't have time, the proverbial sense that one "can't successfully fight city hall" and, among the poor, a level of despair that is disabling.

In combination, these are powerful forces that keep our nation from creating the conditions that will result in all children succeeding.

The missing ingredient in education reform over this half century is public and political will. We have not informed, organized and mobilized a public that demands a quality education for every child. We have provided for parent committees to sign off on various local, state and federal plans. We have in some places given meaningful financial and program decisions to school-based groups with heavy non-educator representation. We have built local education funds and foundations that maintain a friendly but arms length, critical friend relationship to school districts.

Almost every district has some sort of business-education partnership. A myriad of service and faith organizations provide support to schools and districts through after-school activities and other support services to the students themselves. Most schools and districts have school volunteer programs, some numbering in the thousands of volunteers. We call these activities public engagement or community outreach. Indeed most districts and schools even have community outreach or parent liaison or school-community partnership personnel on board (almost always among the lowest paid staff).

I do not criticize these activities. Indeed, over a lifetime as an educator, I have been responsible for establishing, building, enhancing and encouraging every single one. But the fact is all of them together do not add up to the power to insist on policy and practice at the school, district, state and federal levels that will provide a quality education to every child in America.

What Do We Do?

The answer is simple; doing it is hard. The answer is to build a permanent, large, powerful, small "p" political infrastructure state-by-state among people who embrace the traditional American values of fairness, trust, responsibility and strong caring communities. The issue agenda would be to deliver, as a matter of policy and practice in each state, a quality of education designed to result in every child being intellectually accomplished and curious; productive workers; good citizens; and happy people; that is to say every child would enjoy the quality of education experiences that I demand for my grandchildren.

In August 2000, after six years as superintendent in Philadelphia, I had reached this conclusion. It would be impossible to achieve the goal of delivering a quality public education to children and youth historically left out without a strong permanent organized grassroots group of people to insist on it.

I traveled across Pennsylvania for three months talking with faith groups, youth organizations, parent groups, education reform school people and community organizations to determine whether there was an appetite for serious, large scale activist organizing. I consulted with friends such as Wendy Puriefoy, President of the Public Education Network; Marian Wright Edelman, President of the Children's Defense Fund; and Eileen Lindner, Deputy General Secretary of the National Council of Churches (and when he became General Secretary some months later, Bob Edgar).

Deciding the appetite to organize and mobilize did exist, by April 2001, I had raised over $4.5 million from ten foundations: Annenberg, Clark, Fels, Ford, Heinz, Mott, Pittsburgh, Schott, Surdna and William Penn. I hired as Executive Director Donna Cooper, a smart, tough, committed experienced organizer, who had been a Deputy Mayor in Philadelphia. We then hired 20 people and opened seven offices in places chosen strategically around the state. Good Schools Pennsylvania was born.

Our primary strategy was to establish groups of ten people each who were asked to meet monthly. In each meeting, guided by a nine unit curriculum, written in partnership with The Center for Greater Philadelphia at the University of Pennsylvania, each small group of

people learned about public education policy in Pennsylvania and across the nation; how it is delivered; and discussed how it could be better in policy and practice. Each month, each participant was asked to write two letters to elected officials and policymakers, asking them to take actions that would improve the quality of education in the Commonwealth, especially for those youngsters historically left out.

Within 18 months, we had established over 300 of these small groups of 10 people. A majority of the groups came from a faith community congregational base. Starting with the bishops of the Episcopal Diocese of Pennsylvania, Evangelical Lutheran Church of America-Southeast Pennsylvania and the Eastern Pennsylvania Conference of the United Methodist Church, we ultimately secured the commitment of 17 of the peers of these three bishops plus other significant religious and parent leaders in the state. Each of the bishops and their peers set a goal of establishing a number of small groups equivalent to 25 percent of the number of congregations within the faith tradition unit like a diocese or presbytery or synod for which they had responsibility.

In addition to the small groups built from the congregational base, with significant leadership from local education funds, affiliates of the Public Education Network, and from superintendents like Vicki Phillips in Lancaster, in partnership with their PTAs, we also developed several dozen parent generated groups.

With the small groups as a base, we held a prayer vigil on the steps of the state capitol every month for 18 months. We would pray, sing, listen to brief homilies and then scatter throughout the capitol to bring a message of social justice within the framework of public education to the legislators of the state. We rarely had fewer than 300 people attend. A different group led each month. One month Arthur White, president of the Pennsylvania Baptist State Convention brought 300 African American Baptists; the next month Tony Campolo and 300 evangelicals hosted the event; and the next the Methodists and the next Jewish leaders and so on for the 18 straight months. This was in stark contrast to the usual practice of advocacy groups coming to Harrisburg with a modest number once or twice a year. We were clear that we had to be present in a highly visible and persistent manner.

We also established 23 college chapters and worked with students in 50 high schools. Indeed, the largest numbers of participants in Harrisburg rallies were when the students had responsibility. Twice over three years they produced more that 1,500 young people. From time to time we would hold large rallies in different parts of the state, with drawing cards such as Marian Wright Edelman and Congressman Chaka Fattah consistently producing a 1,000 people or more. We used such rallies to recruit additional small group participants and to let people know they were joining with large numbers of other people in the quest for social justice for the children.

In 2002, we made a commitment to make public education the number one issue in the gubernatorial campaign. We did just that many times over. First, we focused on the Democratic primary, as there was no Republican primary. In the dust-up between Ed Rendell, the Mayor of Philadelphia and Bob Casey, the Auditor General, Rendell clearly expressed a more specific and powerful vision for educating all children and won the pri-

mary. In the general election, the contest pitted Rendell against Mike Fisher, the state's Attorney General. Good Schools Pennsylvania was present everywhere the candidates showed up, pounding away at the education message. It was no contest on the education front. All Fisher could talk about were vouchers, charters and accountability and, frankly, even on those points, there was little evidence that he had thought very much about education issues.

In contrast, Rendell had honed his message of all children needing opportunity; accountability; adequate funding, equitably distributed; the importance of education to economic development; and lower property taxes. He knew the issues and he knew the language partly as a result of serving as a very supportive Mayor during the six years of our Children Achieving work. He conveyed the strong message that his commitment was deep. Good Schools Pennsylvania obviously liked the message because it was essentially our message.

After the election, Rendell continued to press the education agenda. He hired Donna Cooper away from Good Schools to be his Director of Planning, later giving her cabinet status as Secretary of Planning. He appointed Vicki Phillips, the former Lancaster superintendent, at our urging, to be Secretary of Education. Donna and Vicki put together the specifics of Rendell's education program and budget package. It was terrific.

During the legislative session of 2003, Good Schools Pennsylvania continued the monthly meetings of the small groups and the letter writing but shifted from 300 people one day a month in the capital to 100 every day on all legislative days during the six month budget session from January through June. More than 7,500 people came on one or more of those days, pressing hard our education agenda. The Governor acknowledged our role when he said that Good Schools had carried the ball 95 yards; it was his responsibility to carry it across the goal line.

He (and we) tried very hard and accomplished much. But the largely conservative legislature fought the Governor tooth and nail and passed a budget early on, which he promptly vetoed, vowing to continue to veto every budget until he got what he (and we) wanted on education issues. I think that in December Pennsylvania was the last state in the nation without a budget. In the end, Rendell settled for a lot less than he or we wanted. But in that session and since, he has been the best education governor in Pennsylvania since at least the Milton Shapp era in the early 70s.

Our big mistake in Good Schools was to see it as a three-year campaign, not an effort to build a permanent infrastructure. We envisioned making education the big issue in the governor's race, helping create the climate that would result in sweeping, comprehensive policy change in the 2003 legislative session and then go out of business.

That was, of course, significantly too optimistic. The problem was that we had designed our fundraising, staffing and spending effort around the campaign so in late 2003 with Donna Cooper in the Governor's office and the funds virtually spent, Good Schools almost went out of business. With some effort in fundraising and serious cuts in staff, we survived at a much-reduced level. As this is written in 2006, Good Schools has a modest

staff and modest goals but is on its way back, having just helped lead the effort to convince the legislature to conduct a cost of education study that they (I left the state and active leadership in 2003) hope will lead to structural changes in the way education is financed and practiced in the state.

The Way Forward

We were encouraged by the degree of success we had in organizing Good Schools Pennsylvania. We learned a great deal, not least that success depends on a long-term commitment, not a short-term campaign. Experience with Good Schools and observations of the effectiveness of the Internet and other technologies as communication, organizing and fundraising tools begins to point the way forward.

As this is written, I am engaged in a design year, using California, Colorado and Ohio as the design states to think through how one would develop a national grassroots organizing effort that has the power to change the nature of conversation in the public square to one that reasserts the importance of the common good as the driving force in the way decisions are made in a democracy and through a state-by-state national movement to ensure that all children have quality public education available.

A large, new powerful small "p" political organism (and I use the word organism, not organization, to capture the idea of a highly dynamic group of people) making fairness, trust, responsibility and strong, caring communities the driving values of their movement building and quality education for every child the centerpiece issue can transform who we are as a nation. Anything less will continue to leave the direction of the nation in the hands of those whose values center around self and individualism and quality education as a privilege for the few but not for the middle class, black, brown, poor or those for whom English is not a first language.

In contrast, most Americans believe that all children, their own and the children of others, should have a fair shot at the American dream. From a religious point of view, most Americans believe that God loves and wants the best for all children not just children of privilege. Most Americans believe that the founders of America wanted to create a country in which all had opportunity if they worked hard and that the government was created to help protect and deliver that opportunity. Most Americans seek meaning in their lives, in their work, in their families. Most Americans want a say in the way their cities, towns, states and the nation function and want to have trust and confidence in those in positions of authority.

Most Americans are both red and blue, Republican and Democrat, conservative in some things and more liberal in others. Most Americans want other Americans to be happy and don't want to do things, at least maliciously, that get in the way of others' happiness. Most of us are really pretty ordinary, decent human beings…same basic wants and needs, same fundamental fears and desires.

However, most of us have no vehicle, no sense of voice in which we think we can really impact the larger forces around us. We may even have a sense of what needs to be done

about education and other matters but see professional educators and elected officials doing pretty much whatever they want without accountability, without much passion. Our sense is that those people simply want to get elected, serve special interests that fund their campaigns, or keep their jobs. And, thus, most Americans tend to fall back into the pack that takes care of its own, including those elected officials and educators, many of whom would like for things to be different.

We must create, patiently and with careful attention to detail, a new voice to which most Americans can relate in ways that cut across traditional boundaries of politics, religion, race and sexual orientation. We must find common ground in which we leave hot button issues outside the door, not because they are not important but because they keep us from attending to other equally if not more important issues that bring us together - common commitments to fairness, trust, responsibility, safe, caring communities and out of those values public education. We must cease to let hot button issues like abortion, gay marriage and vouchers define the way in which we think about and treat each other in all other aspects of our life together.

I propose building an organism that has the following characteristics:

1. **Anchored in 10 or 12 states that constitute a critical mass in the United States.**
   These states would be bellwether states. Some would be part of the critical mass because they are large and have significant numbers of children reflecting all demographic characteristics. California is a prime example; one of every eight children in public school in the nation is in public school in California. One might look to a state like Nevada where the population is growing, where there will be new seats in the Congress created in 2010 that may be more competitive in the short run because there will be no incumbent. One might look at a New Hampshire or Iowa due to their sometimes disproportionate impact on national elections. One would naturally look to states where there are apparent allies in the middle of the political spectrum where one might demonstrate the effectiveness of large numbers of new advocates coming together around a common agenda. A state like Ohio is an attractive candidate since it appears to reflect the nation's present serious divisiveness. Or, a state such as Colorado is interesting where Proctor and Gamble has reportedly done product research for decades apparently because what Coloradoans like is reflected in the tastes of the nation. Whatever the criteria, it is important that the handful of states be of such a character that if the movement building in those states is successful, it is likely the rest of the nation will follow.

2. **A visible presence through online organizing and the media in the other 40 states.**
   This would have two objectives. One would be to begin to build a friendly environment nationally, in which the more aggressive work in the targeted states will be encouraged. This would be in contrast to nesting the target state work in a hostile national climate that could more easily prove destructive to early fledging work in the targeted states. The second objective would be to lay the groundwork for changes in those states to ensure that all of the students in those states have access to a quality public education.

3. **The fundamental motivation for participants should be a moral one.** There are many other reasons to want such a movement to develop and succeed: economic, legal and political, for example. However, the threshold at which those motivated by these other factors decide that their goals have been met is often, in my experience, a lower one. When we have enough workers or the party to which I belong has enough voters to win the next election or we have met the minimum constitutional legal standard, there is a tendency to compromise before the larger goals are achieved.

   On the other hand, those who come to the movement because it is the right thing to do will keep their eyes on the goal. They will see tax policy, educator accountability and other controversial measures in a different way. They will not be as easily overrun by the traditional interest groups whether on the right or left. They will, in short, be driven by the idea that it is right for all children to have a quality public education as good as I want for my own children and grandchildren; that it is right that all of us are accountable in the name of the common good for the education of all; that fairness, trust, responsibility and safe, communities ought to exist for all families because that is the morally right condition.

4. **Target constituencies should be chosen based on a natural moral or values-tinted lens through which they tend to act.** These would include faith communities who see social justice as a central tenet of their faith; young people, who generally have not yet been corrupted as deeply as some of the rest of us by the responsibilities of a mortgage or even the lure of material acquisition; people from Black, Brown and poor communities who have been most heavily impacted by the injustices of the system; and women (mothers and grandmothers in particular) who love more easily, who are less ego driven, looking to solve problems, not just to win.

   In urging the engagement of these target populations with moral or values-tinted lens, I observe that movements that have been arguably successful—abolitionists, those who fought for child labor laws, suffragists, civil rights activists, war protesters—were driven by a moral imperative and the target constituencies suggested here were important leaders in those efforts.

5. **Technology** has made it possible to communicate, call people together, think strategically with ideas arising from all participants and raise money in unprecedented ways. Blogging, podcasting and websites like Move-on.org, Faithful America.org, MySpace.com, friendster.com, GiveKidsGoodSchools.org and scores, maybe hundreds, of others have changed the nature of movement building. Howard Dean's presidential campaign of 2004 altered political campaigning and blogging conventions now draw serious attention from presidential wannabes.

   The small "p" political infrastructure that is a requirement to create the policy framework that will deliver quality public education to all children, ensure its faithful implementation and sustain it will need a sophisticated technology base that is as powerful, inventive, transparent and flexible as the most sophisticated that Karl Rove, Wes Boyd and Joan Blades, James Dobson, Joe Trippi or *Kos* ever imagined.

   The participant base will need to be massive and it will need to be built on the basis of relationships. The largest online organizing efforts, conservative and liberal, have built

huge data bases from hot button, front-page issues like Monica Lewinsky, the Iraq war, abortion and gay marriage. For better or worse, public education will never have that sort of sizzle. Thus, we must build equally large data bases on relationships. We need to create the capacity to bring the character of commitment of Moveon.org and the social networking of friendster.com together. One example would be to put the pyramiding concepts behind Amway and Mary Kay to work for social justice.

Imagine 500 church organizations (just 10 on average in each state), community foundations, black sororities or local league of women voter chapters, school districts, seminaries, non-profits each identifying just 40 of their board, staff, volunteers, or members. Each of the 40 are asked to make four commitments: 1) to the public education agenda that will deliver a quality public education to all children; 2) to engage in one coordinated action per month such as writing a letter or attending a prayer vigil; 3) to contribute $20 to fund the movement; and 4) find 5 friends that will make the same four commitments. If those five then find five who find five who find one final person (four degrees of separation), it would yield a base of 5 million people nationally. This large, powerful, virtual small "p" political infrastructure would be built on two simple foundations. One is the idea that my grandchild and the grandchildren of all other grandparents should have the kind of future that requires them to have a quality public education. The other base is the base of friendship…one friend asking another to help rebuild America through the values of fairness, trust, responsibility, and safe, caring communities by providing a quality public education to all.

6. **Small groups on the ground must anchor the effort.** Whether Rick Warren is organizing his megachurch in southern California or alcoholics anonymous is building another chapter or Good Schools Pennsylvania is organizing its congregation-based groups, people who know one another and develop a sense of responsibility to one another are at the heart of sustaining engagement. Work in the targeted states should be anchored in such small group organizing with the base in institutions that already have a large natural network that can be tapped such as faith communities and schools.

   Sustaining small groups over a long period of time is extremely difficult. The primary way one does it is to engage the participants regularly and to engage them in things that are deeply meaningful to them. One way of doing that within the framework of the ideas laid out here is to build a virtual mini-network like the larger one described above as a way to empower the small group to accomplish important goals at the local level. If each small group consisted of 12 people, for example, and each of them found 2 friends who found 2 friends who found 2 friends who found 1 friend, it would yield a virtual mini-net of 264. With the 12 as the "mother-source," that small group of activists could attend to whatever issues might affect the children of the neighborhoods in which they live—stop lights, playgrounds, health care and individual issues at the local school. One small group could combine with five or 10 others in a town and, given the turnout in most local school board elections, would, no doubt, determine who is elected. Of course, the small groups and the mini-nets would also then play an active role in the larger policy efforts at the state and district levels.

7. **A strong professional staff and the funds to compete in the political world.** One of the most successful such infrastructures in the United States is Focus on the Family. It has more than 1,000 employees and an annual budget of $100 million. I do not believe that the effort I propose would need to be of that magnitude, but it will not succeed as a small, volunteer driven operation. It will need to be able to purchase media, hire the best technology and communication advisors, pay staff competitively and maintain a substantial travel budget.

   The funding would have to include wealthy individuals and foundations in the beginning but within a few years, the effort should wean itself from any reliance on foundations since foundations are fairly cautious and many become nervous in the world of advocacy. They also cannot be relied upon for permanent funding. In addition, there will come a time when it will be important for the organization to engage in 501(c)(4) and, perhaps, even PAC activity to get its job done. To do this will require a participant driven funding base.

   All of this, of course, is quite doable within the suggested structure. Note that if the organization developed the 500 organizations driven, 5 million participants base, with each contributing an average of $20 annually, the organization would raise $100 million from that source alone. That should be the goal.

Conclusion

The nation's present treatment of our children does not reflect the widely shared American values of fairness, trust, responsibility, and strong, caring communities. There are a large number of Americans who cut across traditional, partisan political lines who embrace these values and who seek a voice that calls elected officials and policymakers to account for reasserting such values into discourse and policy in the public square.

Our public schools are failing with children of color, low-income students, disabled youngsters and children for whom English is not a first language, measured by graduation rates, absolute performance, and the gaps between them and their more advantaged counterparts. Moreover, they are not performing as well as they can or should with many other students. We know what we need to know educationally to change those facts. The missing ingredient is public will.

The four most compelling reasons for this work are:

- Solving the challenges of public education is the right thing to do.
- The democracy depends on solving the challenges of public education.
- The economy depends on solving the challenges of public education.
- The happiness and well being of our citizens and the livability of our communities depends on solving the challenges of public education.

Building public and political will through organizing and mobilizing citizens, who are willing even eager for change, can result in renewed support of our democracy, a sound economy, successful individuals, and healthy communities, moving us steadily toward strengthening all aspects of our children's lives and building the future to which we aspire on behalf of future generations.

Endnotes

1. Our 11-year old, 7-year old and 6-year old grandchildren attend Baltimore City public schools; the 2-year old will follow at the appropriate time. The two fathers, also products of Baltimore City schools as well as Haverford and Bowdoin are Baltimore City school principals and one of the mothers is a school psychologist. I mention our multiple connections to urban public education only to note our families' lifelong commitment to and support of public education. Our work to provide good schools for our grandchildren and all children is a personal and active daily challenge, not a theoretical one.

2. The following is a summary of the necessary components:
   - Use the belief that All Children Can Learn to High Levels as the standard against which all other policies and practices are explicitly measured
   - Set high expectations for everyone by establishing a set of rigorous, challenging promotion and graduation standards, making clear they should go beyond English, math and science and include standards around such priorities as the arts and citizenship; ensuring that the standards should deepen the curriculum, not narrow it.
   - Implement an assessment system that effectively and richly measures all of the standards.
   - Design a system of accountability for everyone that includes a different system of compensation for educators tied to the desired quality of educators from teachers to the superintendent and to the student results one seeks from the system.
   - Shrink the centralized bureaucracy and let schools make more decisions.
   - Ensure quality teachers and administrators for every student every year.
   - Ensure that every child has access to a quality, developmentally appropriate early childhood program beginning at least by age three.
   - Ensure that all children have the health and social services support they need to succeed in school.
   - Provide up-to-date technology and instructional materials aligned with standards and ensure the use of instructional practices that are evidenced based including extra help for students that need it.
   - Develop the public will to insist on public education that serves all children.
   - Ensure adequate resources and use them effectively.
   - Be prepared to address all of these priorities together, starting now.
3. www.edtrust.org
4. www.edtrust.org
5. www.edtrust.org
6. The Civil Right Project, Harvard University, "Confronting the Graduation Rate Crisis in California", March 24, 2005. www.civilrightsproject.edu/research/dropouts/dropouts05.pdf
7. www.nces.ed.gov/timss/TIMSS03Tables.asp?figure=2&QUEST=1

The Missing Ingredient in School Reform: A Political Base, by David Hornbeck,

Preparing and Supporting 21st Century Teachers

CHAPTER 4

Teaching For the Future

Thomas G. Carroll

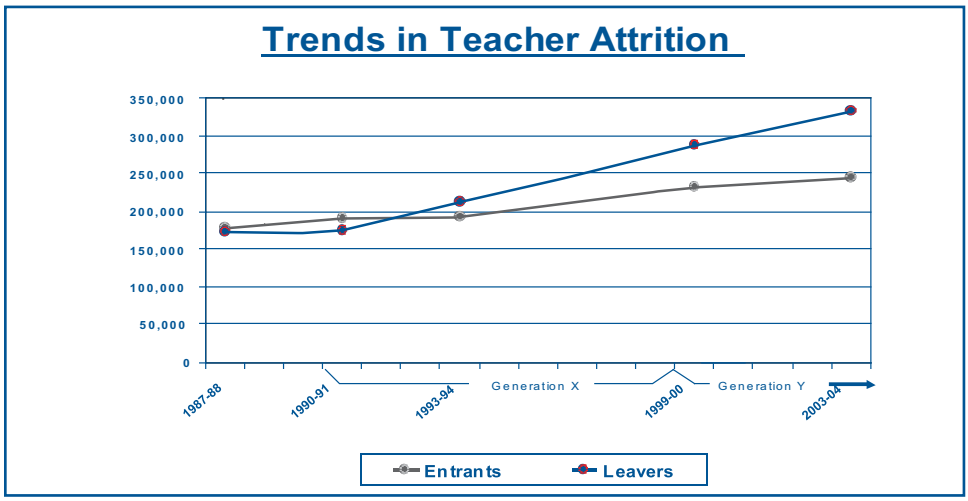
Over the next decade the foundations of our factory-era schools will be shattered, clearing the way for genuine learning organizations to emerge in their place. Changes in teacher and student demographics are converging with expanding learning opportunities and the demands of a knowledge-based global economy. In response, a new system of public education will emerge that empowers teachers and students to collaboratively create the knowledge and skills they need for successful participation in a "flat world".

The flat world rewards continuous learning, sustained teamwork, and flexible adaptation to change. Today's students need schools that are organized around these principles. They need teachers who know how to create a learning culture that fosters the communication and innovative problem solving abilities they will use throughout their careers.

A Massive Demographic Shift In Teaching

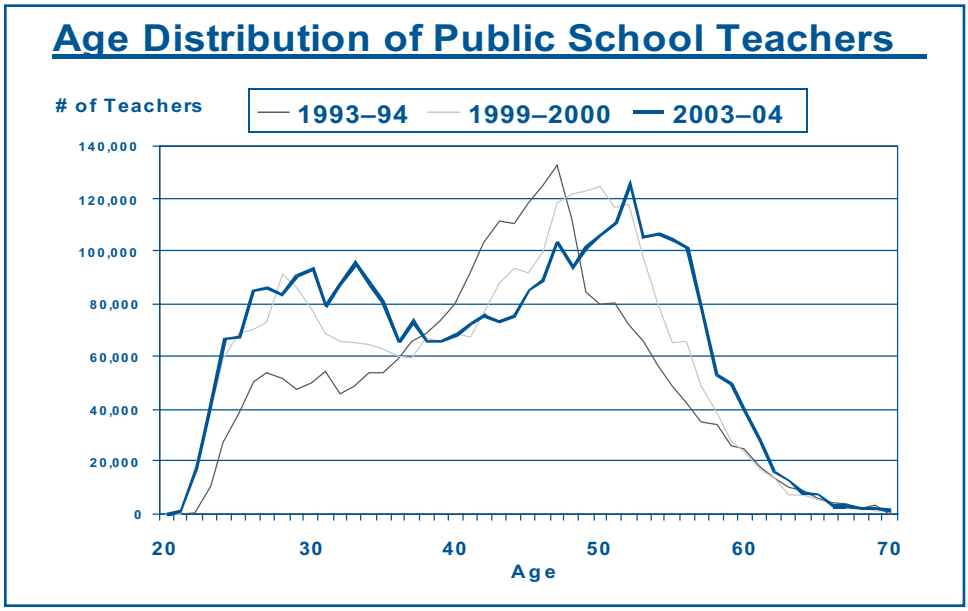
Today's young teachers – the Millenials, who grew up digital – are ready to meet this challenge by working with their colleagues and students to transform their factory-era schools into 21st century learning centers. But they find themselves working alone in self-contained classrooms where they are bound to the teaching practices of the past. Faced with a choice between working in the last century or the 21st century, these new teachers are voting with their feet. The young people we are counting on to teach for the future are leaving our obsolete schools at an alarming rate.[1]

Figure 1



And the brain-drain is about to get worse. Over one million of our teachers (a third of the teacher workforce) are Baby Boomers. For decades these teachers have been at the core of our public education enterprise – we have relied on them to deliver a quality education to millions of children – and now they are ready to retire, just as our increasing population of students is becoming ever more diverse. The good news, in some cases, may be that as they depart they will make room for a new generation of teachers who will bring fresh ideas and practices to our schools. But the bad news will be that many of these Baby Boomers[2] will take decades of experience and accomplished teaching with them, leaving young, inexperienced, and highly mobile teachers in their wake.

Figure 2



It doesn't have to be this way. In many cases these Millennials and Boomers are only leaving because they are searching for a more rewarding personal or professional opportunity. We need to keep them in education by giving them the chance to participate in multigenerational learning teams that can take on the exciting challenge of transforming their schools into 21st century learning organizations that will teach for the future.

The Conventional Wisdom Is Wrong

The initial response of most school leaders and members of the public will be to treat this demographic shift as just another manifestation of "the teacher shortage," (ignoring the accelerating attrition of young teachers and the exodus of Boomers). The conventional wisdom will be that the "shortage" is simply getting worse, and that the teaching quality problems in today's schools can be solved by redoubling our efforts to recruit more teachers.

But the solutions of the past, which relied heavily on teacher recruitment as a primary strategy for improving schools will no longer work – strategies that are locked into replacing teachers who are leaving stand-alone classrooms that were designed to meet the needs of the last century will not support teaching for the future.

By focusing on teacher recruitment – and allowing excessive teacher attrition to continue unabated year after year – we have been digging a deep hole for ourselves. In 1994, former U.S. Secretary of Education, Richard W. Riley, warned the nation that we would need to hire two million teachers within the next 10 years to offset Baby Boom retirements. Over the next decade we beat that goal by hiring approximately 2.25 million teachers – but during that same decade we lost 2.7 million teachers, with over 2.1 million of them leaving before retirement.[3] Our current school staffing model is in a state of collapse, and the industrial-era belief that we could recruit our way to better teaching will not solve our problem.

Until we recognize that it is time to develop new ways to organize teaching and learning, we will continue to engage in a costly annual recruitment and hiring cycle, pouring more and more teachers into our nation's antiquated classrooms only to lose them at a faster and faster rate. This will drain public tax dollars, undermine teaching quality, and stymie efforts to prepare students for the future.

We Have Reached A Tipping Point

We are at a tipping point that compels us to abandon schools that were designed to meet the needs of the last century. At the end of the 19th Century, the factory model of teaching and learning emerged in response to: the demands of an industrial economy; the prevalence of behaviorist learning theory; and the dominance of scientific management principles in the workplace. The convergence of these forces produced "Teaching 1.0", which enshrined the delivery of standardized content, by stand-alone teachers, who were expected to do uniform work in self-contained classrooms. In Teaching 1.0 the role of the teacher was to transmit a fixed body of knowledge and skills to students who would use it to engage in predictable careers and pursuits.

Now "Teaching 2.0," is emerging in response to a 21st Century convergence of forces that includes: a knowledge-based global workforce; a new understanding of how people learn; and a widespread adoption of collaborative teamwork in the workplace. Teaching 2.0 is customized to individual learning needs. In Teaching 2.0, teachers and students co-create coherence and meaning out of the wide range of learning experiences they can pursue in an open learning economy that is enriched by smart networking and user generated content.

Who Drives This Transformation?

For decades we have been working with school reform models that are rooted in industrial-era practices and policies. These models attempt to manage school improvement with command-and-control, regulatory, prescriptive, or market-based incentives. In each case the individuals at the core of the learning enterprise – the principals, teachers, students, and parents – have been treated like the targets of change rather than the agents of change. Because these change strategies are deeply rooted in the hierarchical organizational principles of the industrial-era, they generally disempower the members of the learning enterprise – they simply recreate and reinforce the factory model of schooling.

With the advent of the 21st century, new drivers of change have emerged that empower the core members of the enterprise to lead and shape the reinvention of their own learning organizations. These drivers include: grassroots economics; smart networking; and the principles of teamwork that pervade our global knowledge-work economy. If we enable teachers, principals, students and parents to use these drivers effectively, they will transform their schools into genuine learning organizations. Our policies must be directed at moving from managed change to empowered change.

Reinventing Teaching To Meet The Needs of 21st Century Learners

To meet the needs of today's learners, we must replace the antiquated normative traditions that have locked us into industrial-era schooling with research-based policies and practices that support 21st Century teaching and learning. Stand-and-deliver teaching to passive students in self-contained classrooms is the most persistent cultural tradition that stands in the way of teaching for the future. It is time to end this tradition, by changing the roles, rules, relationships, and tools that have replicated the factory-era culture of schooling from one generation of teachers to the next.

It is essential that we transform our schools into 21st century learning organizations as quickly as possible.[4] Closing the education gap, so that every child has an opportunity to successfully participate in a flat world is a demanding challenge. No teacher should be expected to do this job alone. They need:

1. Schools that are genuine learning organizations;[5]
2. Preparation to teach effectively in those organizations;
3. Career paths that engage them in the growth of learning organizations; and
4. Authentic teaching standards and learning assessments to guide their work.

1. Transforming Schools into Genuine Learning Organizations[6]

Underlying the stand-alone teaching tradition is the mythical belief that a single person – the teacher-hero – can meet all of the individual learning needs of the diverse students in a classroom. It is time to abandon this obsolete notion.[7] The future of education will be built around a clear understanding that quality teaching and learning are not individual accomplishments. Quality teaching and learning result from the collective effort of individuals who join forces to teach and learn at a level that is beyond what any of them can accomplish alone – teachers, principals, parents and students working together to prepare students for successful participation in a complex world. In a successful learning organization quality teaching is a team sport.[8]

The stand-and-deliver teaching tradition stands in stark opposition to what we now know about how people learn. Research conducted over several decades, and summarized by the National Academy of Sciences, has identified four essential elements of organizations that support successful learning. They are: learner-centered; knowledge-centered; community-centered; and assessment-centered.[9]

When schools become community-centered organizations they support collaborative reflection and assessment, and collective contributions to the growth of knowledge about how to improve teaching.[10] Schools become genuine learning organizations by developing coherent social networks that focus teams of educators on improving student learning – this teamwork greatly enhances the school's ability to reach its student achievement goals.[11] To create and sustain such learning communities, teachers need time and space – built into the day-to-day fabric of work in their school – to collaborate with colleagues, mentors, and coaches who can help them advance their practice. They also should have an opportunity to use the Internet to extend the reach of their community beyond the

boundaries of their school to draw on the wealth of resources and expertise that can be used to strengthen their learning organization.

Schools become learner-centered organizations when teachers know and attend to the knowledge, skills, beliefs, and backgrounds each child brings to the classroom. When these individual variations are assessed and understood, teams of teachers can draw on their various levels and areas of expertise to teach every child to his or her strengths, at a pace and style that is adjusted to each child's developing knowledge and skill. Current information technologies make this personalization possible because they enable teachers to assess and monitor student learning from week to week, giving teachers powerful tools to customize activities to individual needs.

Schools that become genuine learning organizations are knowledge-centered, but knowledge mastery in these schools means more than the acquisition of facts and figures. In a knowledge-centered school, students learn to reflect on their knowledge acquisition, thinking, and problem solving strategies. This includes developing each student's ability to make sense of what is known in a field of knowledge, with a focus on applying emerging analytical skills to real life challenges. When teachers collaborate to improve their teaching practice in these schools, they model this development of knowledge mastery for their students as they work to improve their own understanding and effectiveness in their fields.

To sustain the cultural norms and traditions that enable them to function as successful learning organizations, schools must adopt new induction and professional development practices. These practices should be designed to incorporate new teachers into a network of relationships with colleagues that supports their continued learning and growth – ending sink or swim placements for novice teachers.[12] This goes far beyond the one-to-one survival support that is so typical of many of today's mentoring programs. Induction into a genuine learning organization reinforces an "open door" school culture with observations of both exemplary teaching and teaching that needs improvement. These observations are accompanied by candid conversations and structured opportunities to reflect on and improve teaching practice. Induction norms and practices that incorporate novice teachers into a professional teaching community are the hallmark of schools that have become genuine learning organizations.[13] The expectation is that the members of this community share a responsibility for each other's continued growth and success, as well as for the success of all students in the school.

Educators across the country are actively working to develop these new learning cultures in their schools. For example at Richard Murphy School in Boston, teaching has become an open transparent process, in which teachers regularly observe and work with each other to improve their teaching practice. The teachers at this K-8 public school have redefined their roles, as they have become members of a professional community composed of accomplished teachers, novice and student teachers, and teacher coaches. School-wide teams of teachers meet on a weekly basis to develop and refine a collectively built body of teaching knowledge and skills that can be customized to meet each student's learning needs. The members of these school-wide teams talk about "our students and our school" instead of "my students" or "my class." The students are majority minority,

with over 75 percent being school lunch eligible. In 1999, over 50 percent of the 4th grade students were in the failing category on state tests. Today, the majority of the students are performing in the advanced and proficient levels. With MetLife Foundation support and a PBS partnership, National Commission on Teaching and America's Future (NCTAF) has produced an eight-minute video documentary of the learning team at Richard Murphy School, which can be viewed at: www.nctaf.org.

Pearson Achievement Solutions, through its "Learning Teams" and "Lesson Lab" initiatives is working to transform the way thousands of middle and high school teachers participate in professional development. Pearson's goal is to act on reasearch-based findings which show that by working together teachers benefit from each other's strengths and become much more effective than they were individually. Los Angeles Unified School District (LAUSD), for example, will be the first large school district in the nation to adopt their Learning Team model in which teachers will work collaboratively in groups led by trained facilitators to maximize their skills in teaching Mathematics, Science, English Language Arts, and Social Studies. In these learning teams teachers will self-assess their own progress as they learn from each other to improve student performance. Based on 15 years of research, the Learning Teams model starts with the implementation of well-defined student instruction units, and includes teacher team meetings for periodic review and assessment of student progress. The model actively engages the groups around daily practice in the classroom and allows for continuous adjustment of instruction and intervention. Data from the Learning Teams pilot program in 15 LAUSD middle and high schools last year show high school student failure rates were reduced by as much as 19 percent.[14]

In Bellevue Washington, Superintendent Mike Riley has taken steps to move beyond the boundaries of individual schools to create a district-wide learning community. This initiative grew out of a "Curriculum WebIn" in 1996 during which the Bellevue School District began developing an intellectually challenging, unified curriculum that is connected from grade-to-grade with no gaps in topics covered in a subject area, and no unnecessary repetition of information from grade-to-grade. Supported by the Bill & Melinda Gates Foundation, the Web Curriculum incorporates modern learning theory and is accessible to a community of teachers, principals, students, and parents.[15] Because it is a district-wide curriculum that can be adapted to individual learning needs, this online framework enhances learning continuity as students move across grade levels. It also enables a district-wide team of teachers to improve instructional rigor through a shared knowledge of curriculum, classroom practices and effective teaching methodologies.[16]

NCTAF is going beyond district boundaries to build a collaborative teaching support system across the continuum from pre-service teacher education to expert teaching. Funded by the AT&T Foundation and by the Microsoft "Partners In Learning Project", the Teachers Learning in Networked Communities (TLINC) initiative improves teaching quality and new teacher retention rates by giving novice teachers access to high-quality teaching resources, along with frequent access to mentors and coaches, and ongoing peer support from colleagues. Partnerships between universities and school districts in Denver, Seattle, and Memphis have tailored the TLINC platform to meet their particular needs for the delivery

of collegial support and skilled guidance to novice teachers who are able to move more rapidly into accomplished teaching that improves student learning.[17]

2. Preparation to Teach In Genuine Organizations: Closing the Gap Between Teacher Education and Teaching Practice

This vision for the future of teaching and learning in genuine learning organizations can only take root if the seed is planted and nurtured during teacher preparation. We need new teachers for new schools. Until we reinvent teacher education, the gap between traditional teacher preparation and the demands of teaching for the future will continue to undermine our ability to create 21st century learning organizations.

Schools of education and the colleges and universities that host them are under increasing criticism for the gaps between their teacher preparation programs and the needs of today's schools. These gaps have significant consequences for teaching quality and student achievement. First, the instructional strategies that many teachers develop during their preparation years are not well aligned to student learning needs in the schools where they will serve.

Second, most teacher preparation programs still prepare teachers for the traditional stand alone teaching role, with the expectation that they will be working in self-contained classrooms. Few of today's young teachers have been prepared to work as members of collaborative professional communities in schools that are becoming genuine learning organizations, and during their early years of teaching they receive inadequate coaching from their preparation program faculty and insufficient mentoring from the accomplished teachers in their districts.

Third, in the wake of this misaligned preparation and inadequate support, new teachers are leaving the profession in alarming numbers; dropping out before they master the skills they need to create a successful learning culture for their students. Today's young teachers have the potential to become the first "digital age" educators. They are ready to transform our factory-era schools into 21st century learning centers – if we give them the preparation they need to succeed. The attrition rate among these young teachers adds increased urgency to the importance of closing the gap between preparation and practice.

To close this gap, it is time to treat teachers like professionals whose preparation, practice, and career advancement are seamlessly aligned around a cohesive knowledge base that is focused on improved student learning. Teacher preparation should occur in schools where teams of college faculty, accomplished educators, and novice teachers can develop and refine a collectively built body of teaching knowledge and skills that meets student learning needs in specific districts. Teacher candidates should be inducted into teaching by these professional communities, and to sustain their growth over time they should continue their participation until they themselves become accomplished educators who are coaching the next cohort of novices.

The first step is to create "Teaching Residencies" that embed teacher preparation and continuous professional development in schools that are reinventing their learning culture. Drawing on many of the features of teaching hospital/medical residency programs, Teaching Residencies are specially selected training schools (sometimes called "teaching

academies"). Teaching residents integrate their daily classroom experiences with what they are learning from formal teacher education courses that are held on-site at their academy after school hours. The residents' academic coursework is sequenced around the teaching cycle of the school year and their content and methods courses are well aligned to the specific host school district's curriculum standards and student learning needs.

Teaching Residencies work on the assumption that teaching proficiency develops not through solo study but via collegial deliberation. They guide and facilitate the learning paths of novice teachers as they become rooted in the professional culture of a specific school district and its curriculum framework. Through Teaching Residencies, teacher candidates are inducted to the norms and traditions of a school culture in which experienced and novice teachers work together through shared inquiry to improve student achievement.

A few early versions of Teaching Residencies have emerged in high-need communities to ensure that every child has access to an education that will prepare him or her for successful participation in a knowledge-based global workforce. Notable among them are Chicago's Academy for Urban School Leadership (AUSL) and the Boston Teaching Residency.

AUSL's teaching residents are selected through a rigorous application process and are given tuition support and a stipend during their training year. In turn, they commit to teaching in Chicago Public Schools (CPS) for five years. Residents begin by spending the summer in full-time coursework. Beginning in September, Residents spend a full academic year in the classroom of a Mentor Teacher in one of three CPS "Teaching Academy Schools." AUSL and National Louis University (NLU) partner to deliver graduate level coursework throughout the school year. NLU redesigned their traditional two-year Master of Arts in Teaching into an innovative "spiral curriculum" of weekly seminars that are delivered at the Teaching Academies, where they can be linked to the needs of urban school children and day-to-day realities of teaching in Chicago schools. At the conclusion of the 12 month training program, Residents earn a Master of Arts in Teaching from NLU and an Illinois Teaching Certificate. After completing the residency phase, graduates are grouped in cohorts and placed in carefully selected, under-performing schools in Chicago. During the first three years in the classroom, AUSL graduates receive professional development and mentoring support from "Professional Field Coaches," who are experts in urban education, teacher induction, and curriculum development.[18]

The Boston Teaching Residency (BTR) is a four year old program designed around one central question: What does a new teacher in Boston need to know and be able to do to improve student learning in Boston Public Schools (BPS)? It is a 13-month program that begins with an initial two-month summer institute in which "Teacher Residents" assist and observe in a BPS summer school while participating in intensive coursework intended to lay the foundation for the first day of school. During the next academic year the Teacher Residents work closely with a Mentor Teacher four full days a week on strategies to help students learn. Teacher Residents also regularly collaborate and work with many other teachers in schools across the district during the year. On Fridays and after-school, Teacher Residents continue their own academic coursework leading to the master's

degree. Residents complete a final portfolio in order to demonstrate competence and graduate from the program. During a final one-month summer institute, the Teacher Residents complete master's degree coursework, which includes reflection on their residency year and continued development of the skills and strategies they will need to become teachers-of-record the following fall. The Richard Murphy School, discussed above, adds capacity and strength to its learning organization by serving as a host site for Boston Teaching Residents.[19]

NCTAF's TLINC program contributes to the reinvention of teacher preparation by supporting a professional learning community that blends face-to-face mentoring with online coaching and collaboration to improve teaching quality and student achievement. TLINC gives teacher candidates and novice teachers the support of an interactive network composed of their preparation faculty, their peers and colleagues, and accomplished teachers who are only a click away when they need help with student learning, classroom management, or a curriculum design problem. Because TLINC can be customized to each novice teacher's needs, it is similar to other smart social networks, such as Facebook and MySpace that young teachers already use to stay connected to the important people in their lives. TLINC forges a continuous two-way link between preparation and beginning teaching experiences within the context of the specific school districts where teachers will serve.

3. Creating New Career Paths that Engage Teachers in the Continuous Growth of Learning Organizations

The need for prepared teachers who know how to work in genuine learning organizations is clear. But to sustain those organizations and the growth of their teachers over time, the teaching career must foster continuous professional learning and multiple career paths. We will have to re-imagine the teaching career. The tradition of hiring young teachers in their twenties and expecting them to do essentially the same job for the next thirty years is a thing of the past. The norms that currently govern compensation step increases for teachers based on years of experience will be replaced by differentiated staffing plans, performance pay, recognition for accomplished teaching, and continuous professional growth opportunities.

Novice teachers should be inducted into a learning culture that enables them to become well grounded in the professional culture of the school as well as in their academic discipline.[20] Sustaining their growth throughout their careers calls for the creation of new roles and opportunities for teachers that might include: teaching resident, mentor, learning coach, content expert, learning network navigator, classroom manager, cognitive specialist, and expert learners who serve as learning team leaders. These new roles should accommodate intern and apprentice teachers who are developing their skills alongside more accomplished mentors, as well as ample opportunity for individuals who chose to serve in part-time and adjunct positions while they pursue other personal and professional opportunities. In these multi-generational learning teams the learner – teacher relationship will retain its central importance, but it will take on many forms in multiple formats.[21]

Teaching for the future will require principals and other leaders to be well-prepared and committed to changing the culture of schooling to support regular, sustained collaboration among teachers, principals, parents and students. The AUSL program recruits candidates

who view teaching as an upwardly mobile and challenging profession with continuous growth opportunities. Every program graduate is prepared to join a strong network of education professionals and future leaders who will work in a variety of roles across their career to support the transformation of under-performing Chicago Public Schools.[22]

4. Create Authentic Teaching Standards and Learning Assessments

To support the growth of genuine learning organizations, it is necessary to replace industrial school metrics that have their roots in the era of scientific management theory, with authentic learning assessments and consensus built teaching standards. The spirit of a learning organization is broken when goal-setting, planning, and evaluation are conducted and imposed from outside.[23] To develop a successful learning organization, its members must become actively engaged in learner-centered reflection and action that augment external standards with internal processes for assessment and decisionmaking.

To meet the needs of 21st Century students, there is a pressing national need for today's teachers to create a collaboratively built, widely shared professional knowledge base. This calls for the creation of school cultures in which teachers, principals, students and parents hold themselves collectively accountable for improving student achievement. We must support their efforts to use assessments that are meaningful to the core members of the learning enterprise: the teachers and students. Assessments that are meaningful to them, not because they are imposed from outside and linked to high-stakes consequences, but because they are owned and used by the teachers and students as essential tools to improve learning.[24]

Proficiency in the use of well-designed assessment tools makes learner-centered teaching possible. Sound assessment technologies and strategies that provide continuous feedback on what is being learned enable teams of teachers to make necessary revisions that personalize learning resources and activities to individual needs.[24]

If we enable the members of schools that have become genuine learning organizations to work in teams with smart networks, they will establish a learning culture that will define 21st Century teaching norms and learning standards. Consensus built standards and authentic learner centered assessments can be created and maintained in an open Wiki-style environment. Our efforts to induct teachers into new learning communities, and initiatives to reward teachers for student growth, should be benchmarked against these new norms and standards.

The process of developing and using assessments is a powerful form of embedded professional development, which recognizes that teachers grow through well focused dialogue and reflection about student learning. Authentic assessment that includes students and teachers in a more inclusive learning community helps both students and teachers better understand what they know and how they learned it.[25] Such assessments empower teachers and students to collaboratively create the knowledge and skills they need for successful participation in a world that rewards continuous learning, sustained teamwork, and flexible adaptation to change.

In 1995, Linda Darling-Hammond, Jacqueline Ancess, and Beverly Falk documented the work of five schools that were using authentic assessment to transform their schools into genuine learning organizations.[26] They found that assessments created by the learning

organizations they studied "made more rigorous demands on students than the low-level recall skills that characterize standardized tests."[27] Faculty in those schools reported their participation in the development of authentic assessments raised their expectations for students and heightened their standards for their own performance. The public nature of these assessments also led to more equitable treatment of students and increased accountability for student learning. This approach to developing more authentic teaching and learning standards builds the capacity of teachers and schools to be responsive the individual needs of their students.[28] James Comer has more recently reported similar findings in the work of the schools he created through the Yale Child Study Center.[29]

It is clear that when assessments are used effectively, schools can become organizations that empower teacher and student learning. But the recent emphasis of No Child Left Behind (NCLB) on high-stakes testing has stalled the growth of schools as learning organizations. NCLB's focus on one-time, end-of-year tests that were designed to assess student performance in factory-era schools has made it difficult to focus on what must be done to ensure that teachers are prepared, and schools are organized, to teach for the future.[30] The adverse consequences of the current implementation of NCLB are unfortunate, because when genuine learning organizations are allowed to thrive, it is possible to create and meet high expectations for student learning without resorting to high-stakes assessments that are based on a narrow spectrum of learning.

A growing number of education leaders across the country are increasingly committed to moving away from NCLB's reliance on single standardized assessments to more innovative approaches for holding themselves accountable for student learning. Student growth models are particularly encouraging. The teachers at Richard Murphy School, for example, do not teach to the test – they teach to the student, and as a result their school has moved from low-performing to high-performing on state assessments. At weekly meetings, school-wide teams of teachers assess the previous week's performance of students against specific learning objectives for each student, and on that basis they plan their instructional strategies for the next week. The success of this approach has led to significant student achievement improvements in this high need community.

In the Bellevue School District (WA), every teacher has templates they can use to create websites with classroom expectations and standards that are linked to the district's Web Curriculum framework, including the district's K-12 learning goals and standards as they apply to the teacher's grade or course. For the first time, all parents of high school and middle school students will be able to view their progress reports online, by logging onto a secure website with their student ID number. Students and parents will be able to review records of attendance, missing assignments, test scores and grades for each class the child is taking. Early feedback suggests that students are accessing the information daily to monitor their own progress and parents are using it to stay more connected to their child's work. Because Bellevue is capturing data in new ways, they are building their capacity to understand how they are performing at the classroom, school and district levels. They will be able to track student learning over time to analyze the effectiveness of their various teaching initiatives, including special efforts to support struggling students.[31]

Conclusion

Ensuring that every child has an opportunity to successfully participate in a knowledge-based, global workforce is a demanding challenge. No teacher should be expected to do this job alone. We use teamwork to achieve success in every other sector of our society. Schools that are effectively preparing their students for college and 21st century careers are getting the job done by transforming themselves into genuine learning organizations. It is time to bring the spirit and power of this teamwork to every school in the country.

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CHAPTER 5

Teaching Teams in Professional Development Schools: A 21st Century Paradigm for Organizing America's Schools and Preparing the Teachers in Them

Arthur E. Wise

The current organization of schooling—groups of 30 students with one teacher attempting to move them forward in lock-step pattern—is one of the remnants of the 19th century factory model of teaching and learning. The model was geared to efficiency of production. In an information economy, the use of teamwork in the production of new knowledge and technology has replaced the factory model. However, schools still operate mainly on the factory production model. Valiant attempts are being made to reorganize schools. The Gates Foundation initiated the small schools movement, and is at work 'reinventing' high schools. Professional associations, think tanks, and the federal government are issuing reports on these and similar efforts. None of the efforts, thus far, has directly addressed reallocating individual classroom instructional resources.

Schools of the 21st century must break away from their 19th century factory, or 'egg carton' organization. A new paradigm based on how professionals work in the 21st century is needed. The egg carton organization, with its identical cells, expects that every teacher will replicate the appropriate curriculum and instruction for 25 to 30 students each year, every year from the beginning to the end of a teaching career. The model, resilient as it is, has outlived its usefulness. Among its dysfunctional consequences are high teacher turnover, especially in hard-to-staff schools, a maldistribution of teaching talent, and the achievement gap.

It is time for a different approach. Many children in hard-to-staff schools are taught by enthusiastic but under prepared Teach for America graduates, career-changers who know their content but not how to teach, and novice teachers who have not been adequately prepared for the challenges they face. Meanwhile, in other classrooms, dedicated, well prepared new and accomplished teachers work successfully but, given the egg carton organization of the schools, are not easily able to share their expertise with novices. A growing number of university personnel are ready to bring their expertise to the schools, but find that the old fashioned organization of the schools makes it difficult.

The education and policy communities must think boldly. Schools cannot continue to operate using the now dysfunctional 19th century factory model. Schools must be redesigned around principles adapted from the organization of professional work in the 21st century. Professionals do not work alone; they work in teams. Professionals begin their preparation in the university but do not arrive in the workplace ready to practice. They continue their preparation on the job.

Teaching Teams

In medical, legal, and architectural settings, the services are provided by experienced and novice professionals working together to accomplish the goal—to heal the patient, win the lawsuit, plan the building. The team delivers the services. The experienced professionals are accountable to the client for those services and are responsible for the performance of the novices. The novices do much, often most, of the work but do so under supervision. Experienced personnel create structure and are prepared to step in when necessary. The novices learn by doing, with feedback and correction by mentors. Different roles and responsibilities reflect different levels of knowledge, experience, preparation, and expertise. Compensation rises to reflect increasing levels of responsibility.

How would these principles apply to teaching? Imagine, for example, six elementary classrooms. With average compensation and benefits packages of $60,000, it would cost $360,000 to staff six classrooms serving 150 students. Is there a more productive way to spend $360,000? What would happen if a teaching team delivered services to 150 children? How might such a team be constituted? The key requirement is that the structure must afford accountability to students, while enabling persons new to teaching to serve while they learn. Many possibilities exist once the school is liberated from its antiquated design. The architecture of the egg carton needs to change as well.

One example involves a team of 17 members with a total cost of $360,000. An accomplished professional, such as a National Board Certified Teacher, would lead the team with the assistance of another senior teacher. Other members of the team would include two novice teachers who intend to commit themselves to teaching as a career; two under prepared teachers who want to serve but may not be committed to teaching as a career; and six half-time student teachers who are completing teacher preparation. In addition, the team would also include four interns who work half-time and for half-pay as they conclude their initial preparation to teach. Finally, a university faculty member works half-time with this team as a teacher with special responsibilities for overseeing the student teachers and interns. In this example, salaries would range from $90,000 for the team leader to $30,000 for novice teachers, with part-time compensation for interns and a university faculty member, in addition to the unpaid student teachers (see Figure 1).

Figure 1

Senior team members would be responsible for instruction, but the planning and delivery of instruction would involve all team members. Instruction would be delivered by all team members using the full array of instructional methods such as large group, small group, tutorial, and computer-assisted learning. While senior personnel mentor and supervise less experienced personnel, they remain accountable for the performance of the students as well as the personnel in training. Less experienced personnel will assume progressively greater responsibilities as they gain knowledge and experience. (see Figure 1)

This approach would take the guess-work and anxiety out of instructional practice for the inexperienced personnel. Having to reinvent the wheel—including lesson planning, classroom management, student evaluation—as a first-year teacher, especially an unprepared or under prepared teacher, has overwhelmed beginners for years, and drives many from the classroom. The novice team members would experience less stress, gain more direction, and have time to reflect on their instruction under supervision. Planning, professional development, and conference time could be built into the day because not all 17 team members need to be engaged directly with students 100 percent of the time.

With teaching teams, work could be structured in such a way that a team member who is particularly strong in math and science could lead that area, while another team member could lead English/language arts/social studies. In fact, teams could be organized by grade (six first grades), multiple grades (first to third grades), subjects, or even multiple subjects (math and science).

Teaching teams could solve the major problem American education faces as it enters the 21st century—a dual education system—one system for the 'haves' and, another, vastly different, for the 'have nots.' These systems have two different teacher and student populations. New policies that require the disaggregation of student test scores on the state, national, and international levels have brought this fact into sharp focus. State tests, NAEP, and TIMMS regularly reveal disparities in the scores of students in well-staffed schools and students in hard-to-staff schools. It is a national scandal.

One major cause of this problem is the 19th century model of school organization and its assumption that all schools will hire a qualified teacher for every 25 or 30 students. Unfortunately, with today's teacher salaries and the challenges of teaching in hard-to-staff schools, that assumption is unfounded. Well-off suburban and urban schools hire the qualified teachers. Hard-to-staff schools are stuck with the unprepared and under prepared who struggle and then quit. Students in hard-to-staff schools are taught by a succession of would-be teachers, thus ensuring the creation and maintenance of the achievement gap.

The traditional proposal has been to increase teacher quality and supply by offering increased compensation and better working conditions. This now familiar refrain about the need to raise teachers' salaries and standards has been repeatedly sounded by reports, commissions, and polls over the past 15 or 20 years. Unfortunately, policymakers have shown no inclination to raise teacher salaries or to improve working conditions in hard-to-staff schools, so any meaningful progress is at a stand-still.

The new model creates incentives for accomplished teachers to elect to serve in hard-to-staff schools. It also makes productive use of their expertise in creating a system that supports novices as they learn how to increase student achievement. Teaching teams not only solve professional development and human resource problems, they also address other serious problems:

- The 'holy grail' for many educators has long been 'individualized instruction.' Teaching teams allow instruction to be organized so that some of it can be more effectively tailored to individual student differences.
- The shortage of mathematics and science expertise in elementary schools can be addressed by the expertise of some team members. Teaching teams overcome the unrealistic expectation that all elementary teachers will have mathematics and science expertise.
- In the egg carton model, the cost of technology is additive. Teaching teams allow for the more productive use of technology, as it is incorporated into the many instructional strategies made possible by team staffing.

Professional Development Schools

How do more highly qualified teachers become a reality for all students—including underserved populations whose teachers are disproportionately unprepared or under prepared?

Teaching teams could operate especially effectively in professional development schools (PDSs), alliances of colleges of education and public schools, which strengthen initial teacher preparation and continuing professional development. PDSs, like teaching hospitals in medicine, serve as a bridge from the university to the world of practice. What are professional development schools and how can they help ameliorate the achievement gap? Professional development schools (PDSs) are innovative institutions formed through partnerships between professional education programs and P–12 schools. PDS partnerships have a four-fold mission:

- the preparation of new teachers:
- faculty development:
- inquiry directed at the improvement of practice; and
- enhanced student achievement.

Professional development schools are devoted to improving student learning. The preparation of teacher candidates, professional development for practicing teachers, and research, help all students learn. Students benefit because the knowledge, skills, and resources of both university and school are focused on meeting their needs. Students also benefit from teacher interns, mentor teachers, and university faculty who play active roles in the PDS setting. PDSs are extremely important in enhancing teacher quality and student achievement in urban schools with high needs populations.

PDSs, like teaching hospitals, are hybrid institutions. As practicing professions, both teaching and medicine require a sound academic program and intense clinical preparation. The teaching hospital was designed to provide such clinical preparation for medical students and interns; PDSs serve the same function for teacher candidates and in-service faculty. Both settings provide support for professional learning in a real-world setting in which practice takes place.

In the clinical setting of the hospital, physicians learn to put their eight years of academics to work and gain experience in diagnosing and treating patients in the real world—with real world consequences. They are under close supervision in the hospital, and are graded on their progress through the clinical curriculum. Only if they pass the numerous assessments during this period will they gain a license to practice medicine.

Like the training hospital setting, the professional development school becomes a clinical education site for teacher candidates. The personnel at the school make a formal commitment to the education of new teachers. The PDS brings a larger ratio of adults to children; a novice teacher is not left to his or her own devices and solitary struggle. The university agrees to teach some classes at the school site and to work with classroom teachers to improve P-12 student learning. University personnel, student teachers, interns, career teachers and master teachers all interact.

PDSs have been found to increase P-12 student achievement and improve outcomes for teacher candidates. The American Educational Research Association, which convened a blue-ribbon panel of scholars to examine the empirical evidence relevant to practices and policies in preservice teacher education in the United States, found that PDSs have a positive impact on P-12 student learning. Another summary of the research on professional development schools shows positive outcomes for P-12 students and for educators.

We must find the will to break the egg-carton approach to P-12 schooling. “In order for PDSs to fulfill their potential, districts, states, and universities need to find ways to bring them to scale,” reports Marsha Levine, Senior Consultant, Professional Development Schools, for the National Council for Accreditation of Teacher Education (NCATE). Strong partnerships and restructuring of the way P-12 schools do business will be key elements in building effective professional development schools that improve student achievement.

NCATE has been lending support to the fledgling professional development school movement, begun in the 1980s and 1990s, with the Holmes Group’s conception of such an entity. NCATE has recognized the potential power of PDSs for improving the quality of teaching and enhancing student achievement.

Until now, PDSs have been an adjunct to traditional teacher preparation. Usually, only a minority of teacher candidates in a school of education are prepared in PDSs. In many cases, the PDSs have been initially supported by foundation grants. It takes time, effort, and renegotiation of traditional roles and responsibilities to bring professional development schools to scale. Instead of seeing PDSs as an ‘add-on’ to teacher education, states and school districts must now see professional development schools as a strategy—to increase the number of highly qualified teachers, narrow the achievement gap, and bring more highly qualified teachers into hard-to-staff schools.

Maryland is the first state that has committed to 'going to scale' and have every teacher candidate trained in a professional development school. The strategy is targeted at providing professional clinical preparation and induction for new teachers in order to increase teacher quality and raise retention rates, particularly in low performing schools. With the support of the Arthur Vining Davis Foundation, NCATE has worked with three PDS partnerships in urban areas—Denver, CO, Jacksonville, FL, and Waco, TX, to explore this concept and develop models for how it might be achieved.

Meeting National Standards for Preparation

The United States currently has a 'two-tier' education system. One system—for well off suburban children—works fairly well. P-12 student performance is usually satisfactory to outstanding in these schools. These children, by and large, are taught by highly qualified teachers, the majority of whom graduate from college with a relevant subject matter degree and a recommendation for a license from the professionally accredited school of education where they have completed a program of study. The other system—serving many minority children in inner cities and children in rural areas—has been broken for many years. Disproportionately this group of students is taught by individuals with little or no teacher preparation, and often, no relevant degree. Not surprisingly, the failure cycle for P-12 students continues. This chapter has described a way to engage these unprepared individuals in a high quality training program in a professional development school, so that they, too, can become highly qualified teachers.

In conclusion, schools in the 21st century must break out of the factory, or 'egg carton' model. Existing resources must be organized differently to achieve better outcomes for students. Team teaching, coupled with professional development schools, provides a strategy and a structure for redeployment of instructional resources and the development of a teaching force to serve all children in the 21st century.

Endnote

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CHAPTER 6

Building a System for Powerful Teaching and Learning

Linda Darling-Hammond

"We propose an audacious goal.... By the year 2006, America will provide every student with what should be his or her educational birthright: access to competent, caring and qualified teaching."[1]

What Matters Most: Teaching for America's Future

With these words, the National Commission on Teaching and America's Future summarized its challenge to the American public in September, 1996. The Commission sounded a clarion call to place the issue of teaching quality squarely at the center of our nation's education reform agenda, arguing that without a sustained commitment to teachers' learning and the redesign of schools, the goal of dramatically enhancing school performance for all of America's children will remain unfulfilled.

More than a decade later, the importance of teachers is widely acknowledged and many successful innovations have been launched, but unlike nations we consider peers or competitors, the U.S. has not yet been able to create a widespread system of support for high-quality teaching and learning that can provide top-flight education to all students.

Such a system would not only prepare all teachers well for the challenging work they are asked to do, but it would also ensure that schools are organized to support both student and teacher learning, and that the standards, curriculum, and assessments that guide their work support the kind of teaching and learning needed in the 21st century.

Other nations are creating such teaching and learning systems as they have made enormous investments in education over the last 20 years and have left the U.S. further and further behind educationally. As a measure of the growing distance, the U.S. currently ranks 28th of 40 countries – on a par with Latvia – in math achievement on the recent PISA assessments, 20th of 40 in science, and 19th in reading achievement. And while the top-scoring nations – including previously low-achievers like Finland and South Korea – now graduate more than 95 percent of their students from high school, the U.S. is graduating about 70-75 percent, a figure that has been stagnant for a quarter century and, according to a recent Educational Testing Service (ETS) study, is now declining.[1]

The U.S. has also dropped from first in the world in higher education participation to 13th, as other countries make massive investments in their futures. Although 60 percent of our high school graduates go off to college, only half of these are well-enough prepared and supported to graduate with a degree - far too few for the knowledge economy we now operate. So, while our own youth are often unprepared for modern employment, Silicon Valley businesses lobby for more H-1B visas to bring in skilled workers to fill high-tech jobs.

At the root of these concerns is the tremendous unevenness and inequality that characterizes education in America. While our most advantaged students in our most educationally supportive states do as well as any in the world, low-income students and students of color are achieving at much lower levels. For example, 13 year old black and Hispanic students are reading at the level of white nine-year olds, and the achievement gap has been growing rather than shrinking as inequality in funding has also grown, with schools serving large concentrations of "minority" students featuring lower budgets, larger class sizes, lower quality curriculum, and less-qualified teachers across the country.

Indeed, shortages in the supply of well-prepared teachers are the largest threat to the education of these students – especially in cities and poor rural areas where tens of thousands of underprepared teachers have been assigned to the most vulnerable students. Those who are most school-dependent are most likely to have teachers who have no training to teach them to read or learn math, who do not know how to teach new English language learners, who cannot adapt the curriculum to different learning needs, and who are most likely to blame the students and their families for their own lack of skills.

Lack of access to education is more dangerous for individuals and society than ever before. Those who are undereducated can no longer access the labor market. While the U.S. must fill many of its high-tech jobs with individuals educated overseas, a growing share of its own citizens are unemployable and relegated to the welfare or prison systems, representing a drain on the nation's economy and social well-being, rather than a contribution to the national welfare.

Indeed, between 1980 and 2000, prison populations quadrupled across the nation, and state budgets for corrections increased by nearly 300 percent, while budgets for higher education increased by only 25 percent. Three times as many African American men were added to the nation's prison systems during that time as were added to our colleges.[2] By 2005, two states – California and Massachusetts—spent as much on corrections as they spent on higher education. Most inmates are high school dropouts, and more than half the adult prison population has literacy skills below those required by the labor market. Nearly 40 percent of adjudicated juvenile delinquents have treatable learning disabilities that were undiagnosed and unaddressed in the schools. This is substantially, then, an educational problem associated with inadequate access to the quality of teachers and other resources that could enable young people to gain the skills that would enable them to become gainfully employed.

The nation can ill afford to maintain the structural inequalities in access to knowledge and resources that produce persistent and profound barriers to educational opportunity for large numbers of its citizens. Our future will be increasingly determined by our capacity and our will to educate all children well – a challenge we have very little time to meet if the U.S. is not to enact the modern equivalent of the fall of Rome.

Developing a High-Quality Teaching and Learning System

As Governor James Hunt notes elsewhere in this volume, we must make a quantum leap in the quality of American education. To do this, we will need to attend to the major features of a learning system that are too often left to chance in the patchwork quilt that characterizes U.S. education policy.

What are the elements of such a system? To begin with, most high-achieving countries provide high-quality universal preschool and health care for children. They also fund their schools centrally and equally, with additional funds to the neediest schools. Thus students come to school ready to learn and they encounter schools that are equally well-equipped to help them do so. Furthermore, they support a well-prepared teaching force – funding competitive salaries and high-quality teacher education, mentoring, and ongoing professional development for all teachers, at state expense. These teachers work in schools where they have continuous access to their colleagues for planning and fine-tuning curriculum and to professional learning opportunities inside and outside the school.

Finally, high-achieving nations increasingly focus their curriculum on critical thinking and problem solving, organizing teaching around a curriculum focused on deep understanding. They use examinations that require students to conduct research and scientific investigations, solve complex real-world problems in mathematics, and defend their ideas orally and in writing. This focuses students' and teachers' attention on the skills that will matter in higher education and 21st century jobs. All of these elements need to be in place in every school to support high-quality teaching and learning.

Support for Teaching

A long line of studies has established that the single most important school influence on student learning is the quality of the teacher.[3] Students lucky enough to have teachers who know their content and how to teach it well achieve substantially more. And the effects of a very good (or very poor) teacher last beyond a single year, influencing their students' learning for years to come. Indeed, expert teachers are the most fundamental resource for improving education.

This lesson has been well-learned by societies that top the international rankings in education. The highest-achieving countries around the world—Finland, Sweden, Ireland, the Netherlands, Hong Kong, Singapore, South Korea, Japan, Australia, and New Zealand – have poured resources into teacher training and support over the last decade. These countries routinely prepare their teachers more extensively, pay them well in relation to competing occupations, and provide them with lots of time for professional learning. They also distribute well-trained teachers to all students – rather than allowing some to be taught by untrained novices – by offering equitable salaries, sometimes adding incentives for harder-to-staff locations.

In Scandinavian countries like Finland, Sweden, Norway, and the Netherlands, all teachers now receive two to three years of graduate-level preparation for teaching, completely at government expense, plus a living stipend. Typically, this includes a full year of training in a school connected to the university, like the professional development school partnerships created by some U.S. programs, along with extensive coursework in pedagogy and a thesis researching an educational problem in the schools. Unlike the U.S., where teachers either go into debt to prepare for a profession that will pay them poorly or enter with little or no training – these countries made the decision to invest in a uniformly well-prepared teaching force by recruiting top candidates and paying them to go to school. Slots in

teacher training programs are highly coveted and shortages are unheard of.

Finland has been a poster child for school improvement since it rapidly climbed to the top of the international rankings after it emerged from the Soviet Union's shadow. Leaders in Finland attribute these gains to their intensive investments in teacher education. Over 10 years the country overhauled preparation to focus more on teaching for higher-order skills like problem solving and critical thinking. Teachers learn how to create challenging curriculum and how to develop and evaluate local performance assessments that engage students in research and inquiry on a regular basis. Teacher training emphasizes learning how to teach students who learn in different ways – including those with special needs. The egalitarian Finns reasoned that if teachers learn to help students who struggle, they will be able to teach all students more effectively and would indeed leave no child behind.

Policymakers also decided that if they invested in very skillful teachers, they could allow local schools more autonomy to make decisions about what and how to teach – a reaction against the oppressive, centralized system they sought to overhaul. This bet seems to have paid off. Teachers are sophisticated diagnosticians, and they work together collegially to design instruction that meets the demands of the subject matter as well as the needs of their students. Finnish schools are not governed by standardized tests, which are absent until the very end of high school, but by teachers' strong knowledge about how students learn.

Top-ranked Singapore, by contrast, is highly centralized, but it treats teaching similarly. When I recently visited Singapore's Institute of Education – the tiny nation's only teacher training institution – nearly everyone I spoke to described how they were investing in teachers' abilities to teach a curriculum focused on critical thinking and inquiry – the 21st century skills needed in a high-tech economy. To get the best teachers, students from the top third of each graduating high school class are recruited into a fully paid four-year teacher education program (or, if they enter later, a one- to two-year graduate program) and immediately put on the Ministry's payroll. When they enter the profession, teachers' salaries are higher than those of beginning doctors.

As in other highly-ranked countries, novices are not left to sink or swim. Expert teachers are given released time to serve as mentors to help beginners learn their craft. The government pays for 100 hours of professional development each year for all teachers in addition to the 20 hours a week they have to work with other teachers and visit each others' classrooms to study teaching. Currently teachers are being trained to undertake action research projects in the classroom so that they can examine teaching and learning problems, and find solutions that can be disseminated to others.

And teachers continue to advance throughout their career. With help from the government, Singapore teachers can pursue three separate career ladders that help them become curriculum specialists, mentors for other teachers, or school principals. These opportunities bring recognition, extra compensation, and new challenges that keep teaching exciting.

In these and other high-achieving countries, schools are organized to support teacher success. Typically, teachers have 15 to 20 hours a week to work with colleagues on develop-

ing lessons, participating in research and study groups, and engaging in seminars and visits to other classrooms and schools. Meanwhile, most U.S. teachers have no time to work with colleagues during the school day: they plan by themselves and get a few "hit-and-run" workshops after school, with little opportunity to share knowledge or improve their practice. In their study of mathematics teaching and learning in Japan, Taiwan, and the U.S., Jim Stigler and Harold Stevenson noted that "Asian class lessons are so well crafted [because] there is a very systematic effort to pass on the accumulated wisdom of teaching practice to each new generation of teachers and to keep perfecting that practice by providing teachers the opportunities to continually learn from each other."[4]

A Focus on Higher-Order Learning

Having well-prepared teachers who focus on continually improving instruction is only part of the solution. Teachers need to work with students on critical skills that will allow them to transfer and apply their knowledge to new situations, and enable them to learn how to learn. The transmission curriculum that dominated schools for the last 100 years – which assumed a stable body of knowledge could be codified in textbooks and passed onto students who could "learn" it by remembering all the facts – is counterproductive today.

Recognizing that the top ten in-demand jobs projected for 2010 did not exist in 2004, we need to realize that we are currently preparing students for jobs that do not yet exist which will use technologies that have not yet been invented to solve problems that we don't even know are problems yet. Indeed in the four years from 1999 to 2002, the amount of new information produced approximately equaled the amount produced in the entire history of the world previously.[5] Rigid approaches to defining knowledge are sure to hold our students back. They need an education that will help them learn how to learn in powerful ways, so that they can manage the demands of changing information, knowledge bases, technologies, and social conditions.

Unfortunately, in the United States, our curriculum is still defined by standards and textbooks that are, in many states, a mile wide and an inch deep, and by tests that focus on recall and recognition, rather than production and application.

Most high-achieving countries teach (and test) fewer topics each year and teach them more thoroughly so students build a stronger foundation for their learning. Their assessments focus on critical thinking and problem solving, whether they are developed nationally (as in the small countries of Japan and Singapore), at the state or provincial level (as in larger countries like Australia, Canada, and China, where Hong Kong and Macao score well) or locally (as in top-ranking Finland).

In most cases, their assessment systems combine centralized (state or national) assessments that use mostly open-ended and essay questions with local assessments given by teachers, which are factored into the final examination scores. These local assessments - which include research projects, science investigations, mathematical and computer models and other products - are mapped to the syllabus and the standards for the subject and are selected because they represent critical skills, topics and concepts. They are generally designed, administered and scored locally.

By contrast, our multiple-choice tests – which focus the curriculum on low-level skills – are helping us to fall further and further behind. Whereas students in most parts of the United States are typically asked simply to recognize a single fact they have memorized from a list of answers, students in high-achieving countries are asked to apply their knowledge in the ways that writers, mathematicians, historians and scientists do.

In the United States, a typical item on the 12th grade National Assessment of Educational Progress, for example, asks students which two elements from a multiple choice list are found in the Earth's atmosphere. An item from the Victoria, Australia, high school biology test (which resembles those in Hong Kong and Singapore) describes how a particular virus works, asks students to design a drug to kill the virus and explain how the drug operates (complete with diagrams), and then to design and describe an experiment to test the drug – asking students to think and act like scientists.

Locally, students in other countries also complete required assessments like lab experiments and research papers that help evaluate student learning in the classroom. These assessments, which together count at least half the total examination score, allow the testing of complex skills that cannot be measured in a two-hour test on a single day. They ensure that students receive stronger learning opportunities. And they give teachers timely information they need to help students improve – something that standardized tests that produce scores several months later cannot do.

These assessments in other nations are not used to rank or punish schools, or to deny promotion or graduation to students. (In fact, several countries have explicit proscriptions against such practices.) They are used to evaluate curricula and guide professional learning – in short, to help schools improve.

By asking students to show what they know through real-world applications of knowledge, these other nations' assessment systems promote serious intellectual work that is discouraged in U.S. schools by the tests many states have adopted under No Child Left Behind (NCLB). Although some states, such as high-scoring Connecticut, Maine, Vermont and Nebraska, have created assessments that resemble those in other countries, the requirements and costs of NCLB have led an increasing number of states to abandon their challenging performance assessments for more simplistic machine-scored tests.

A growing body of research has shown that as more stakes become attached to such tests, teachers feel pressured to teach a multiple-choice curriculum that does not produce skills as they are used in the real world. Fully 85 percent of teachers in a recent poll said they feel the tests encourage them to teach in ways that are counterproductive.

As one teacher put it:

> I have seen more students who can pass the (state test) but cannot apply those skills to anything if it's not in the test format. I have students who can do the test but can't look up words in a dictionary and understand the different meanings. ... As for higher-quality teaching, I'm not sure I would call it that. Because of the pressure for passing scores, more and more time is spent practicing the test and putting everything in test format.[6]

Studies confirm that as teaching looks more like testing, U.S. students are doing less writing, less science, less history, reading fewer books, and even using computers less in states that will not allow their use on standardized tests.[7]

Indeed, as state test scores have gone up under NCLB, scores on other tests measuring broader skills have not. Scholastic Achievement Test scores have gone down for the last few years. Data on the National Assessment of Educational Progress show that the rate of improvement in math achievement has slowed considerably since NCLB passed in 2002, and reading achievement has completely stalled, with declines at the eighth-grade level. This is likely because a test prep curriculum in the early grades does not provide the foundation that students need to do higher-level work later on.

Creating a Strong Teaching and Learning System in the United States

Clearly we need more than a new set of national goals to mobilize a dramatically more successful educational system. We also need more than small-scale pilot projects, demonstrations, innovations, and other partial solutions. We need to take the education of poor children as seriously as we take the education of the rich, and we need to create systems that guarantee all of the elements of educational investment routinely to all children. This means creating systems of curriculum and assessment that point our nation at the kind of learning our children will need for the 21st century and equalizing access to critical educational resources, especially a steady supply of well-prepared and well-supported teachers to all communities.

How might this be done? A new paradigm for national education policy should be guided by twin commitments to support meaningful learning on the part of students, teachers, and schools and to equalize access to educational opportunity, making it possible for all students to profit from more productive schools.

Support Meaningful Student Learning and School Progress

A new federal education policy should start by helping states develop world-class standards, curriculum, and assessments, and use them for improving teaching rather than punishing schools. We should return to the more productive approach of President Clinton's Goals 2000 initiative, which stimulated richer curriculum and more performance-based assessments in many states, like Connecticut, Vermont, Nebraska, Maine, Oregon, and Kentucky. Studies found that student learning increased in response to the assessments they developed, which included hands-on performance tasks and portfolios of student work in reading, writing, and mathematics.

The federal government should provide support to enable states to develop systems, based on standards developed by professional subject matter associations, that include multiple measures of student learning; use assessments that are performance-based; and include school-based components–such as research papers and presentations, science experiments, mathematical models, and exhibitions – that, like those in other countries, are embedded in the curriculum and scored by teachers using common criteria, providing information that continuously improves teaching and learning.

School progress should also be evaluated on multiple measures – including such factors as student progress, continuation, and graduation from school, as well as classroom performance on tasks beyond multiple choice tests. Gains should be assessed by how individual students improve over time, rather than school averages that can be influenced by changes in who is assessed. Schools should be judged on whether their students make progress on multiple measures of achievement, including school-based measures that assess higher order thinking and understanding, provide useful diagnostic information, and ensure appropriate assessment for special education students and English language learners, guided by professional testing standards.

And "opportunity-to-learn standards" specifying the provision of adequate materials, facilities, and teachers, should accompany assessments of student learning, creating benchmarks for the pursuit of equity.

Pay Off the Educational Debt

A new federal policy must also finally address the deep and tenacious educational debt that holds our nation's future in hock, ensuring that every child has access to adequate school resources, facilities, and quality teachers. Federal education funding to states should be tied to each state's movement toward equitable access to education resources. Furthermore, the obvious truth—that schools alone are not responsible for student achievement—should propel attention to programs that will provide adequate health care and nutrition, safe and secure housing, and healthy communities for children.

Major investments must be made in the ability of schools to hire and support well-prepared teachers and leaders. While NCLB sets an expectation for hiring qualified teachers, it has not included policy supports to make this possible. If we are serious about leaving no child behind, we need to go beyond mandates to ensure that all students have well-qualified teachers. A focused and purposeful Marshall Plan for Teaching could ensure that all students are taught by well-qualified teachers within the next five years for an annual cost less than that of one week in Iraq.

Effective action can be modeled after federal investments in medicine. Since 1944, the federal government has subsidized medical training to fill shortages and build teaching hospitals and training programs in high-need areas—a commitment that has contributed significantly to America's world-renowned system of medical training and care. Intelligent, targeted incentives can ensure that all students have access to teachers who are indeed highly qualified. Such a plan would:

1. Recruit high-need teachers, through service scholarships and forgivable loans for those who agree to train in shortage fields and practice in high-need locations. As in North Carolina's successful Teaching Fellows model, scholarships for high-quality teacher education can be linked to minimum service requirements of four years or more – the point at which most teachers who have remained in the classroom have committed to remaining in the profession. Because fully prepared novices are twice as likely to stay in teaching as those who lack training, shortages could be reduced rapidly if districts could hire better prepared teachers. Virtually all of the vacancies currently filled with

emergency teachers could be filled with well-prepared teachers if 40,000 service scholarships of up to $25,000 each were offered annually.

2. Improve teachers' preparation through incentive grants to schools of education focused on strengthening teachers' abilities to teach a wide range of diverse learners successfully ($300 million). An additional $200 million should expand state-of-the-art teacher education programs in high-need communities that create "teaching schools" partnered with universities. As in teaching hospitals, candidates study teaching and learning while gaining hands-on experience in state-of-the-art classrooms. Effective models have already been created by universities sponsoring professional development schools and by school districts offering urban teacher residencies. These residencies place candidates as apprentices in the classrooms of expert urban teachers while they earn a stipend and complete their coursework, repaying the investment with at least 4 years of service. Such programs can create a pipeline of teachers prepared to engage in best practice in the schools where they are most needed, while establishing demonstration sites for urban teaching. Funding for 200 programs serving an average of 150 candidates each at $1,000,000 per program per year would supply 30,000 exceptionally well-prepared recruits to high-need communities each year.

3. Support mentoring for all beginning teachers to stem attrition and increase competence. With one third of new teachers leaving within 5 years, and higher rates for those who are under-prepared, recruitment efforts are like pouring water into a leaky bucket. By investing in state and district induction programs, we could ensure mentoring support for every new teacher in the nation. Based on the funding model used in California's successful Beginning Teacher Support and Assessment (BTSA) Program, a federal allocation of $4,000 for each of 125,000 beginning teachers, matched by states or local districts, could ensure that each novice is coached by a well-trained mentor.

4. Create career ladders in teaching that recognize accomplishment, use the skills of expert teachers to improve schools, and reward commitment to the neediest communities. Recruitment and retention can also be supported by encouraging the development of career ladders that reward teachers for deep knowledge of subjects, additional knowledge in meeting special kinds of student and school needs, high levels of performance measured against professional teaching standards, and evidence of contributions to student learning. These approaches would also encourage teachers to learn needed skills, enhance the expertise available within schools, and improve learning for many traditionally under-performing student groups.

Federal matching grants could be used to leverage the additional compensation associated with such a career ladder for expert, experienced teachers who serve as mentors, master teachers, and coaches, especially in high-need schools. For $500 million annually, stipends of $10,000 could be provided to 50,000 accomplished teachers who help improve practice in high-poverty schools. An additional $300 million in matching grants could be used to improve teaching conditions in these schools, including smaller pupil loads, adequate materials, and time for teacher planning and professional development — all of which keep teachers in schools.

In the long run, these proposals would save far more than they would cost. The savings would include the more than $2 billion dollars now wasted annually because of high teacher turnover, plus the even higher costs of grade retention, summer school, remedial programs, lost wages and prison sentences for dropouts (another $50 billion, increasingly tied to illiteracy and school failure). If NCLB is to be anything more than empty rhetoric, we will need a policy strategy that equalizes access to school resources, creates a 21st century curriculum for all students, and supports it with thoughtful assessments and access to knowledgeable, well-supported teachers.

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CHAPTER 7

Teacher Recruitment, Preparation, Induction, Retention, and Distribution

Barbara Kelley

"We propose an audacious goal … by the year 2006, America will provide all students in the country with what should be their educational birthright: access to competent, caring and qualified teachers." Too few teachers would recognize the opening statement from "What Matters Most:" the 1996 Report of the National Commission on Teaching and America's Future. But a decade later, too many teachers would recognize the conditions described in the report, because they still exist. The quality of teacher preparation programs remains incredibly uneven. Induction continues to be a sink or swim experience for many newcomers to the profession. Traditional compensation systems maintain salary schedules rewarding years of experience and advanced degrees, with little or no regard for performance in the classroom. Not enough time is available and not enough money is spent on sustained, high-quality professional development for teachers. Many school and district bureaucracies impede, rather than assist the process of teaching and learning. Despite all those challenges, there are a host of skilled and knowledgeable teachers across this country. But our most accomplished teachers are the least likely to be serving students with the greatest learning needs.

Student Equity

I first became aware of student equity issues early in my teaching career. I student taught at a brand new high school in northern Virginia: one with 13 physical educators on staff. The indoor facilities included a gymnastics room, a wrestling room, two trampolines, a huge gym and hallways wide and long enough to run five lanes of high hurdle practice. The high school was better equipped for physical education than my college was! I graduated several months after that experience and in a very tight job market, considered myself lucky to be offered a position in a poor, rural Virginia district instituting elementary physical education for the first time. Instead of having 13 teachers in one school, they hired thirteen first year teachers for the entire county. My student teaching experience in resource rich northern Virginia had done little to prepare me for my new job. My "gym" was a small section of blacktop behind the school with four basketball hoops and a tick-infested field of foot long weeds. The school provided me with four basketballs. The students filled Chlorox jugs with gravel to serve as field markers, and we made racquets out of panty hose and wire hangers for use with homemade yarn balls. The classes and expectations at each grade level were tracked by so-called ability; but the correlation with skin color and socioeconomic status was blatant. My most vivid memory was stopping into the lowest tiered fifth graders' classroom one day when they were dutifully copying the spelling words their teacher had written on the board. Eleven of the twenty-five words were spelled wrong. Their teacher was truly that incompetent. I remember that moment

of despair – when I recognized with absolute clarity a public school system that faithfully served the privileged while turning its back on students of color and those in poverty.

In May of that year, the district laid off all 13 physical educators: it was a tight budget year, and ours was the last program in — so the first program out. When my principal spoke with me about my plans, he told me he'd been authorized to offer me a job teaching reading. I was desperate for a job, but I knew I was neither qualified nor did I desire to teach reading. I turned him down. I was very aware I would never have been offered that reading job in northern Virginia. The students I'd been teaching desperately needed and deserved a skilled reading teacher. That was the year I learned hard lessons about student equity - within a school, within a district and within a state. Unfortunately, they are lessons that were still relevant when the NCTAF report was released over 20 years later and I fear they are still relevant today.

A 21st Century Education

But while many of the teacher quality issues summarized in the NCTAF report remain all too familiar, the knowledge and skills required of America's students have rapidly been evolving. If we are to build a system in which every child has reasonably equal and realistic access to a globally competitive, world-class education opportunity, we must begin with the question: "What are the skills and knowledge all 21st century high school graduates should possess if they are to be successful in the workplace or in post-secondary education?"

Although the education and business communities have yet to come to full consensus around that question, there appears to be agreement around some critical traits that go beyond traditional content knowledge. The American Diploma Project (ADP) involved a partnership among Achieve, Inc., The Education Trust, The Fordham Foundation and The National Alliance of Business. While their benchmarks focused on English and mathematics, their report also emphasized the ability to apply knowledge and skills. "To be successful, a high school graduate must be able to blend knowledge and skills from many areas to identify, formulate and solve problems; to connect new information to existing knowledge; and to access and assess knowledge from a variety of sources delivered through a variety of media." The report also noted the increasing prevalence of long-term collaborative projects in both the workplace and at the college level: cooperative group efforts far more complex than writing a paper or taking a test.

Learning for the 21st Century, is a report produced in 2002 by The Partnership for 21st Century Skills, and updated in November 2007 to include Route 21, an online resource dedicated to 21st century teaching and learning skills. The report highlighted the need for "Learning Skills:" which were defined as information and communication skills, thinking and problem-solving skills as well as interpersonal and self-directional skills. The report noted that people "need to know how to use their knowledge and skills – by thinking critically, applying knowledge to new situations, analyzing information, comprehending new ideas, communicating, collaborating, solving problems, making decisions." The ability to use the tools of information and communication technologies effectively was noted as a critical skill for the 21st century. The report acknowledged the relevance of content knowl-

edge in the core subjects and mentioned foreign language, economics and geography as "new basics" for functioning effectively in a global economy. But the report also delineated three additional areas of 21st century content: civic literacy; financial, economic and business literacy; and global awareness. Global awareness was further defined as:

- Using 21st century skills to understand and address global issues
- Learning from and working collaboratively with individuals representing diverse cultures, religions and lifestyles in a spirit of mutual respect and open dialogue in personal, work and community contexts
- Understanding other nations and cultures, including the use of non-English languages.

After a three-year study, the Wisconsin Department of Education recently released its report, International Education: Global Literacy for Wisconsin, summarizing recommendations that would enable all Wisconsin's students to become "globally literate." Their international Education Council defined globally literate students as students who can:

- Speak one or more languages in addition to English;
- Train for high skill jobs in the US or abroad;
- Find ways to travel, explore, and be creative in a culture other than their own;
- Evidence curiosity and compassion for people of other cultures;
- Solve problems by working together with others in a diverse workforce; and
- Appreciate and protect the arts and nature in many places on earth.

My current work with the Asia Society International Studies Schools Network (ISSN) has made me even more cognizant of the need for all our students to have a greater knowledge and understanding of the world. The Asia Society has long been concerned about American students' ignorance of the world and other cultures. In partnership with urban school districts and other collaborators such as the Gates Foundation, the Asia Society established the ISSN, a network of small, effective secondary schools that prepare each of their students for college or other post-secondary education and develop students' knowledge and understanding of world cultures, their ability to communicate in languages other than English (especially Asian languages), and their capacity to work, live and learn with others from differing cultural and ethnic backgrounds. A high percentage of the population served by the ISSN are low-income and minority students.

The schools being developed in the ISSN are relatively new, but we have established a profile of our future graduates that reflects our desired outcome for all students. ISSN graduates are:

- Academically prepared
- Proficient Thinkers and Problem Solvers
- Culturally Aware
- Aware of World Events and Global Dynamics

- Literate for the 21st Century
- Collaborative Team Members
- Effective Users of Technology
- Socially Prepared and Culturally Sensitive

In this age of accountability, it is important to note that the integration of content focused on global competencies is not at the expense of standards-based instruction. It is an approach to teaching and learning that engages students in relevant and rigorous work. The Asia Society's ISSN schools' mission is to produce college-ready, globally competent graduates. Although still in their infancy, the Consortium for Policy Research in Education (CPRE) found that between 2004 and 2006, the ISSN schools outperformed local schools with similar demographic profiles in the vast majority of comparisons across core subject areas.

We know that teachers are the key to achieving the high quality, world class education needed to meet 21st century expectations. My experiences of almost thirty years of teaching, of chairing the National Board for Professional Teaching Standards and of working with our small, international studies schools lead me to believe that there are five critical teacher quality issues that must be addressed for all our students to leave high-school college-ready and globally competent. They are: recruitment, preparation, induction, retention, and distribution.

Teacher Recruitment

The first concern is the need to attract talented individuals to the teaching profession. Teaching has never been, and will never be, an easy job. It requires physical stamina, emotional stability, intellectual rigor, and an incredible commitment to students and their learning. The teaching profession cannot be a default career — one on which to fall back if unsuccessful at something else. The responsibility for student learning in this country must be placed in the hands of a highly qualified, competent and knowledgeable teaching force.

How can we ensure the level of talent needed to accept the challenge of teaching? First, laissez faire recruiting at the high school level is insufficient. Our son was an honor student in high school. Although he had no intention of entering the military, he was actively pursued by the armed services: provided with abundant information, contacted repeatedly by phone, and made well aware of the financial benefits and scholarships available. I would urge an equally aggressive approach to recruiting talented high school students to teacher preparation programs. One intriguing approach is found in a Florida school district, Broward County created the Urban Teacher Academy Program (UTAP) for high school students. UTAP provides an honors curriculum, field experiences in classrooms and dual enrollment through a partnership with a community college. Graduates of the program are guaranteed a full four-year tuition scholarship. They are provided with a UTAP mentor during their college career. When they complete their education degree, they are guaranteed a position with Broward County. The program is funded by contributions from the business community, local colleges and foundations. The UTAP model is

particularly notable for the sustained support provided to its participants and is one that other communities should consider replicating.

Not every college student majoring in education will have the luxury of someone like a UTAP tutor. Thinking back to my experiences in Virginia, there should be strong support systems in place within teacher education programs for students whose K-12 experiences inadequately prepared them for the rigors of higher education. Please make no mistake about this: I am advocating high standards for entry into teacher education programs, high standards to remain in a teacher education program, and high standards for entry into the profession. But until we provide an equitable pre-K – 12 education across this country, we must find ways to invest appropriate time and resources on students who have unrealized potential to enable their success at the college level. Otherwise, we are ignoring a potential pool of teachers who could serve our profession and our students well.

Another pool of talented individuals lies in a group previously considered non-traditional education students: for example, people who might enter teaching as a second career, graduates of liberal arts programs who choose to pursue a graduate degree in education, veterans seeking a new career after leaving the military, etc. The recruitment of these individuals poses a different dilemma. It is unlikely the prospective salary scale will serve as a significant inducement, particularly to those seeking a second career. The appeal of a teaching position may be lessened further by working conditions in which ready access to a telephone is frequently a novelty and practitioners often have little say over policies and purchases that affect their students' learning. At this point in time, we are dependent upon the appeal of public service to attract these teacher candidates. We should have as a goal recruiting these individuals as a steady source of teachers to staff our schools but compensation systems and teacher empowerment will have to undergo significant change before that goal will be realized,

A much greater recruitment effort needs to take place to attract more people of color to the teaching profession. This effort must begin at the high school level and be sustained through the college level. There should be special initiatives directed toward Historically Black Colleges and Universities (HBCU's), in community colleges and in other institutes of higher education to identify promising minority candidates. At the current time, few pre-K – 12 minority students encounter a teacher of color, so it should be no surprise that they fail to consider the teaching profession as a future career. Finally, in consideration of both the need to develop global competencies and to diversify our teaching force, our country should actively recruit within and outside our own borders for non-native K – 12 teacher candidates. These individuals may need additional financial, cultural and/or linguistic support to successfully complete a teacher preparation program. Particular attention may need to be paid to pedagogical approaches that support active engagement of students in their learning, since they may not be the norm in the teacher candidates' native countries. Schools and districts should also consider organizations such as the Visiting International Faculty (VIF) Program, the largest international-exchange program in the country as a source for skilled teachers. VIF teachers serve for up to three years as full-time classroom teachers and cultural ambassadors. A recent study by the SAS Institute indicated that VIF teachers are as successful as U.S. teachers in promoting student achievement.

One other consideration is recruitment of candidates who are already teaching in one field to switch to a hard-to-staff field, such as math, science, special education or world languages. States and school districts can offer various incentives such as release time or course reimbursement to entice teachers to pursue licensure in an additional field.

Teacher Preparation

It is mystifying to me that there is any debate over the need for a single organization to accredit teacher education programs. Whether the program is a traditional four-year, a Masters of Arts in Teaching or an alternative certification program, there needs to be a single arbiter determining its quality. The National Council for Accrecditation of Teacher Education (NCATE) is the organization that has established rigorous standards for teacher education programs. It is intricately linked to the national disciplinary associations. Its performance standards review a program's development of teacher candidates' knowledge and skills; its assessment system; the field experiences it provides; how well it prepares candidates to work with a diverse population; the qualifications, performance and professional development of its faculty as well as the governance of and resources available to the program. If quality assurance is a priority, then NCATE accreditation of teacher preparation programs should be required.

There are certain aspects of preparing teachers that deserve particular attention, and they mirror the core propositions of the National Board for Professional Teaching Standards. Early in its history, the Board established these propositions as the basis for all its standards, regardless of the content area or developmental level of the students. Teacher education programs must instill in their candidates a commitment to students and their learning. Now more than ever, that commitment must be based on the belief that all students can learn to high standards. Colleges and university faculty must have purposeful conversations to ensure that incoming and practicing educators across the country share that common vision. With that conviction comes the understanding of why teachers need a remarkable collection of tools to do whatever it takes to help each student reach his/her potential. Up to date, in-depth content knowledge is critical. The rigor of the coursework offered to prospective teachers in the education department must measure up to the rigor of the coursework offered in the colleges of arts and sciences. In the past, our profession has been criticized, and at times, justifiably so, for an incomplete grasp of content knowledge. That comprehensive understanding of subject matter must be accompanied by a solid grounding in content-specific pedagogical skills. Incoming professionals must be provided with multiple teaching strategies to address the diverse learning styles of their students. They must be made aware of national and state standards and helped to understand how to incorporate those standards into their instruction in a meaningful way. They must be taught how to analyze and utilize data. They must possess multiple approaches for assessing their students' learning, and must know how to individualize instruction based on those assessments. They need a full range of strategies for managing their classrooms. Their learning experiences must include opportunities for collaborative work, for projects that require critical thinking and application of knowledge. Teachers who enter a classroom already capable of reflecting on their practice; who have a systematic

method to learn from experience and improve their instruction on the basis of their analyses — have been provided the most important tool for success. Teachers should enter the profession with the understanding that good teaching does not occur in isolation: collaboration with colleagues, parents, and others is an integral part of the job. When examining programs that prepare teachers, the degree to which these core propositions are addressed in a systemic, coherent fashion is a key quality indicator.

With an increasing emphasis on global competence for students, there has to be an increased emphasis on developing those competencies in teacher candidates. A reasonable case can be made that the ability to communicate in a second language should be strongly encouraged, if not required, in teacher preparation programs. In depth knowledge of another culture can only lead to a greater understanding of world events and of our increasingly diverse student population. Sustained time studying abroad should become the norm, rather than the exception.

A concern frequently raised by teachers and teacher candidates is how recently, if ever, the professors in teacher education (or continuing education) have taught in a pre-K through 12th grade classroom for a sustained period of time. It is difficult to imagine lawyers' being trained by professors who rarely, if ever, practiced law - or doctors' being educated primarily by physicians whose contact with patients had been limited to observations of interns. Replacing the "publish or perish" mindset of higher education with an expectation that teacher educators be provided with regular opportunities to teach at the elementary or secondary level would be a welcome change. Colleges or universities that encourage their professors to pursue National Board Certification clearly value accomplished teaching. More programs should consider hiring National Board Certified Teachers or other accomplished pre-K – 12 educators as adjunct faculty or as professors.

Teacher Induction

There are no shortcuts to good teacher induction. Lateral entry candidates and teachers who come through alternative routes to certification are too often deprived of authentic field experiences and/or critical training in pedagogical skills. Five-year programs, in which candidates earn a Master of Arts in Teaching after completing their bachelor's degree, avoid that common pitfall. The best prepared candidates will have had multiple experiences in diverse classroom settings under the guidance of both a mentor teacher and a college or university faculty member prior to any independent teaching assignment. Programs most likely to produce the strongest teachers are ones in which the relationship between the faculty and the new teacher does not end abruptly when coursework is complete: there needs to be a strong support component during the first several years of teaching.

The induction period is probably the most critical time in a teacher's career, and I applaud approaches that include mentoring by both regularly engaged teachers and continued support from colleges or university faculty. A crucial tool possessed by veteran teachers is the ability to rely on prior experience and to apply that knowledge to other situations. Incoming professionals lack that critical component and need a mechanism through which they can access the experience and judgment of other professionals. As this process

becomes more common, I hope it will be a catalyst for a change in the culture of teaching. Too many veteran practitioners are isolated from their peers and collaboration falls victim to time constraints or fear that the seeking of another's judgment may be perceived as a weakness rather than a strength. The incoming professional is not the only beneficiary of a formal structure for collaboration: teachers invariably attest to the significant professional development experienced when working with a teacher just beginning his or her career. In addition, teachers who work collaboratively themselves are far more likely to incorporate collaborative student projects in their instruction.

True professional development schools, where best practices are consistently modeled, provide nurturing environments for new teachers. National Board Certified Teachers (NBCTs) should be considered as ideal mentors for those just beginning to acquire pedagogical skills. NBCTs have been assessed by their peers, and have met high and rigorous standards established for accomplished teaching. Mentoring is not simply an intuitive process, however, and it is equally important that professional development be provided for any veteran teachers who will be serving in that capacity.

There are policies that can be established in local school districts that would provide additional support for incoming professionals. Our newest teachers are frequently given the most challenging assignments, multiple preparations, and then left to fend for themselves. Whether placed in wealthy or poor districts, the critical resource of time is invariably in short supply. Although particularly difficult to adjust at the elementary level, enlightened administrators can provide a schedule that enables additional planning time and/or peer assistance within the school day for beginning teachers. Unfortunately, until the induction period is recognized and accepted as a continuation of teacher preparation, this policy tends to engender animosity among long time educators working in the same school with a full schedule. The problem is sometimes compounded by the perception that a new teacher has been hired specifically to bring new techniques and knowledge to a veteran faculty. A team approach that involves teacher educators, administrators and classroom teachers can ameliorate that problem. Teacher educators can work with administrators and practitioners on recognition of best practice and on problems most commonly faced by incoming professionals. Understanding the need for a systematic induction system can be established. Advocates for reduced class loads, for increased planning time, for mentoring and for collaboration can be enlisted. The false walls between teacher educators and classroom teachers begin to disintegrate when a true team approach is employed. Models in which accomplished pre-K - 12 teachers are employed as adjunct faculty, and teacher educators are provided sustained opportunities to teach in elementary or secondary classrooms can dismantle those walls altogether. Among the two communities, there is a tremendous knowledge base about the art and science of teaching. The future of the teaching profession is too important to allow that wisdom to accumulate in separate silos.

Teacher Retention

It is common knowledge that the retention problem is at its most critical point during the first five years of teaching. Our abysmal record of retaining teachers carries with it an incredible financial cost. A systematic, supportive induction period as described above

would, in my opinion, significantly reduce the attrition rate of new teachers. If I were to craft a "top ten list" of other strategies to enhance the quality of teaching and increase the likelihood that the best and brightest remain in the profession and maintain a high level of skilled teaching throughout their career, it would include the following:

School leadership: First and foremost, ensure the quality of administrative leadership at the school level. The longer I work in education, the more convinced I become that the principal is the key to a school's and its students' success. Accomplished teachers are eager to work for true educational leaders and are likely to remain in the profession when their school is directed by a skilled principal.

Pension Portability: In an increasingly mobile society, teachers are likely to move for a host of reasons. The ability to maintain earned pension benefits across state lines would increase the likelihood that teachers would seek another teaching position when they relocate.

Planning Time: There must be time set aside within the school day for teachers to meet with other teachers for meaningful discussions about instruction and curriculum. The lack of time to analyze and reflect on teaching practice is probably the single-most challenging factor with which teachers must cope.

Differentiated roles and development of teacher leaders: A system that provides differentiated roles and some flexibility for movement in and out of the classroom for sustained periods of time is likely to keep more teachers in the profession. Curriculum development, mentoring of new and practicing teachers, chairing of grade levels or departments, mentoring candidates for National Board Certification and demonstration teaching are just some of the tasks teachers might undertake throughout their careers. In addition, fostering the leadership skills of the teachers in a school or district will have benefits beyond an increased retention rate. Providing opportunities for teachers to serve as school or district spokespersons outside their own classrooms, encouraging them to apply for grants or to offer their own workshop at a state or national conference, providing them with time to serve as elected officers in disciplinary or teachers' associations are all strategies that build loyalty, confidence and skill.

Improved Compensation System: Overall teacher compensation continues to lag behind occupations with similar training and credentials. Efforts to increase initial compensation levels for recruitment purposes have at times resulted in a compression of the salary schedule, leaving veteran teachers with little monetary incentive to remain. Compensation systems should be structured to reward increased knowledge and skill, (e.g., National Board Certification) along with additional roles and responsibilities. It is time for market demand to be recognized so if there is a shortage of teachers in a particular content area, (e.g., math, science, world language) then the compensation system needs to be adjusted accordingly. In my opinion, there are not yet processes in place that can accurately and fairly measure the value-added aspect of student achievement down to the individual teacher level from one year to another. In addition, a number of goals toward which teachers strive defy objective measures. Therefore, monetary incentives and bonuses should be restricted to measurable school outcomes and if utilized at all, should be awarded on a schoolwide basis.

More control over budget, hiring and curriculum: A perceived lack of respect drives many teachers from the classroom. Entrusting teachers to make decisions over how to incorporate applicable standards into their instruction, over classroom and school expenditures and giving them a major voice in the selection of new staff is key evidence their professional judgment is valued.

Opportunities to share teaching practice: Isolationism continues to plague the teaching profession. Teachers deeply value collegial environments in which time is provided to observe other practitioners, to be observed by their peers and to participate in professional conversations about how their instruction can be improved. This practice is far more common in other countries, while in America it remains a novelty.

Appropriate resources, access to and training for modern technology: Appropriate resources for students goes well beyond sufficient numbers of instructional materials. Globalization requires that our students have a solid grasp of information and communications technology. Teachers must be provided with the appropriate tools and training so that all students, regardless of their own socio-economic situation, will develop the skills and knowledge they need.

Relevant, sustained professional development: Like many of the other items in this list, professional development deserves a book in and of itself. A system that provides its teachers with multiple access points to appropriate professional development is far more likely to retain its teachers. It may take the form of graduate work, workshops, opportunities to travel, learning a second language, pursuing National Board Certification, mentoring other professionals, developing curriculum … the list is virtually endless. But the key is that it be aligned with school, district and/or state goals and that the individual practitioner has a significant voice in determining what professional development is most appropriate for him or her.

Peer Review: Although controversial, I believe a fair, well-developed peer review system would have the ultimate effect of retaining more skilled and talented teachers. One hallmark of a profession is that the practitioners govern entry into and continued practice in that profession. Allowing incompetent teachers to remain in the profession violates the rights of every one of their students and offends those who honor their own commitment to the teaching profession. A system needs to be developed for teachers to hold their peers accountable, to provide support for those who need assistance, and when necessary, to counsel out of the profession those whose skills and/or knowledge do not measure up.

Distribution of Quality Teachers

Before this chapter comes to a close, the issue around the distribution of teachers must be addressed. The premise that the neediest students should be provided with the most skilled teachers seems almost too simplistic to bear repeating. But in our country, we have turned that notion upside down. Students in low-performing schools, low-income and minority students are far more likely to be assigned a novice, unqualified or out-of-field teacher in one or more of their classes. A multitude of factors have contributed to the situation: relative wealth of school districts, teacher contracts that narrowly restrict district transfer rights, districts or schools that violate virtually every one of the ten above

factors that would encourage teacher retention are but a few examples. Even if this country were to experience a remarkable improvement in overall teacher quality, the uneven distribution of our very best and our least experienced teachers will continue to deny an equitable education for all students.

The disaggregation of data and aggressive monitoring of the state-by-state teacher equity plans required by No Child Left Behind (NCLB) will help us pinpoint this problem with greater specificity in the future. There are a number of promising ideas that if implemented systemically, have the potential to affect this imbalance in a promising way. One approach is to establish policies that allow retired teachers to return to teaching in low-performing schools without negatively affecting their pension. Clark County, Nevada takes another approach: principals in its high needs schools are given the first opportunity to consider transfer requests from experienced teachers and the county does not allow out-of-field teachers to transfer into high-poverty, low-performing schools. Some states are experimenting with additional compensation for National Board Certified Teachers who move to low-performing schools. But that strategy ignores the complexities of context. It is usually the overall teaching and learning conditions that will entice accomplished teachers to seek positions and remain in a school.

The tactic most likely to achieve success, however, is the "grow your own" strategy. Many teachers working in low-performing schools have local ties to the community and a loyalty to its students. Implementing the retention strategies outlined above would have a positive impact on their instruction. States should establish funding formulas that prevent extraordinary compensation differentials between property-poor and property-rich districts. Such differentials tempt even the most loyal teachers to seek a more lucrative position in another district. In bargaining and non-bargaining states, policymakers and teachers' associations should come together in an open dialogue to develop mutually acceptable strategies to address the problem. States and districts should implement policies that support the pursuit and reward the achievement of National Board Certification. These policies can be targeted particularly toward teachers who work in low-performing schools, or schools with high percentages of minority or low-income students.

Conclusion

What will it take to galvanize the education system to change? What will be the catalyst that finally forces our country to face and address the issues that were prevalent when I entered my career, were clearly articulated in the NCTAF report and are still encountered today? The increased awareness of globalization's impact has the potential to galvanize action in much the same way that, years ago, Sputnik's success prompted an immediate and successful investment in math and science. Today, educators, business leaders, policymakers and citizens across the country are regularly discussing Tom Friedman's *The World is Flat.* The President has called for an increased investment in foreign-language learning, particularly in Chinese and Arabic languages. The College Board has added Chinese, Japanese, Italian and Russian to its list of AP courses and tests. Harvard College is retooling its graduation requirements and financial assistance packages to ensure that all students pursue "a significant international experience during their time in the College."

Michael Eskew, the CEO of United Parcel Service, defined:

- Trade literate
- Sensitive to foreign cultures
- Conversant in different languages
- Technologically savvy
- Capable of managing complexity and
- Ethical

as the six traits that have "bearing on the kinds of education needed to bring people to the workplace who are equipped to succeed in the global economy." This growing consensus and sense of urgency among so many constituencies provides us with a window of opportunity to make real change in our system.

Teachers are the ones with the power to make the difference in every classroom in the country. The system that recruits, prepares, inducts, distributes and encourages the retention of skilled teachers has the power to retool itself as a powerful force that responds to the new imperatives of globalization while strengthening teacher quality for all of today's and tomorrow's students.

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CHAPTER 8

Creating P-16 Urban Systemic Partnerships to Address Core Structural Problems in the Educational Pipeline

Ken Howey & Nancy Zimpher

The Current Context

The editors of this volume asked us to describe our vision of a public education system that would provide equal access to a high quality, world-class education for all students and, more importantly, to describe just how this vision might be realized and sustained over time. Before we address where we should be moving in the future, it is necessary to examine where we are now.

It is manifestly obvious that our public school system is as stratified as our society is in terms of socioeconomic status. In fact, many would argue that in its current structure, many of our public schools reinforce economic and class division rather than breaking down these barriers. The declining standing of United States' students on standardized measures of knowledge and problem-solving internationally is well documented. Within the United States, there is the further gap in measures of academic achievement between Caucasian students and African American and Hispanic students, many of whom attend school in urban settings, which is our focus in this chapter. Finally, there is a strong correlation between the racial achievement gaps and the gaps in school funding and the gaps in the number of experienced, qualified teachers in schools where many youngsters are failing and leaving school prematurely.

The achievement gap between white, African American and Hispanic students was underscored in a recent examination of National Assessment of Educational Progress (NAEP) data using statistical tests of score differences. Lee (2002) revealed that the black-white gap increased significantly for age 13 youngsters in mathematics and reading from 1988 to 1999. Similarly the gap increased significantly for age 17 in both reading and mathematics. Achievement gaps have been documented beyond the NAEP achievement scores and include SAT scores, high school completion, college attendance and enrollment in and completion of advanced courses. Not finishing a postsecondary program, let alone high school, can have pernicious effects on an individual economically, socially, and in terms of one's general quality of life. Nonetheless, tens of thousands of youngsters, especially poor and minority youngsters, annually drop out of school and fail to obtain a high school graduation diploma. The following data underscore the magnitude of the problem. The Manhatten Institute for Policy Research (2004) reported that every nine seconds a student drops out of school in the United States. In 2004, over 6 million (6,277,000) of our 18- to 24-year-olds had not completed high school. *Time* magazine (2006), in a recent special report, indicated a 30 percent drop out rate, acknowledging the many youngsters who

leave prior to even entering high school. Drop out rates are even higher in many urban communities. Orfield and his associates (2004) found for example, that urban African American students had a graduation rate in 2004 of 50 percent, and Latinos, 53 percent, contrasted with 75 percent of Caucasians. High school students from low-income families (lowest quintile) drop out at six times the rate of their peers in the highest quintile. Loeb (1999) underscored that only one in 20 youngsters in the lowest income quintile earn a college degree. Data from the National Center for Educational statistics (2004) revealed that nearly half of these dropouts are unemployed and the great majority of the rest are in minimum wage positions; further, recent immigrants are displacing high school dropouts so that even entry level positions are often not available to them. U.S. Secretary of Education, Margaret Spellings (2005) estimated that drop outs cost the United States more than $260 billion in lost wages, taxes and productivity.

Schools with large numbers of youngsters failing academically and leaving school prematurely have fewer resources than schools attended by wealthier families. In a recent study conducted for the Education Trust by Orlofsky (2002) found that in 86 percent of the states (42 of 49 studied), districts with the greatest numbers of poor students had less money to spend per student than districts with the fewest poor students. Orlofsky (2002) calculated each districts' purchasing power per student by analyzing funds received from state and local taxes. The analyses did not include federal dollars as these are intended to supplement and not supplant revenues at the state and local level. The study found on average those districts with the greatest number of poor students (the lowest quartile) receive almost a thousand dollars ($966.00) less per student than the quartile of districts with the fewest poor students. It should be noted that 40 percent of urban students attend high poverty schools (defined as schools where more than 40 percent of the students receive free or reduced price lunch).

High poverty schools enrolling high percentages of minority students also have fewer qualified teachers than schools not characterized by high poverty and numerous studies substantiate the common sense notion that qualified teachers make a difference. For example, a teacher quality gap study was undertaken by Lankford and colleagues (2002) who analyzed 15 years of state administrative records in New York and found major inequities in terms of where 'high-quality' teachers were employed. Teacher quality was defined through a composite index of teacher degree, experience, in- or out-of-field assignment, the ranking of universities which the teacher attended and state teacher certification examination scores. These scholars reported that substantially less qualified teachers teach poor minority students in urban areas. In all but one region of New York, teacher quality was characterized as much lower in urban than in suburban schools. Similarly, Jespen and Rivkin (2002) in their study of class size reduction in California reported that minority students in high poverty schools were six times more likely not to have a fully qualified teacher than white students in low poverty schools. In addition, minority students in high poverty schools were twice as likely to have a beginning teacher.

The Need for P-16 Urban Systemic Partnerships

Our goal in this chapter is to recommend what can be done in urban communities to redress the above problems. In doing this, we draw upon our experiences in developing P-16 community wide partnerships wherein urban universities and urban university presidents and chancellors have assumed leadership roles in helping to renew urban schools. The mission is to get more urban students not only through high school, but into college to successfully complete a post-secondary degree. Several of these endeavors are described in a recent volume we edited and contributed to titled: *University Leadership in Urban School Renewal* (2004).

We begin with the premise that the lack of positive integration and positive interdependence between universities as a whole and P-12 school districts and other key community agencies represents a deep structural flaw in our educational enterprise. Not only do the P-12 school sector and higher education sector rarely work closely together in a sustained manner on needed simultaneous renewal, but they are often protagonists; at odds with one another competing for scarce financial support at the state and federal level.

In the initial NCTAF report (1996), *What Matters Most: Teaching for America's Future,* the commission which wrote the report concluded:

> After a decade of reform, we have finally learned in hindsight what should have been clear from the start: Most schools and teachers cannot produce the kind of learning demanded by the new reforms – not because they do not want to, but because they do not know how, and the systems in which they work do not support them in doing so (p.5).

We believe this statement still holds. As it stands now the resources needed to address the problems identified at the outset are lacking. The problems we face cannot and will not be overcome by schools of education negotiating partnerships with a few selected K-12 schools. Rather, what is needed are bold new partnerships. University leaders need to bring resources from across the university to address the problems of urban schools and urban school districts. University presidents, by the stature of their position in the community, can also help coalesce key agencies, organizations, and individuals from across their urban communities so that the support necessary to address major shortcomings in schooling and how teachers are prepared for those schools is more forthcoming. In turn, the K-12 school sector has to play a leadership role in helping make the initial education of teachers a more rigorous and responsive endeavor than it is currently. The partnership is two-way; simultaneous renewal is needed.

An Example of Urban P-16 Partnership

To illustrate what a systemic urban partnership looks like, the Milwaukee Partnership Academy (MPA) is briefly described here. The individuals involved with MPA meet on a regular basis to address both issues of teacher education from preservice teacher education through continuing professional development and also how urban schools can be renewed and organized for success. The members of the MPA Executive Board include the superintendent of the Milwaukee Public Schools, the chief executive officer of the teachers'

union, the president of the school board, the president of the Greater Milwaukee Chamber of Commerce, the chief executive officer of the Private Industry Council, the president of the Milwaukee Area Technical College, and the chancellor of the University of Wisconsin, Milwaukee (UWM), as well as the deans of the School of Education and Arts and Science at UWM. Parents and members of the school community obviously are also represented. The lieutenant governor and the state superintendent of public instruction regularly attend these meetings and serve in ex-officio roles. The Mayor of the City is now also directly involved as are representatives of the City's libraries, museums, YWCA, United Way and other key community agencies.

Their mission is to work together to improve the quality of learning by improving the quality of teaching. Quality teacher education is viewed as the central means for achieving quality teaching and learning. Major changes are being instituted in all schools with teacher-led learning teams assuming shared leadership and specialized coaches assisting the faculty in areas such as math, science and literacy. What is distinctive about this urban P-16 council is that the leaders of the major stakeholder groups are working collaboratively and on a sustained basis to address long-standing problems that have not been effectively addressed previously. This council is concerned with going to scale, that is, putting in place policies and practices that are helpful to all teachers and all youngsters in all schools. It is leveraging resources beyond those currently available to the district and the university.

Addressing Structural Flaws through Simultaneous Renewal

Our belief and the central point we wish to make is that systemic P-16 partnerships such as the MPA are in the best position to address the deep structural flaws in how schools are organized and teachers are prepared. The National Commission on Teaching and America's Future (NCTAF) (1996) called for schools organized for success. What do such schools look like? Studies of effective schools have yielded a growing corpus of knowledge that demonstrates that youngsters, in their early formative years especially, succeed academically when schools are organized so that youngsters remain together for multiple years with the same teachers working closely together in teams. Teachers on these teams have differentiated but complementary responsibilities for providing high quality instruction and support to their students. The curriculum in these schools is organized so that fewer subjects than typical are taught at any given time and correspondingly fewer, albeit major, ideas and concepts are pursued in greater depth and for sustained periods of time.

Despite increasing evidence as to how teachers and the curriculum should be organized and time structured in school, elementary teachers commonly continue to be prepared to work alone in lock-step, graded organizations wherein they attempt to teach a wide range of subjects to a different group of youngsters every year. An outdated school structure and a competitive rather than cooperative school culture remains pervasive. A major reason for this is the manner in which most teachers are prepared.

In order to move to a new and improved model of schooling, both how schools are organized and how teachers are prepared will have to change in a simultaneous model of renewal and reform. If teachers are prepared to work in collaborative cultures, jointly

prepare instructional materials, and mutually evaluate student work, and then can only find positions in self-contained classrooms, little will have been accomplished. Similarly, attempting to change schools without fundamentally changing the nature of teacher preparation won't work either. Teachers will have great difficulty working in teams if they have been prepared as an independent operator.

A Call for New Boundary Spanning Roles

By boundary spanners we refer to individuals in the P-12 sector who assume major responsibilities working with higher education and conversely university faculty who work for specified periods of time on specific tasks in elementary and secondary schools. The limited, often ineffectual, role and responsibility of outstanding veteran teachers in the education of prospective teachers is at present an embarrassment. They volunteer to assist in the 'supervision' of prospective teachers in their capstone experience but are neither prepared for this responsibility nor reimbursed to do so. They are largely ignorant of what transpires in the larger preparation program. In contrast, we argue that outstanding veteran teachers should be involved in every aspect of teacher preparation, working hand-in-glove with university faculty in program design, curriculum development, co-teaching and the assessment of the program's effects and the preservice teachers enrolled in it. There are a few examples of 'teachers-in-residence' who are assigned to urban universities for varying periods of time to do just this with memoranda of agreements and exchange of services negotiated because of a strong local P-16 partnership. Similarly, university professors have much to offer the P-12 sector working in partnership on specific tasks for specified periods of time especially at the district level where quality research, development, and continuing teacher education are often badly needed.

Confronting a Major Misconception

We need to underscore the need to aggressively confront the naïve and wrong-minded views of the nature of teaching and, correspondingly, teacher preparation. Far too many view teaching as essentially a 'stand and deliver' enterprise, something anyone with a good general education can do. This view unfortunately is held by many who influence educational policy. For example, the Thomas B. Fordham Foundation's (1999) manifesto "The Teachers We Need and How to Get More of Them," proposed to eliminate all requirements for the licensure of teachers except for criminal background checks, examinations of content knowledge, and a required major in the subject to be taught. The report also promoted access to teaching through means other than professional schools of education. The current federal administration, despite its rhetoric about a qualified teacher in every classroom, supports a variety of alternative and typically abbreviated routes to teacher certification outside of professional schools of education.

In contrast, the Center for Research on Education, Diversity and Excellence (CREDE) has for a quarter of a century studied teaching that is effective in showing gains in achievement, especially with minority students academically at-risk. Their studies underscore that effective instruction is complex. Dalton and her associates at CREDE concluded:

> Pedagogy also means that teachers learn about their students' homes and communities to understand how to draw on local funds of knowledge for academic learning. Today's pedagogy applies the concepts and findings of research that show promise for all students' achievement, such as communities of learners, language development, guided participation, emergent literacy, funds of knowledge, cultural compatibility and instructional conversation (p.5, 1998).

Similarly, teacher preparation needs to be grounded in and guided by a complex and contemporary conception of teaching that acknowledges the economic and political realities of urban settings and the many forms of diversity therein. Narrow views of the mission of our public schools, and of sterile and routine views of teaching fostered by 'fast track' preparation simply cannot be condoned. Preparation for teaching can be reasonably viewed as a three-legged stool with knowledge of subject matter, ability to effectively engage learners with that subject matter in multiple ways (pedagogy), and knowledge of the youngsters and the contexts in which they live representing the three legs. The latter, or third leg, is given short shrift. We recommend that understanding of urban communities and cultures should be a core aspect of preparing teachers for urban schools. Such understandings are critically important given that the pipeline of prospective teachers is still comprised primarily of individuals who have the following profile developed by Zimpher almost 15 years ago:

> The typical graduate of the American education school is female, is of Anglo descent, is about 21 years of age, speaks only English, travels less than 100 miles to attend college, was raised in a small town or suburban or rural setting, and expects to teach in a school whose demographics are similar to her own. In fact, this typical prospective teacher does not seek to teach students out of the mainstream, or to serve in a school of innovative architecture or one organized around anything other than traditional curriculum or facility (1989, p. 51).

The general and liberal education of prospective teachers can be designed to help prospective teachers more fully understand the nature of urban communities and the multiple cultures typically found within those communities. Community contexts for example can be explored and better understood through multiple lenses such as those provided by the urban historian, the urban sociologist, the urban cultural anthropologist, the urban political scientist and the urban geographer. Literature, the fine arts, architecture, business, engineering and religion can all contribute to prospective teachers acquiring multiple interpretations and richer understandings of urban communities and cultures.

Teacher education needs to be expanded not abbreviated, especially in preparing teachers for high poverty, urban classrooms. It should begin with a rethinking of how general and liberal studies can help prepare prospective teachers, especially those largely unfamiliar with urban contexts. The cultures and communities' general studies, referred to above, seem especially appropriate in urban universities working in close partnership with their counterparts in the P-12 sector and the larger community. A 'cultures and community' core curriculum will succeed only if key community leaders, community agencies and outstanding veteran teachers are engaged in tying the rich and diverse disciplinary and trans-disciplinary corpus of

knowledge offered in the university with multiple firsthand learning activities in a variety of cultural contexts and in a range of urban neighborhood communities.

Finally, this urban general studies option can be designed to ensure that students involved in this sequence of courses are positively socialized in a planned manner through sustained interaction with a student cohort or persistent learning group, which is purposefully structured to reflect differences in race, culture, gender, age and experience. These cohorts can also serve as a source of support as well as a collaborative study group.

This approach to general studies for prospective teachers should be combined with a program of professional study that is specifically designed to focus on the specific context in which the teachers will teach, in this situation, high poverty, urban schools.

For several years, the two of us assumed a leadership role in a national network whose mission it was to develop improved programs of teacher preparation designed specifically to recruit, prepare, and retain high quality teachers for challenging urban schools. Space prohibits any detailed description of these programs, but the mission statement for one of these preparation programs illustrates their distinctive properties as follows:

> Our purpose in this program is to prepare educators who are knowledgeable about and affirm diversity in all its forms: social class, gender, race and ethnicity, sexual preference, and differing abilities. The notion of critical multicultural education (anti-racist education) is infused throughout the program as preservice teachers examine the sociocultural contexts of schools and communities, child development, curriculum, and pedagogy. The Urban/Multicultural Teacher Education Program is designed for elementary education students who see themselves teaching in urban schools or with students from diverse cultural backgrounds. The purpose of the program is to prepare highly qualified teachers to work in schools in urban/multicultural settings with children who come primarily from impoverished families (Howey, 1996).

Many urban/multicultural teacher education programs are framed in the disciplines of social foundations, particularly sociology and anthropology of education. The politics of schooling are examined through a sociological analysis of school structures. They examine the ways in which political and social structures impact teachers' work lives in urban school bureaucracies. The disciplines teachers are prepared to teach are grounded in the sociocultural context of children's lives. These programs stress the need for change in school practices based on the premise that traditional schooling has often not been successful in urban/multicultural communities and that teachers must have a wide repertoire of pedagogical and curricular practices that engage students from diverse communities.

An urban teacher preparation program, for example, would thematically institute a sequence of educative activities to engage prospective teachers both through scholarly analyses and in-depth experience with another culture and language to better understand their own cultural norms. It would also help them inventory resources and assets in urban communities and determine how these can be brought to bear to enable learning in- and out-of-school for the youngsters they teach. These are just a few of the examples of core understandings and abilities that allow urban teachers to be successful. These have to be acquired above and beyond acquiring a deep understanding of the content they teach and

a rich repertoire of teaching strategies to engage diverse youngsters in a variety of ways with that content.

In tandem, the general studies and professional preparation should considerably counteract the 'culture shock' and early exit experienced by so many young, middle-class teachers who begin their teaching in urban, high poverty schools. A recent report (2003) by the National Commission on Teaching and America's Future (NCTAF) viewed teacher retention as a 'national crisis' and concluded teaching is increasingly "a revolving door profession" (p.11). The turnover rate in high poverty schools with which we are concerned approaches 50 percent and higher over the first three years for novice teachers.

To counteract this tragic loss of novice teachers, a robust foundation in general and pre-professional studies and a more rigorous and distinctive professional program should extend as well into a program of induction. By induction we mean a series of learning and supportive activities for novice teachers that extends and enriches those core understandings and abilities begun in preservice preparation. These educative activities need to continue for two or three years when the learning needs of novice teachers are the greatest. At the present time there are very few rigorous programs of induction. The typical arrangement rather is to assign the beginning teacher "a buddy" or in some instances "a mentor." Because there is no connection to what has transpired previously in the novice's preservice preparation. It is not uncommon that advice and counsel provided by the school district is oppositional in nature to that provided by the university. This lack of integration and positive interdependence here between higher education and the K-12 sector once again is evidence of a deep structural flaw in the educational enterprise.

Fideler and Haselkorn (1999) reviewed diverse efforts to provide for beginning teachers in urban areas and could not find comprehensive entry-year programs. They found parts of good practice at different sites and recommended that we should view induction as a multi-year, developmental process and an extension of preservice preparation.

We recommend that induction programs be enriched through a program of distributed mentoring. This form of mentoring is a good example of an integrative change strategy. Integrative strategies are powerful enough to accomplish multiple purposes simultaneously. In a distributed mentoring scheme, the common single 'mentor' teacher would be replaced by a team of veteran teachers who collectively educate and support new teachers. For example, one veteran teacher might be prepared to provide coaching; a second might provide assistance with technology; a third, with gaining understanding of the local school curriculum; and a fourth might serve as a confidant providing the novice with needed local knowledge about the school and school community.

This mentoring strategy becomes integrative in that the novice teacher gets both the time and types of assistance that no one mentor can provide, while at the same time a collaborative school culture is also being reinforced through the shared responsibilities and increased expertise gained by different veteran teachers. A collaborative culture stands in stark contrast to the more common competitive culture where teachers often find themselves working both in isolation from and in competition with their peers – especially with regard to improving student standardized test scores.

Higher Teacher Turnover

This approach to (education) contrasts sharply with that of other professions. American society prides itself on its technical skills in medicine; how far would those skills have advanced if the medical profession had decided that there should be no obstetricians, cardiologists, or cancer specialists – that a "doctor is a doctor"? How quickly would the aircraft industry have advanced if design engineers weren't distinguished from repair mechanics – if the industry had decided that a technician is a technician, all equally capable of doing every job, each worker interchangeable with all others? Few of us would put our children on a jumbo jet flying cross-country if we knew that the airplane's lone pilot was also its only design engineer, mechanic, navigator, chef and cabin attendant. Yet we regularly entrust our children's future to teachers expected to discharge flawlessly a similar array of burdens in their classrooms, with far less rehearsal, preparation, and support than even the smallest airlines give pilots (Wilson and Daviss, 1996)

Beyond One Teacher and One Classroom

NCTAF's (1996) vision was a competent and caring teacher in every classroom. We prefer NCTAF's more recent variation on that. Individual classrooms represent too rigid and lock-step of an approach to schooling. What is rather needed, we believe, are creative and more fluid and flexible staffing patterns in schools. Career lattices are needed wherein schools have qualified lead teachers. They might have national certification for accomplished teaching and/or leadership preparation provided by the local P-16 urban partnership. In terms of the latter at one urban university where outstanding experienced teachers were recruited to assist in every facet of a major redesign of teacher education over a two-year period, they were at the same time engaged in a sustained program of leadership preparation.

High teacher turnover is hardly limited to novice teachers. If we are to retain many outstanding veteran teachers, especially in challenging urban schools, we need to create instructional leadership opportunities for them where they can be paid at a salary commensurate with that of their administrative counterparts. With a reduced teaching load, they can coordinate a team of other veteran career teachers (not interested in assuming leadership), novice, pretenured teachers, prospective teachers interning at that school, as well as a range of aides and paraprofessionals. Well-conceived staffing patterns allowing teams of individuals with differentiated roles to work with the same group of students over multiple years need cost no more than the undifferentiated, egalitarian, single-salary staffing model so pervasive today. Just as the P-16 partnership can bring more highly qualified veteran teachers into the university setting to contribute to greater renewal and change there, it can also bring higher education and community personnel into K-12 schools to rethink the ways in which these schools can be better organized for success.

The final phase of what should be a relatively seamless approach to teacher development is, of course, continuing professional development. Schools organized for success foster teacher learning as a natural, on going facet of teaching. Continuing professional development occurs at the school site and is embedded in the daily instructional activities that take place there. If teaching is more public and transparent as part of a team teaching arrangement, then continuing teacher development will also be greatly facilitated. Action research, joint lesson development, and structured observation of different aspects of actual teaching and learning (often involving students themselves in such inquiry) are common examples of this embedded approach to teacher development. Surely workshops and graduate classes outside of the school context have an important role to play. However, if the ultimate goal is to improve teaching that results in improved student learning, then schools have to be organized for teacher learning or development to occur as a matter of course on a continuing basis at the school site. Joyce and Showers (2003) found that if the professional development of teachers is to be potent enough to affect

student achievement, it requires much more than exposition – that is, providing knowledge. Their research suggests that such professional development also requires 1) demonstration, 2) guided practice in the teacher's classroom, 3) repeated trials, and 4) continuing examination of and feedback about the impact of teaching on student performance. One could reasonably argue that these activities are also key elements of clinical preparation for prospective teachers and that the veteran teachers who work with prospective and novice teachers should be fully prepared to effectively engage them in all of the above activities.

The absence of such rigorous continuing teacher development can be attributed to many things, including the costs of the embedded sequence of activities outlined by Joyce and Showers. We argue however that it is the constraining structure of schools that is the primary culprit. Again, our outmoded structure of schools is not only directly related to the outmoded manner in how teachers are prepared, that is to work in an isolated, lock-step approach to schooling, but to less than rigorous models of continuing professional development as well. Again that the key to increased learning for students is improved teaching. In turn the key to improved teaching is much improved teacher education. The final proposition in this set of propositions is that teacher education or learning to teach best occurs in schools organized for success and at the present time, many schools and school districts are not organized for success but rather constrain high-performance teaching and learning. In summary, we cannot see anyway that the simultaneous renewal needed to move forward can occur without the emergence of strong and systemic P-16 partnerships.

What we envision is a highly interactive approach to transformational change between institutions and agencies working in close partnership. Key to the success of these needed changes will be the evolution and viability of new boundary-spanning roles. We have no illusions that this can happen either easily or quickly. However we have been involved in the early successful stages of the type of P-16 partnerships we have called for in this chapter and we believe that with strong leadership and continuing collective will, they can mature and become the major catalysts for needed change.

We were also asked to address the costs of our proposed reforms and given the limited work to date in this area, we are not sure what costs these partnerships will entail. However, it could be that the changes we have advocated here both for how teachers are prepared and how schools are organized to function more effectively might result in some efficiencies and hence some cost saving. Whatever the potential costs, we know that in the stratified system of public education that currently exists there are major inequities in terms of funding and resources. Hopefully higher education and P-12 educators working in partnership with other influential community leaders, including mayors of major urban communities, can exert more influence to change current policy and practices in regard to funding. The education enterprise has not worked well together to influence such policy changes. These P-16 partnerships are in position to leverage resources. Partnerships with a mutual vision and common priorities can often better access philanthropic support because they are working together on a common mission.

In closing, we acknowledge again that there are very considerable challenges in developing the systemic P-16 partnerships which we envision. We have however discovered a

few essential conditions that can be the cornerstone for their success over time. First, success for all students has to be at the core of the mission. Herein we mean not only success in elementary and secondary school but in postsecondary programs as well. Agreement on a common mission and a unified theory of action to reach the mission is essential. Second, the partners have to agree that this mission is a matter of shared responsibility and shared accountability. The tens of thousands of youngsters failing in K-12 schools are also higher education's and the broader community's responsibility; not just that of the K-12 schools. Third, this accountability has to be made public and shared at reasonable intervals; likely on an annual basis. If fifty percent of youngsters are currently not completing high school, what would be the effect of setting a five percent target of improvement for the next several years and examining progress against that goal on an annual basis? Where would we be in five years? Fourth, a long-term commitment has to be made by the partners with a willingness by leaders in the community to continue to meet on a regular basis, to stay the course. Fifth, the partnership needs leaders of organizations and agencies who can commit resources as well as vested parental and community stakeholders to be engaged throughout. A 'grass roof' rather than a 'grass roots' approach will be required. An organizational structure has to be put in place so that as various leaders such as university presidents, school superintendents, mayors, teacher union leaders, or the head of the chamber turnover, their replacements are expected to move right into a seat at the partnership table, to attend regularly, and be fully cognizant of what their specific role and responsibility is to the partnership. While the individuals in the leadership roles will change, the roles and the partnership structure will not. Sixth, and finally, the arduous work has to get done and done in a continuous improvement mode. The partnership has to have a tiered or layered structure wherein individuals from a variety of institutions and agencies will now work more closely together and often in boundary-spanning roles.

In closing, we are acutely aware that our vision of urban P-16 partnerships is bold, even audacious. However, if we don't aggressively pursue such a vision, we believe we aren't likely to achieve the changes needed to make success for all students a reality. Our hope is that the vision will be warmly and aggressively embraced and that the suggestions we have put forward here will be helpful in that regard.

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CHAPTER 9

View from the Trenches: Two Practitioners Reflect on the Need for a National System of Educational Leadership Preparation

Carri Schneider & Ted Zigler

Introduction

When the Center for Reinventing Public Education detailed its findings on current licensure requirements for educational leaders in its 2005 report prepared under a grant from The Wallace Foundation,[1] our intuition as practitioners was confirmed. Based on an in-depth analysis of principals' licensure content in all 50 states, researchers found that current licensure programs do not reflect a focus on learning and that the requirements themselves are uneven across the country and misaligned to the diverse needs of America's students (Adams & Copland, 2005). This important report shed light on the need to reconsider leadership preparation in our country and motivated us to pen this collaborative chapter. As two former practitioners and current academics in Educational Leadership, we bring our perspective "from the trenches" as we issue a national call to action. It's our firm belief that redefining our "core business" as educational leaders is a necessary and often-neglected aspect of the call for systemic reform of American public schools. That is, we believe that in order to truly provide all children with equal access to a high-quality, world class educational opportunity, all educational leaders must be equally prepared to meet the challenge. As such, we need a more universal and unified system in place that can properly train and support educational leaders on their missions in schools across our country.

To build our case, our chapter begins with a background section that reviews the current state of educational leadership preparation in our country and summarizes the strong relationship between educational leaders and student achievement by briefly surveying recent research findings in these areas. The background section ends with our proposal for a more nationalized system of educational leadership preparation before moving into the discussion. In the discussion section, we further lay out the details of our proposal by addressing three concomitant goals: 1) to re-establish our "core business" as educational leaders; 2) to re-conceptualize how we define "leadership" and "preparation"; and 3) to acknowledge current roadblocks and critiques of our proposal. In the final section, we conclude with a review of our case and our vision for the national system of educational leadership that is necessary to truly provide each and every American child with equal access to a high-quality, world-class public education.

Background

Over the years, numerous reports have produced similar results as to the lack of consistency among educational leadership programs. Across the United States programs differ

by focus, design, length, accreditation, philosophy, organization, and so forth, as well as the necessary requirements for completion related to experience, education, and practice in the field. Since we know that educational leaders can either positively or negatively influence the achievement of their students, we call attention to these discrepancies as a way to bolster our proposal for a more consistent, national system.

Current State of Leadership Preparation

Currently, multiple sets of standards have become commonplace and only add confusion to the already complex framework of standards necessary to prepare good educational leaders. To illuminate this problem, let's turn to Ohio as an example. In Ohio, there are standards being used by principal preparation programs guided by the Interstate School Leaders Licensure Consortium (ISLLC), Educational Leadership Constituent Council (ELCC), and newly written (2005) Ohio Principal Standards, which are intended to supercede the ISLLC and ELCC standards in Ohio. Subsequently, in order to reconcile all these standards, a "crosswalk" had to be formed to connect the new Ohio Standards with the ISLLC and ELCC principal standards, expectations from accrediting agencies such as the National Council for the Accreditation of Teacher Education (NCATE) and the Teacher Education Accreditation Council (TEAC), along with the Licensure Exam (Praxis II). Adding to this complexity, in the state of Ohio, there are currently 22 institutions that prepare candidates for principal licensure, and the programs look very different from each other. Across the country, states are experiencing similar problems. Many states have developed their own standards, in answer to the need for school reform. As preparation programs wrestle with these various standards, licenses, and accrediting agencies, many colleges and universities have created multiple methods for delivery of curriculum such as satellite programs off-campus and distance learning opportunities online and via video-conferencing. Is it any wonder that, among all of these complexities, university faculty often feel "frozen," not knowing how best to proceed? Some may use this confusion as an excuse in order to avoid change. Which standards will be used next? The push and pull comes from many directions. Who will oversee the programs being offered online from out-of-state institutions, which may use different standards and a different accrediting agency? We are becoming more fractured at a time when we should be coming together as a nation to develop answers in a "flat world" that has nations competing with other nations in economics and knowledge. It is obviously time to make a change.

Most recently, separate reports on programs and licensure by the Wallace Foundation (Adams and Copland, 2005), Columbia's Arthur Levine (2005), Vanderbilt's Joe Murphy (2006), and the Stanford School Leadership Study (2005) have looked at principal preparation programs and called for moving all programs to a more consistent, coherent program with all programs having essential elements, being learning focused, having portability, and containing adequate support. We are suggesting, based on these ideas and participating in the field, there is a need for a consistent, coherent national program for principal and teacher-leader preparation.

Educational Leadership and Student Achievement

As we will explain in the next section, a national system for educational leadership preparation is an integral part of a new system for American public education that will be needed to provide each and every student with an equal access to a high-quality, globally-competitive education. As such, it is this inextricable link between educational leadership and student achievement that bolsters our argument. Simply put, the leader of a school or district can "make or break" the achievement of the students since s/he is primarily responsible for supporting, motivating, and encouraging the teachers, staff, students, p arents, and other various stakeholders. In today's post-No Child Left Behind school, the task of instructional leadership has gained increasing importance on the list of administrative duties. This type of leadership, which places student achievement as the focus of the principal's duties, is made more difficult by additional responsibilities such as monitoring and supervising, handling student discipline, attending and leading meetings, writing grants, observing and evaluating teachers, participating in community events and civic organizations, completing directives from the board of education, evaluating building data, making financial and budgetary decisions, implementing and facilitating change, addressing parent and community concerns, garnering support for school-related issues, carrying out the school's mission and vision, etc.[2] Therefore, it is no surprise that instructional leadership often takes a back-seat to more "pressing" issues, such as the angry parent or disruptive student. Later in this chapter, we will make the case that "leadership" itself must be re-conceptualized under the new 21st Century system of American public education. Before doing so, it is important to begin with a quick scan of the research that provides evidence for the strong connection between educational leadership and student achievement.

To acknowledge the ways in which a school or district leader can either positively or negatively influence the success of his/her students is to acknowledge that the preparation of our future educational leaders is just as important as the preparation of tomorrow's teachers. Our intuition based on conventional wisdom and our own experiences is confirmed by research that verifies this connection. The Leithwood, et. al. (2004) report, "How Leadership Influences Student Learning," commissioned by the Wallace Foundation, provides two key insights into the relationship between leadership and learning that inspire our repeating them here. They found: 1) "Leadership is second only to classroom instruction among all school-related factors that contribute to what students learn at school; and 2) Leadership effects are usually largest where and when they are needed most." (p. 3) Similarly, Cotton's (2003) book also details what the research says about the relationship between school administrators and the achievement of their students. Key points from her analysis also bear mentioning. To summarize, Cotton (2003) concludes: 1) research that connects strong administrative leadership to student achievement dates back to the 1970s; 2) such research has been further confirmed and developed by more recent research; 3) the large body of research in this area comes in various forms and functions and differs by design, subject, participants, and type of outcome; and 4) there are many characteristics of educational leaders that influence students.[3] Finally, it's important to note that, while many administrative decisions certainly influence student achievement directly, many of the ways in which the school leader affects student learning is more indi-

rect in nature. For instance, consider the role that the educational leader must serve to motivate and inspire the teachers, staff, and students. One example of this type of connection between a less observable leadership quality and student achievement is through what is known as "collective efficacy." Goddard (2001) defines collective efficacy as the perceptions of the individual members of a school that the group as a whole can successfully influence the success of its students. Clearly, the principal or superintendent serves as the person with the most control over the school or district sense of collective efficacy. Multiple studies[4] have shown the strong positive correlation between leadership-inspired characteristics such as collective efficacy and student achievement.

Overall, there is a wide corpus of research, spanning decades, that evidences the connection between student achievement and educational leadership. If the educational leader's influence has such an impact on student achievement, why is the preparation of future school administrators in such a confusing state of disarray? Why do we continue to tolerate a complicated, often-contradictory set of competing standards for preparation, licensure, and professional support that perpetuate an uneven system of educational leadership? It is time to seriously consider deep, structural changes to our current educational system as we move toward a more unified, equitable system for all students. It is our opinion, as practitioners and academics, that a national system offers our most promising hope.

Our Proposal for a National System

If educational leadership is essential to student achievement and increasing the student achievement of all American students is our goal, it therefore follows that we must have a system in place that also provides all future educational leaders with equal access to high-quality preparation and professional support. As clearly evidenced by the aforementioned research, this is simply not the case for today's administrators. Since current preparation, induction, and professional development programs for educational leaders vary from state-to-state, city-to-city, and even district-to-district, it is ludicrous to expect that all leadership programs are created equally. We therefore propose a national system for educational leaders that addresses high-quality preparation and ongoing professional support for practitioners. Such a program is not only essential to the need for high-quality educational leaders across the country, but also critical to the successful implementation of proposed national standards for students and teachers as recommended by many of today's leaders whose voices are shared in this book. Without a completely nationalized approach to American public education that addresses all parts of the system – students, teachers, and leaders – we are doomed to fall off the edge of our increasingly "flat world".

Discussion

To set the stage for our proposal, we first offered our readers some background information on the current state of educational leadership, the connection between leaders and learning, and our initial call for a national system of American public education. In this section, we present key points from our discussion on these issues. Here, we lay out our vision for the ways in which we must re-define many features of educational leadership, including the re-establishment of our "core business" as well as our definitions of funda-

mental concepts such as “leadership” and “preparation.” We end this section with an acknowledgement of the potential roadblocks and inevitable criticisms of our plan. Just as the two of us communicated with one another and our various friends and colleagues about these issues, it is our hope that this section will stimulate further discussion among our readers. We see our partnership as a small model for the larger collaboration and communication that will be necessary if we are to move American education forward.

Establishing Our “Core Business”

What is the “core business” of programs of educational leadership? If we believe that our “core business” is helping schools perform better by preparing strong school leaders, then we need to be embedded within schools and school districts. If we believe that our "core business" is school reform and reform sustainability, for the sake of improved student achievement, then teacher education and educational leadership programs must work together for this end. Schools of Education and Educational Leadership must re-connect not only with each other, but with the school districts to eliminate the "disconnect" that principals and teachers talk of, when referring to their university training and support. We must return to our "core business" of improving schools and helping teachers and principals to help their students. That is our "core business." Writing on little-read topics, researching on the periphery of anything important, preventing research in school districts, and maintaining the status quo of the university or the school district is NOT our "core business."

Cloke and Goldsmith (2002) in their book, *The End of Management and the Rise of Organizational Democracy* believe that "Democratic theory makes it clear that management as a system will predictably reinforce hierarchy and bureaucracy, autocracy and injustice, inequality and privilege; that it will block self-actualization, reduce personal freedom, and exhaust ethics and integrity; that it will sap the spirit, deplete the soul, and seek to conquer the very environment that supports it" (p. 38). Large bureaucracies are slow to change and adapt and that management from only the top will not result in speedy reforms or adaptability by an organization. The leadership must come from the top and the bottom. The leadership must come from multiple sources all at once. How do we make that happen?

Zimpher & Howey (2004) talk of system to system reform, referring to teacher education and school reform by school districts. We contend that this is a good start, but for true reform, this should be system to system to system, meaning teacher education programs to educational leadership programs to school district reform movements. America can no longer wait for one program to change, or one school district, or one school building, and then have the others slowly react to this change over time.

All parties need to be together with changes for schools and universities (legislators, policymakers, universities and colleges, public and private, school districts, teacher unions, principal organizations, public and private schools, charter and community schools; all should be at the table; none can work independently of the others. The change must come from all directions at once, and this can only be lead on a national level from a

single platform. This needs to be lead on a national level by people like Nancy Zimpher, Bob Wehling, Joe Murphy, Diane Ravitch, and others like them who all have the reputation and the expertise to make this work, with the support of the Department of Education.

Re-conceptualizing "Leadership" and "Preparation"

Just as we must rethink how we define our "core business," we must also re-conceptualize how we think about "leadership" and "preparation." In today's context, we must expand our understanding of the educational leader beyond the traditional authority figure of the principal, superintendent, or administrator. Instead, we must consider new types of instructional leadership within various educational contexts, such as teacher leaders, team leaders, and so on. Similarly, we must redefine how what we see as "preparation." The current models of leadership preparation that usually ends with degree completion are out-dated and inadequate. It is our belief that the only way to provide equal access to a high-quality education for all American students is to ensure that each student has the benefit of a well-prepared instructional leader. As such, new preparation programs must be created that do more than award a license or degree in educational leadership.

Schools are doing their best to change and adapt, and are doing good work. But they simply cannot change fast enough to keep up with the world around them. Thus, the problem is that the good work is not good enough! One can see examples of business not changing fast enough either, despite their attempts to change and adapt. So one can agree this is not an easy task, and is one that needs a national tone set, and a national organization or group to drive it. Schools need a flat model of leadership with many leaders (teachers, principals and community members) in order to change quickly and to change in a manner that meets the needs of each individual community. Only with teachers and principals leading together, side-by-side, can one get the strength and the quickness to adapt rapidly to society's changes.

For the quickest, sustainable change reforms, school organizations need the leadership to be in many people, from many sources, from many viewpoints, all working together toward a common goal: helping all students. Teachers and principals working side-by-side allows for many leaders, with diverse viewpoints, to accumulate the strength needed for quick reform and sustainability of successful school reform movements. No one group "owns" the leadership of schools. No one group can do this incredibly difficult job alone. Teachers and principals need each other, and the students need to have them both working together.

For this reason, it is necessary to redefine the principal's job description, as it has become too big and too complex for one person. School communities expect that one person to be "superman" or "wonder woman," being able to handle all problems, accommodate all populations, and drive student achievement—oh, and also to cover football games on Friday night! Conger & Benjamin (1999) in their book, *Building Leaders: How Successful Companies Develop the Next Generation,* believe that today's need is for "change-agent leaders" who are inclusive (shared leadership). It is not easy to do both of those at once: change organizations quickly while using a shared leadership model, thus, one starts to understand the complexity of the principal's position.

The partnership of teacher education programs and educational leadership programs in institutions are capable of creating the leadership for schools that can move school reform to the tipping point. This move would actually strengthen both institutional programs, while modeling the leadership that is necessary in schools. Both programs should be working together to prepare candidates for the principalship and for teacher leadership alongside the principal. The focus in the past, and a very narrow focus at that, has been for programs of educational leadership to prepare only those interested in being principals. Rare is the program that intentionally prepares teacher leaders to work alongside principals. Educational leadership programs as the name states, should teach school leadership for both teachers and principals, and they should learn and practice side-by-side.

Zimpher & Howey (2004) continue to lead the call for a full working partnership of the university and the public schools, charter schools, community schools, and private schools. This must include more cross-over between departments within institutions. All entities must start working together, rather than seeing each other as adversaries, for the good of all of the students. The competition can no longer be seen as the city nearby or the state next door. The competition is other countries, acting as national bodies in their reform and endeavors. The push to a national education plan, working together as one "educational organization" with many delivery models, agreeing on one set of high standards and licensure for all educational leaders, can bring about a world class education opportunity for all children.

This national plan would consist of a unified vision for each element that is critical to the building a system that can provide equal access to a high-quality education for all students – including national standards for students, teachers, and school leaders. Accordingly, the national plan must be flexible and have what Adams and Copland (2005) refer to as "portability." Large urban districts often need to grow their own leaders, as they require leaders that understand the urban community, the teachers' union, and the problems of large school size, while small rural schools, whose community revolve around the school and its activities, have somewhat different societal needs. But all states have similar educational goals principal standards, with the skills and knowledge to aid student learning being much the same regardless of the area or state. Thus, a national system of educational standards and leadership practices that is "portable" would cross those lines and allow mobility and accessibility for schools to obtain the excellent school leadership needed. A national system can work![5]

Acknowledging Current Roadblocks & Criticisms

It's not easy to turn a ship the size of American public education. However, we do not intend to let current roadblocks and inevitable critiques of our proposals stand in the way of our vision for the future of America's students. While we can't anticipate each and every obstacle, there are several potential areas we wish to address at this time.

First and foremost, we want to be clear that we are not calling for a federally-controlled system for educational leadership. Rather, we propose a more unified national system of standards for educational leadership preparation and practice that will be universally rec-

ognized by each state as the exemplar. This system would not be created or controlled by the federal government. Rather, it would be a national plan of unity toward a common, national system of educational leadership standards for preparation, licensure, induction, and professional development. In a world increasingly focused on global competition, it is time that the states band together to create an American system of public education rather than focusing our energy on competing with one another. Currently, we are only as strong as our "weakest" state's requirements. With a national system of education that provides standards for each aspect of the system, we will be stronger as a nation.

Second, we wish to speak to some of the concerns regarding national standards. We fundamentally believe that standards can be nationalized without being lowered, while simultaneously acknowledging that a national system will need to be flexible in order to meet the individual needs of each state. It is therefore necessary that a national committee with representatives from all stakeholder groups be involved in the creation of these standards, with an eye toward both universality and flexibility.

Third, we know that implementing something of this magnitude will take time. Therefore, we believe that we must begin with and expand upon current pockets of success. Perhaps the best plan is to begin with regional systems and work our way up to something nationwide. We recognize that people and organizations within the current system are accustomed to functioning as islands and icebergs and that work will need to be done to make true collaboration (and not just cooperation) possible. But, we should not let the comfort of our unhealthy habits stand in the way of better decisions that are ultimately best for each of us. It is necessary to create a sense of urgency. We are near the tipping point, but a push on the national level is needed.

We are wasting money by constantly re-inventing standards and licensure in each state. Money is already being spent, as each state moves in its own parallel direction on school reforms, so more money is not as necessary as using the money in a more aligned effort. The right kind of national leadership is needed for this to move in a positive direction and to pull the funding together. Foundations such as the Wallace Foundation and the Gates Foundation could come together to coordinate their work at a national level, improving the targeting of their funding. Federal monies could support an effort like this and do more good than many other current initiatives. Focusing on leadership would be money well-spent!

Conclusion

Phillip C. Schlechty (1997), founder of the Center for Leadership in School Reform, makes an important point: "Too few leaders understand that America's schools have never performed as we would now have them perform, and of those who do understand these facts, too many behave defensively when confronted with the charge that today's schools are not meeting the needs of modern society."

Our collaborative chapter attempts to address these two areas. We have presented the facts based on the current realities of leadership preparation under our current system. Instead of behaving defensively, we have taken the next steps and proposed our vision for

a nationalized system for educational leadership. Accordingly, we urge our readers to move forward with two critical steps. First, we ask you to acknowledge the facts. Our current system is not working. Second, we urge you to confront the facts and take the appropriate action! We believe that the appropriate action with true promise is complete, systemic reform from the current, fragmented, flawed system that perpetuates educational inequality to a new, unified, national system that would provide each student with equal access to a high-quality, world-class public education.

Endnotes

1. Adams, J.E., & Copland, M.A. (2005). When learning counts: Rethinking licenses for school leaders. Daniel J. Evans School of Public Affairs: University of Washington, commissioned by the Wallace Foundation.
2. The work of Marzano, Waters, & McNulty (2005) provides a thorough list of Leadership Responsibilities and Practices.
3. For a complete list of Cotton's (2003) areas in which principals of high-achieving schools are effective, see pages 67-72 of her book Principals and Student Achievement.
4. For a comprehensive list of studies that provide "The Collective Efficacy Research Base," see McREL's (2005) Participant Manuel for "Balanced Leadership: School Leadership That Works."
5. One celebrated example is England's National College for School Leadership (NCSL).

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Political Context of 21st Century Education

CHAPTER 10

Ensuring Access to a World-Class Education

Diane Ravitch

What do we have to do, above and beyond current efforts, to ensure that every child in the United States has reasonable and realistic access to a truly world class educational opportunity?

There are three steps that should be taken to assure that every child in the United States has reasonable and realistic access to a truly world class educational opportunity. However, two of them are impossible.

The first step would be to find a magic wand and make sure that every child is born into a two-parent family with income sufficient to provide a good, middle-class life. If we knew how to make this happen, then every child would have a good chance to receive the care, nurturing, love, and physical security that they need to develop and be well-prepared for schooling. I mention this because it is well-known to every social scientist that family background is very important in predisposing children to succeed in school, and that it plays a large role in determining whether children have good housing, good health care, and a myriad of other important factors that affect their chances in life and in school. Not having a magic wand, I don't know how to make this miracle happen.

The second step would be to have a popular culture that supports and reinforces the value of learning and the character traits necessary for success in school. By that, I mean a popular culture that makes heroes of scientists, engineers, scholars, thinkers, artists, and others who are engaged in occupations that require study, practice, planning, delayed gratification, and dedication to self-development and communal progress. Instead, we have a popular culture that celebrates celebrity; that lavishes attention on people who are famous for being famous; on "stars" who lead dissolute and empty lives; on athletes, movie stars, rock musicians, and others whose lives owe nothing to education and everything to looks and glitter. But I don't know how to change the popular culture, so I assume we are stuck with one that will continue to tout the significance of hollow people.

The third step, which seems fairly simple compared to the others, would be to have a national education policy, one that is designed to maximize the educational opportunities of all children in the United States. This would mean that we collectively would have to develop national academic standards, a national curriculum, and national testing, supported by national financing of schools. By a national curriculum, I refer not only to reading and mathematics, but to science, history, civics, and the arts as well. It is not necessary to administer tests in all of these areas, such as the arts, but it is important that all of these studies be considered an integral, essential part of the national curriculum. My guess is that a national curriculum would consume about 50 percent of the school day, and the rest of the time would be left to state, local, and teacher discretion.

Teacher-training programs would prepare teachers to teach the national curriculum. States would be relieved of the costs and burdens of state testing. Publishers would compete to prepare the best texts to support the national curriculum. In light of the mobility of the population, parents could be assured that their children's education would not be disrupted

by their move, and the stability of the child's educational program could be assured, no matter whether the students were in New York or Illinois or California.

There are obvious problems with this proposal, but they do not seem impossible. The first problem is, who is "we," who would do these things? I believe that the federal government would have to take the lead and provide the financing; no one else would have the credibility or the resources to do it. The goal would be to make sure that every child has access to the program of studies that would prepare them to go as far as they are able and to have the same quality of education that is available to the most advantaged communities. No child would have an inferior education simply because of where he or she was born.

I also suggest that we need a realignment of state and federal responsibilities, as defined in federal law. Presently, under the No Child Left Behind (NCLB) legislation, the federal law defines a list of sanctions for schools that do not make adequate yearly progress toward an unreachable goal of 100 percent proficiency, and the states decide on their own standards and tests. We now know, based on the extreme variability in state test scores, that the states have widely divergent definitions of “proficiency.” A few states have high standards, like Massachusetts, South Carolina, and Wyoming. Most have much, much lower standards. What is proficient in some states with low standards would be considered failing in the states with high standards.

I suggest that the first iteration of NCLB has not only produced this extreme variability but violates the principles of Federalism, by assigning a role to the federal government that it lacks the capacity to discharge and that, under our constitution, it should not discharge. None of the remedies specified in NCLB is based on research, and none has proved to be effective in turning a low-performing school into a high-performing school in the first five years of the law.

Thus, my recommendation is to reverse the role of the federal government and the states. Let the federal government set standards (based on international standards) and administer the tests. The federal government would bear the burden and cost of test development and make this information available to every state and jurisdiction. This is in keeping with the federal government’s capacity for gathering data, as well as its legislative warrant to report to the American people on “the condition and progress” of education.

The federal government would report the results, but would have no power to mandate any actions based on them. There would be no remedies, sanctions, or rewards from the federal government. Once the information was provided to the states, each state would have the responsibility to decide what to do with it, how to act on it, and how to help schools improve.

Such a scheme, I suggest, would restore the proper relationship between the federal government, the state, and localities. It would place responsibility for action with those who are closest to the schools. It would give the federal government responsibility to do what it does best: assemble and distribute accurate data based on common standards.

I can think of many objections to my proposal, but none of them seem as compelling as the goal of assuring equal educational opportunity and a high quality education for every child.

CHAPTER 11

Changing the Dynamics of Educational Governance: Why Improving America's Schools Requires More than Changing Who's in Charge

Bob Sexton & Jacob Adams

The November 2006 elections traded Republican for Democratic control of Congress and resulted in net Democratic gains in governorships and statehouses. In 1994 election results went the other way as Republicans wrested control from Democrats. So it goes in federal, state, and local politics. But regardless of who holds political power, changing who's in charge doesn't predict improvements in America's schools.

We have observed and played various roles in educational reform from different vantage points – one of us is a college professor and the other an advocate. We thus come at this question from different perspectives yet we have reached the same conclusion. Elections can change players, values, and public commitments. What elections can't guarantee is results that matter for students. The problem is larger than the political power, or the skills and ambitions of individual political leaders; the problem lies in the dynamics of educational governance itself. We think this can be changed for the better.

By governance we mean the policymaking and public administration that define problems, articulate goals, adopt strategies and programs, raise and allocate resources, oversee the delivery of services, and shape accountability. In short, governance creates the conditions in which schools operate and students learn.

In this light, governance is the purview of elected officials and policy-level administrators at local, state, and federal levels. It also is the responsibility of the electorate who send these individuals to office, and it is the target of those who would influence their decisions. In education, good governance means sustained support for learning-centered polices that promote continuous improvement. Unfortunately, governing bodies frequently fail to achieve this standard. Why is this so hard?

The theories, institutions, and processes that shape governance in the U.S. generally—representative democracy, federalism, separation of powers—also define the governing field for America's schools. These arrangements are sources of strength and integrity, but they do have a cost. The dynamics they generate shape the context of schooling in ways that impede its success. Consider the following.

Structural dynamics. Governance is characterized by dispersed authority, fragmented structures, and large scale. Think: checks and balances, local-state-federal policy arenas, committee structures, executive agencies, school boards, and the like. This division of labor pulls the system in different directions, promulgates policies that seem incoherent from the vantage of schools, and applies standard solutions in non-standard circumstances. The result is uncertainty about who's in charge, policy incoherence, and a compliance mentality at the top and bottom alike.

Political dynamics. Governance also is characterized by conflicting interests, bargaining and coalition formation, and competition for resources. These political dynamics are the bread and butter of governmental decisionmaking, but they often lead to a squeaky-wheel selection of problems, shifting agendas, and under-funded services.

What's more, electoral politics trade responsiveness for interest group and voter support. That's okay as long as citizens know who is being responsive to whom and can track results. But things go awry when the private interests of adults in the system trump the public interest in student learning, and the way we do business clearly stacks the deck in favor of the adults. Likewise, continuity in reform policy is the victim of political campaigns, because candidates generally run against what the previous administrator did, right or wrong.

Political dynamics ensure action, but not results. The desire to be responsive sometimes produces ill-conceived policies based on poor information, bad theory, or incomplete design, none of which improves student performance.

Individual dynamics. Individual dynamics favor symbolic actions, short-term fixes, and limited change. Elected officials bring various goals and capacities to their work. They also calculate risks and rewards differently. These individual dynamics encourage officials to tackle problems and seek solutions but also to avoid major controversies. And when conflict heats up, substantial policy action becomes risky and the status quo prevails.

These dynamics have produced successive waves of educational reform in which policies and structures have changed while core patterns of schooling and student results persist. Governing schools this way has gotten us less than we'd hoped.

Is it time to despair? We don't think so. Watching the starts and stops of educational reform has taught us something about these dynamics. States and communities can get better results, but improvements require a greater commitment to learning-centered policies, continuity, and coherence – pushed by a more informed and engaged electorate. A few principles might be a guide for doing this:

- **Focus on results.** We must tie public confidence to student performance, the only results that matter. If governing bodies and citizens are serious about the goals and standards they've established, then their subsequent actions need to reflect those standards. Let us base public actions on credible information that measures performance against expectations.

- **Put learning first.** We must elevate the public interest in student learning above the private interests of adults. Public interest will trump private, if it can be widely recognized. Voters, critics, and the media can make this happen if they judge all education proposals by their contribution to continuous improvement and student success.

- **Develop civic capacity.** We must develop broader civic capacity to recognize, support, and engage promising reforms. Let's build on the close connection between schools and communities by mobilizing varied stakeholders, promoting dialog, and addressing skepticism or opposition.

• **Demand spin-free information.** We must reclaim public dialog from extremists and political spinners. Wedge issues, vilification of opponents, and unsubstantiated assertions that pander to narrow constituencies obfuscate important topics and demean public dialog. We cannot commit public resources on the basis of such dark arts and still expect the public interest to prevail. Results depend on a higher level of information and reasoned argument.

• **Coordinate reforms.** We must ensure that governmental actions move schools coherently toward better results for students. Local, state, and federal governments plus outside force like philanthropy support and make demands on public schools, but sometimes at cross purposes. Mixed signals stall progress. Coordinating reforms across levels of government would help.

• **Protect reforms.** We must protect promising reforms from regime change. Newly elected officials want to make their mark and claim credit for new solutions, but educational reform needs to be oriented around continuous improvement, not political careers. Meaningful change requires greater continuity across time, but the school change clock runs slower than the election cycle clock.

Citizen pressure can help. States and communities can accomplish such change by infusing the system with a larger dose of organized and informed citizen participation. We propose long-running, nonpartisan state or local coalitions of informed citizens that pressure elected regimes across time to focus on results, invest wisely, commit to continuity and effective implementation, and demand continuous improvement.

This idea fits with larger notions of representative democracy where the onus for effective government lies with citizens, not elected officials. These coalitions would augment governmental processes by watching closely, studying issues, disseminating information, engaging communities, and disciplining those in power.

Can this work? Yes, Kentucky's Prichard Committee for Academic Excellence, for one, has been playing this public oversight role for 25 years, and its experience is instructive. And there is also evidence that in many states and districts with improved results that some "outside" organization has been important.

An independent, nonpartisan organization of Kentucky parents and citizens working to improve education in the Commonwealth, the group's primary contribution has been to sustain attention to educational needs and reforms and to stabilize educational governance enough to allow those reforms to develop over time. Kentucky's comprehensive reform has been among the most stable in the country, and the state's students continue to improve on state and national measures of achievement. That's particularly noteworthy because the state has struggled throughout its history to provide adequate schools for its citizens.

The Prichard Committee consciously set about changing the dynamics of governance by building outside pressure on political and governing channels. A few characteristics of its campaign stand out: The committee ignited and channeled public demand improved results for students, using policy analysis, public meetings, communication strategies, community organizing, and legal action.

Over the years, the committee expanded support for continuity in educational reform by modeling and encouraging community activism, maintaining bipartisan membership, and building citizen capacity to hold politicians accountable. It has mobilized and trained thousands of advocates, including 1,300 parents in its leadership program, 600 of whom now serve on school site councils and 40 on local boards of education.

By engaging key opinion leaders and citizens and by operating at the level of principle—demanding more resources but not pushing particular taxes, for instance—the committee fashioned common ground broad enough to keep interest group divisiveness or political transitions from blowing things apart.

The committee helped aligned goals across individuals and groups, and agencies and smoothed electoral transitions that otherwise might have stripped reforms of their coherence or derailed their progress. It did this by forcing attention to the big picture—reminding citizens why reform is necessary, that it takes time, and that citizen and business support is essential—and by communicating aggressively through public and behind-the-scenes channels, reaching policy and public audiences, pressuring politicians, and setting priorities for political candidates.

The committee promoted a culture of evidence and academic results for students. Getting legislators, educators, and the public focused on achievement data is the big spring that turns the gears of standards-based school improvement.

In short, the Prichard Committee organized citizens around a shared view of the public interest in education. Its presence dampened the dynamics that promote turbulence and incoherence in America's schools. There are other examples around the country.

Is the notion of widespread nonpartisan citizen coalitions naive? We think not. Some foundations leaders like Bruno Manno at Annie E. Casey don't either. He says "…department of education leaders come and go….we try to build nonprofits that will endure…and keep everybody's feet to the fire."

Pressure is the fundamental currency of politics. In effect, we're proposing coalitions large enough to override narrower interests. The Prichard Committee provides a proof point.

Moreover, this old-fashioned notion that voters have more responsibility than the people they elect can be supercharged by the standards movement and No Child Left Behind. As the Prichard Committee's experience attests, the key idea behind accountability-driven reform isn't just that educators will understand and respond to school achievement data, it's also that parents and citizens track results, too, and—here's the hard part—do something about what they see. When accountability applies to everyone, political responsibility is enlarged.

Improving results for America's students depends on our collective ability to change the effectiveness of educational governance. Organized citizen oversight can reach beyond the limitations of individual officials, political parties, or new electoral majorities. It can change the underlying dynamics that limit the promise of educational reform. It's time to apply these lessons more broadly.

CHAPTER 12

Making Politics Work to Dramatically Improve American Education

Jim Hunt

I share with others writing for this book the conviction that we must make a quantum leap in the quality of American education. It is a moral issue as David Hornbeck contends and it is essential if America is to maintain its high standard of living economically. In fact, with the retirement of the post World War II baby boom generation, we are now threatened with a reduction in American competitiveness as workers well prepared under the G.I. Bill are replaced by poor and minority workers with less educational skills.

We in America can compete with China which has four times our population, works longer and harder hours than we do, has ingenuity in their DNA (they invented gun powder thousands of years ago), but we can only do it by being the best in the world in education and seeing that every person gets it. We no longer have a margin of error for excessive local control of schools or weak state standards and accountability. We must "gear up" for the global economic competition as our nation did for World War II when we committed ourselves unreservedly to win, mobilized our people and our resources, and made whatever sacrifices were required for success. This time the future of our nation requires not the bloodshed of young Americans, but their superb, successful education. And we as citizens must do everything necessary to provide it.

Bob Wehling and other writers in this book describe the changes in our nation's public education system that must occur in order for us to succeed. I want to deal with how the changes must come about in our democratic system of government where political leaders must understand the critical nature of education in our society, the steps required to reform it, and have the courage and skill to lead the change.

For sixteen years (1977-1985, 1993-2001), I served as Governor of North Carolina, the tenth largest state in America. It is a state with the nation's second largest banking center in Charlotte and the vibrant Research Triangle connecting Raleigh, Durham and Chapel Hill. But it also has a large population of poor people – white, Hispanic and African American. Public education has been the key to its progress. But while student test scores have gone up dramatically in recent years, nearly one-third of our students who start the ninth grade drop out of school. We must strive to graduate 100 percent of our students with the knowledge and skills to go to college or hold good jobs.

States have the primary responsibility for education – in fact, it's required in most state constitutions. And while I have come to believe that a national government role is increasingly required, the states and local governments must have political leadership that makes education their number one priority and provides the policies and resources required to succeed.

What do we need in political leadership to make dramatic change in public education – to build and call forth a public will for excellence and quality that will make it happen all across America?

First, we need "education candidates" to run for office. I ran my first race for Lt. Governor because my life experiences and my teacher mother caused me to know that education was the most important thing. Whether candidates come at it from a social, moral or an economic point of view, citizens should carefully analyze a candidate's reason for running. Those who are good education candidates will usually talk with knowledge about the schools and convey a passion about children and learning. We as citizens should recruit candidates like this, offer to help them, and give generously to their campaigns.

Second, candidates who run for office should learn the issues involved in improving schools and helping all students succeed. It's not enough to just be for education or even to pledge to spend more money on schools. Candidates should know exactly what the issues are and make explicit commitments to change things. I ran my first campaign as Governor on a pledge to improve reading in my state's schools. I'd been in lots of classrooms and had teachers tell me they had three or four "nonreaders" in their classes. My first campaign commercial had me talking with a group of parents and exclaiming that it made me angry to find out that we had nonreaders in the third grade. As Governor, I put a full-time "reading assistant" in every first through third grade classroom in my state. Reading scores shot up with two adults in each class.

In later campaigns, I promised to raise education standards with rigorous tests, improve teacher quality, and raise their pay. The key here is to know what is needed most to improve education, make specific proposals for improvement, and use the entire campaign as a time to educate the public about the schools' needs and build public support for your proposals. When you win, it's not just your promises in a campaign that you take forward but a mandate from the voters. In my last campaign for governor in 1996, I promised to raise standards for teaching and to raise pay from 43rd in the nation to the national average. We went from 43rd to 20th (then the national average) in just four years. I had told the voters my plans, told them exactly what it would cost, and the people voted for my proposal and to spend the money when they elected me.

Third, political leaders must use their "bully pulpit" constantly – ad nauseam. In my third campaign for governor, I proposed an early childhood education program that came to be called Smart Start. The Republican business leader who chaired my 501 (c)(3) foundation that ran Smart Start declares to this day that he never heard me make a speech – on any topic – when I didn't work Smart Start into my text. The press corps poked fun at me in their "end of the Legislature skit" because I was constantly telling about the importance of a young child's brain development when the little neurons connect up: "snap, crackle and pop." The point is a Governor must always be educating, advocating, urging the Legislature, educators and the public to move forward, take action, help every child learn.

Fourth, effective political leaders for education must develop specific plans for improvement. They can't take a plan off the shelf. It can't be something they "parrot" from an advisor or expert. It must come from their own study, reading, learning from teachers and parents. I learned a lot from being a school volunteer every week that I was governor for sixteen years. I learned from students and teachers and I especially learned what the school atmosphere was like. I learned from helping to found the National Board for

Professional Teaching Standards and chairing it for ten years. I literally sat at the feet of America's great teachers and listened to them discuss what accomplished teachers need to know and be able to do – and how to measure it.

Education Governors and Presidents (who were often first Education Governors) should personally lead the development of bold education improvement plans. They can and must bring together the big actors who can design it for success, who can help pass it in the Legislature, and who can ease the path for enacting the program after it is passed and funded. I always brought these people around the table with me presiding in the library of the Governor's Mansion. Teachers, principals, superintendents, school board members – they were all there. Often it required many sessions. And almost always there was give and take required for buy in. For example, the teachers' organizations were always leery of new requirements of their members and anything that sounded like pay for performance. But when they were fully involved, as they were when we developed a twelve percent bonus pay for Nationally Board Certified Teachers and a $1500 per year bonus for each teacher in a school where test scores were high, they gave strong support for passage and made it work in the school buildings.

Political leaders who really want to improve education should always be a friend of teachers. And, they should listen to teachers. You don't always have to agree with the position of their organizations. But, you should always appreciate them, respect them, praise them for doing the most important work in our nation, and find ways to encourage and support their excellence. And, always continue to learn about how to improve teaching.

Fifth, to make the big changes we must make in education in America, we must have bi-partisan support. You can't get everybody and you can't let the extremes in either party whipsaw you. But, public schools are so much the people's business in America that a good bit of bi-partisan support can usually be developed if you're smart and really work at it. I remember our efforts to raise teaching standards and raise pay to the national average. We did it with eight percent pay raises each year for four years in a row. I committed to do it in my last campaign for Governor and we had a big win. Every poll showed the people were for it. But, it was going to cost $1.25 billion.

With the campaign over, I continued my advocacy for my top issue every day. It was the centerpiece of my Inaugural Address and my State of the State speech. I talked to the Democratic Senate President Pro Tempore in my party (a good friend) and urged him to sign the bill at the top – he had followed a practice of not signing bills before. He agreed and his Senators couldn't wait to add their names. The Speaker of the House of Representatives was Republican but I knew that he was an education supporter. I also knew that the brother of my State Campaign Finance Chairman was a Republican close to the Speaker. He helped me get to the Speaker and he signed on. He and I together got the House members.

Then to top it off, we brought in the people who are the really big guns in every state – the business community. I was known as a "pro education, pro jobs, pro business" governor and the top state business leaders were my friends and big supporters of improved education.

The Joint Senate-House Appropriations Committee had a hearing on my bill entitled "The Excellent Schools Act." We had fifteen CEOs of the top business and industry leaders come in and testify for the bill. When they finished the game was over. It passed both houses by overwhelming margins. As a newly re-elected Governor, I had a big win as did the Democratic Legislators. But so did the Republicans. They established their education credentials in a way that helped them in elections for years to come.

The lesson: be bi-partisan and get business to help you!

Sixth, when a Governor has education legislation to pass and the opposition is fierce, go to the districts of your opponents. Go to the schools. Have a town meeting with students, teachers, parents and others in the school library after school. Invite the local Legislators to come even if they oppose you. Praise the local schools' accomplishments (there are always special things to praise) and then talk about the problems and how your bill and the funding for it will help them. Try to get prominent business support. Get the newspapers, TV, radio and bloggers to cover you and give them interviews. Remember, the old baseball adage if the questions are hostile: "the harder they throw it, the farther you can hit it."

You may not get the local legislators' support but at least you'll soften him or her up. The parents, school people, business leaders and others may do the rest.

Seventh, to really make change happen in the schools and in the lives of students, legislative and appropriations accomplishments must be followed up by successful implementation. A Governor may have appointed the State Board of Education, and, perhaps, the State Superintendent, but he must stay informed on how the implementation is going and push when people tend to weaken in the face of opposition. As Governor, I had to regularly keep a stiff backbone with certain members of my State Board of Education regarding education standards. And, one of my few defeats as Governor came when certain school district superintendents complained that our plan to require teachers who were getting huge pay increases to prove their effectiveness in the classroom by doing portfolios of their work before receiving full licensure was too time consuming. They went around me to the Legislature and got the portfolio requirement taken out of the law. I was not vigilant enough in making sure that the portfolio proof of the teachers' effectiveness was retained as a requisite for the big salary increases we'd provided.

Eighth, in order to galvanize the people to do big things in improving education, political leaders must constantly tell the people how they're doing – and challenge them to do better. Not just the educators but all of the people of the State. When North Carolina set new standards for our schools in the 1990s and started measuring students and schools by school results, we reported publicly every year how the schools were doing. If they were doing well, we praised them. In one year, 94 percent of our schools averaged a full year's progress and the teachers got bonuses. If we (not the schools but we) slipped back, we used it as motivation to try harder, use some new approaches, put more resources into high needs school.

The test results and other data weren't just put out by the State Superintendent and School Board, I was there as Governor to get it the maximum attention. We focused in

particular on National Assessment of Educational Progress (NAEP) results. These compared us with other states and we used these results to stoke the competitive fires of people to not only excel in our region but move toward the top nationally. During the 1990s, North Carolina schools improved NAEP test scores more than any other state and I'm convinced that it was, in part, because all of our people focused on them – educators, parents, politicians, and business leaders.

Ninth, in order to attain a high quality, world-class education for all students, political leaders must see that fundamental reforms that work are institutionalized. Every new governor who comes in wants to put in place his or her "own program". But, the fact is that high and rigorous academic standards that are assessed regularly and accurately must stay in place year after year. (Of course, we must raise standards on occasion, as the world becomes more competitive, but we must maintain our basis for comparison.) But, education standards must stay solidly in place and testing programs be clearly mandated by law or strong education policy. When changes are needed, the process needs to be transparent and the public given full information about what's happening with their education standards.

Some educational efforts may be best done through nonprofit corporations such as Smart Start in North Carolina. This approach has the advantage of not being a "government program" per se and because each county has its own 501(c)(3) with its own Board of Directors, it is less likely to be tampered with by a change of political winds. But, by whatever means, good political leaders who want lasting change need to think about how to make this last?

Tenth and last, the attainment of an excellent education for every student in America requires us as a people to explicitly set that out as a big, bold national goal—just as we did under John F. Kennedy to put a man on the moon in a decade.

I tried to do this as governor at the end of my fourth term by pointing out to North Carolinians that we were first in America in education progress during the 1990s and that we should have the goal of being "First in America," period, by 2010. In fact, my last State of the State message was solely about education.

We've made attempts at this big goal setting twice with education as a nation already. Dick Riley, who did a great job as Secretary of Education under President Clinton, points out in subsequent pages how the nation's governors in 1989 met with President George H. W. Bush and agreed to set national goals for education.

These goals were really challenging – the kind of big, bold goals that America should have:

1. All children in America will start school ready to learn.
2. The high school graduation rate will increase to at least 90 percent.
3. American students will leave grades 4, 8, and 12 having demonstrated competency in challenging subject matter, including English, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be pre-

pared for responsible citizenship, further learning, and productive employment in our Nation's modern economy.

4. The Nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next century.
5. U.S. students will be first in the world in science and mathematics achievement.
6. Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.
7. Every school in America will be free of drugs, violence and the unauthorized presence of firearms and alcohol and will offer a disciplined environment conducive to learning.
8. Every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children.

As Chairman of the National Education Goals Panel in the 1990s, I became very familiar with the progress we were making as states and as a nation toward meeting these goals. We weren't doing very well but at least we were trying—aiming toward worthy goals. It was especially disappointing that Congressional opposition killed the goals a few years later but by then most states were moving toward setting their own standards and goals.

When President George W. Bush proposed the No Child Left Behind Act in 2001 and got it passed with the help of Senator Ted Kennedy, Representative George Miller, and bipartisan Congressional support, it contained another big American educational goal: "To have every American student at grade level or above in twelve years." And, states were required to measure student achievement each year to see how they were doing toward meeting the goal.

This was hugely ambitious, and perhaps a little too optimistic. But, it was, and still is, the right kind of goal for America to have. And, we have learned a lot in pursuing it that will make us as a nation more successful in our future efforts.

As the reauthorization of No Child Left Behind is considered and we approach the 2008 presidential campaign and a new administration in 2009, we have a wonderful chance to set new and challenging, yet realistic, goals for American education. They should be bold and audacious for the nation and reflect our ambition for every child to burgeon out all that is within him or her.

And, while the learning of individual students and the performance of schools, districts and states should be rigorously measured and reported each year, we should also measure "progress." Schools that make a year's progress, or more, in a given year should be held up and applauded – even if the students started way behind.

And, states should be more involved in the goal setting and reporting of educational progress each year. Governors and Legislators need to be using their bully pulpits to focus on how the schools are doing. Secretary of Education Margaret Spellings has worked well with governors and really "pushed," but the President of the United States,

the Secretary of Education and other federal officials should meet with governors and state education officials more often to plan joint efforts to improve the schools and help every child to a world-class level.

In fact, America needs Presidents in the years ahead who make improving the education and the productivity of America's people and economy their number one priority – or as Ford Motor Company says, "Job One." We will not have the intelligence and resources to excel economically or to track our enemies and fight conflicts that may be thrust upon us unless we do.

So, I hope that the next President will make the dramatic improvement of education in our nation the main subject of an Inaugural Address and the State of the Union speech. And, then, personally lead discussions with the Congress and the states to make American education the best in the world based on strong American standards and with the goal of making our people the most creative, innovative, productive and caring people to be found anywhere on earth.

CHAPTER 13

Charting a New Course in American Education

Richard Riley

As the Congress takes up the challenge of reforming the No Child Left Behind (NCLB) Act, it might be useful to step back from the contentious debate in Washington and think about the larger framework that defines the future of American education.

Consider this question. Why, after more than 20-plus years of reform, are we still running in place and not making the hoped-for progress in terms of improving student achievement? Experts offer a variety of reasons – lack of funding; the tyranny of low expectations; the continuing disconnect between K-12 and higher education; racial, economic and class disparities; and, from the conservative perspective, a hidebound public education system.

There may be some truth in each of these suggested reasons but, to my way of thinking, they miss the mark. I believe we are where we are because the majority of Americans still see the education of our children as just a family and local matter rather than a national priority. In poll after poll, the majority of Americans are satisfied with their local schools, but they view less favorably the quality of education on a nationwide basis. Education and business leaders, however, see clearly the growing economic competition from the rest of the world and realize that we are in the midst of a knowledge economy that absolutely requires an educated workforce.

In a very real way, we have not been able to connect the dots that link improving our education system to the vital, long-term interests of this nation. In part, this is the result of our individualistic ethos and the localism that has dominated American education for the last century. While other countries have well-established national education systems that are adapting more quickly to globalization, the United States still has a very decentralized and fragmented education system that increasingly is unable to respond to the changing dynamics of the integrated global economy in which we now live.

As a result, many of the important trends that define what I call our nation's Gross Intellectual Product (GIP) are headed in the wrong direction. Data from TIMSS tell us pretty clearly that we are losing ground to our foreign counterparts. Even though America's students start school on an equal footing with students from other developed nations, by the time they reach high school, one-third of our students – 1.1 million a year or, put another way, 6,000 students per day – have dropped out. And in many low-income schools, the graduation rate is less than fifty percent. These attrition rates continue in higher education, as well.

All of these facts and more are well known to the education community. But our national dilemma, at the moment, is that we continue to search for a new 21st Century model of education that works for the American people while, at the same time, responds more quickly to emerging global dynamics – some hybrid combination of family, local, state and national responsibility that creates the right working balance. And then we need a national thrust to carry this idea forward – much like *A Nation at Risk* did in the 1980s.

Advocates of national standards – and I am one of them – recognize that the Bush Administration's implementation of an uneven NCLB has engendered a great deal of hostility to the federal role in education. (When I say that I support national standards – not federal standards – I mean the establishment of state standards that are aligned and consistent with each other. You cannot have real accountability with uneven measures of achievement.)

Many states, led by Republican and Democratic governors alike, are in near revolt against Washington's insistence that theirs is the only way to implement NCLB. The unfolding student loan scandal and the discovery of cronyism in a federal reading grant program have served to weaken the position of those arguing for a stronger federal role in public education.

For their part, more than a few states have become adept at gaming NCLB by setting teacher quality and academic standards so low that they have little connection to the economic challenges their students will face as adults. The growing disparity between some state reading and math scores and NAEP scores is just another indicator that real progress is not being made.

Many states have worked hard to overcome the discrimination and racial disparity that have haunted public education in America for well over a century. However, we need to recognize that how we finance public education and commit other resources at the state level continues, all too often, to fall into enduring patterns of inequality.

Scholars from across the state of California recently wrote a comprehensive report, entitled *Getting Down to the Facts,* that describes the state system of finance and governance as "broken" and suggests that no amount of tinkering around the edges will solve the problem. The report goes on to note that the lack of alignment between the state's accountability system and its method for financing public education makes it impossible to bring about substantial public education reform.

Progress also is hindered at the local level by disputes over governance. Urban mayors increasingly are demanding the authority to improve their schools, putting them into direct conflict with local boards of education. To their credit, these mayors recognize the direct link between educational success and the economic vitality of their cities.

This governance problem is very deep and not easily fixed. What are we to do?

A first step might be to look back at what progress we have made, at least on the national level. A good place to start is the 1989 Education Summit convened by President George H. W. Bush and the 50 state governors, then led by Governor Bill Clinton.

Agreements were reached at this Summit on some very significant ideas – to set national education goals; to align federal programs with state education reform efforts; to encourage the Congress to provide the Secretary of Education with waiver authority; and to create a National Education Goals Panel to issue annual reports on the progress of the nation and states toward meeting the agreed-upon goals.

I do not think many people, at that time, grasped the significance of the roadmap that was laid out at the Summit. It was the first time that education had been made a national

priority, not just a priority for each of the 50 states. At this Summit, specific education goals were set to be reached by the nation by the year 2000. Although we did not reach the goals by that time, this exercise taught us a valuable lesson about how hard it is to achieve education reform at the national level.

In agreeing to this new national focus, the governors also insisted that the states remain the senior partner in K-12 education reform and that the federal government play a supportive role in state-led education reform efforts. The Summit also added a spark to the standards movement. It became clear immediately to then-sitting governors and to the members of the new Goals Panel that it was hard to reach for the national goals without a set of standards for core academic subjects. It was (and is) impossible to have real accountability without having something to measure.

During the Clinton years, we invested a great deal of effort in supporting the states in creating their own standards. As U.S. Secretary of Education for eight years, I also sought to position the federal government as the junior partner in this new relationship. Even then, the concerns of the states about the federal government's tendency to overreach were very real. It took months to persuade all 50 states to support the Goals 2000 legislation, which contained absolutely no federal mandates or regulations. It, along with the reauthorization of the Elementary and Secondary Education Act, did contain incentives for each state to develop challenging standards.

So you can imagine the surprise of many state leaders when the Bush Administration came forward with a compliance-driven federal approach in NCLB. Today, five years after the passage of NCLB, I suspect that more than a few governors and state legislatures rue the day that they agreed to a major role in education for the federal government.

Thus, we have a great need to find a new balance and a new working relationship between the federal government and the states. We must re-create a partnership that builds back the trust that has been damaged and develops a shared sense of priorities.

At a minimum, we need to recognize that the governance problem frames the NCLB reauthorization and use the ongoing NCLB debate to start developing a new national consensus on the importance of a high-quality education for all of our children. This consensus will not occur overnight. But I hope the issue will attract the interest of the various presidential candidates from both political parties.

I am encouraged that the Bill and Melinda Gates Foundation and the Eli and Edythe Broad Foundation are committed to investing $60 million in the Strong American Schools campaign, a project of Rockefeller Philanthropy Advisors, to put education reform on the national agenda. My friend, Roy Romer, a former Colorado Governor and, more recently, former Los Angeles Unified School District Superintendent, is leading this effort.

As we work toward this national consensus, we must recognize that nothing is more critical than the high-quality teaching that occurs when well-prepared teachers work in schools organized for success – schools where effective teaching and learning grow out of a culture of collaboration and shared accountability for the achievement of every student. I wholeheartedly support the work being done in these areas by the National Commission

on Teaching and America's Future (NCTAF) and I am pleased to co-chair that organization with my good friend, Ted Sanders.

Regardless of whether NCLB is reauthorized this year, the next President of the United States must find a way to lift the public debate about education in such a way that the American people recognize that educational excellence is at the very foundation of our nation's security and long-term vital interests. America's moment as a world leader surely will pass if we continue to sputter along and allow our educational advantage to disappear.

At the same time, however, I believe that it would be a great mistake to insist on top-down reform, whether it is dictated by the federal government or well-meaning education reformers. This will do nothing to engender trust among our nation's governors and state and local education leaders.

It is clear to me that the Bush Administration overreached in implementing NCLB and mistakenly attempted to force improvement through a rigid, top-down federal regulatory approach that is more akin to the 1960s than the 21st Century. More preferable, in my view, is to provide federal incentives with state control and clear accountability.

At the same time, we cannot go back to the localism of the past that too often has perpetuated the class, racial and economic divisions that still define the American education experience for too many of our young people.

What, then, are we to do?

I believe that, at the national level, there is some merit to the idea of a "grand bargain" – a set of challenging national standards in core subjects that would include reading, math, science, history, social studies, music and the arts, civics and economics – in return for giving the various states greater flexibility and positive inducements to meet those standards. The standards may not be identical from state to state, but they should be consistent and aligned.

Some states will strive to meet those standards immediately, some states may try to game the system, as they do now, and some states may ignore national standards altogether and go their own way to try to improve student achievement. But over time, we will learn what works and what doesn't, and we will make adjustments. I can tell you from first-hand experience that there is a competitive streak in every governor of these United States and not one wants his or her state to be last in the national education standings. I also believe, though, that improvement and growth measurements should be included as important factors in determining those rankings.

In developing a new national consensus, I believe that we should build on the current efforts of various states that are coming together on their own to develop working partnerships. Several projects provide models that can help move us to a new national consensus. Achieve's American Diploma Project Network is a coalition of 29 states dedicated to aligning K–12 curriculum, standards, assessments and accountability policies. In another development, nine of those states have agreed to use one common, end-of-course Algebra II test beginning next year. In addition, ACT, the College Board and others are doing some innovative work to develop challenging core curriculum and assessments aligned to state standards.

We also must ensure that our teachers are well prepared to help students meet these curriculum standards. All of the standards and testing in the world will not help our children if we don't pay more attention to teaching quality. If the teacher is the most important factor in the education of our youth, as most of us believe, then the preparation of these teachers also must be held to a higher standard and be better aligned to the learning goals we set for our students. The work being done in this area by NCTAF in support of Teaching Academies that merge teacher preparation with practical clinical experience in urban classrooms is particularly promising. I am proud that the KnowledgeWorks Foundation, on whose board I serve, is actively supporting NCTAF's effort to expand our nation's pool of high-quality teachers, in addition to the Foundation's other important work to improve teaching and learning for all students through innovative school design.

We need many more projects like these that allow us to knit together at the state level P-16 education systems that are aligned and consistent and that prepare us to address the challenges of the 21st Century. The more interest we have in this uplifting research, the better our chance of reaching higher levels of achievement.

This process of building consensus through partnerships may seem less than orderly to some. However, I believe that building a national consensus without heavy, top-down compliance requirements – but with consistent alignments – will give us a much stronger and more dynamic American education system that will endure throughout the 21st Century.

Education and the Global Economy

CHAPTER 14

Education and the Economy

Ed Rust

For the past decade or more, I have been actively involved in education improvement in my home state of Illinois and in the education reform movement nationwide. I'm in regular contact with business leaders and national business organizations around their education agendas. Business leaders strongly support public education and are committed to work with the education community on the challenges of educating all children. The word "all" is important. Business leaders are passionate about ensuring that all students have the opportunity to succeed in college and the workplace. They believe that education must become the number one economic priority.

But all our children are not being educated to succeed. Too many students are simply not prepared for postsecondary education or responsible, skilled jobs. The business community expects to train its workers for specific job requirements. But much of the $60 billion spent for training is on remedial work in reading, writing, and mathematics. Postsecondary institutions also provide remedial course work for 28 percent of entering freshman. In public 2-year colleges, the number increases to 42 percent.[1] And these are the students who graduated from 12th grade!

Further, we have the problem of a high school dropout rate that is too high in general and disproportionately high for minority students. A report from the Education Testing Service (ETS) noted that 72 percent of white students finish high school, 54 percent of Native American students, 52 percent of Hispanic students, and 51 percent of African American students.[2] These data are unacceptable.

Meanwhile, the United States' workforce is aging. The labor force is growing by only one percent a year. We are also experiencing slow population growth. The most rapid population growth is among minorities and immigrants—those groups who continue to fall behind their peers in educational achievement.

At State Farm®, only 50 percent of high school and college graduates who apply for a job pass the employment exam. The employment exam doesn't test applicants on their knowledge of finance or the insurance business. We look for critical thinking skills, the ability to calculate and think logically, read for information and communicate effectively. We're also looking for an understanding of teamwork. I'm disappointed that so many students who take this exam are unprepared to get a job. While business benefits from an educated workforce, so do the individuals themselves, their communities, and the economy. The evidence is clear. People who have a good education earn more money and have improved career prospects. They are more likely to vote and participate in civic affairs, are generally healthier, and are less likely to receive public assistance.

After World War II, the United States faced relatively little global competition. The majority of its citizens had a good standard of living and the economy offered ample unskilled jobs. The job market and the economy have changed. The Bureau of Labor Statistics reports

that In the United States, only 12 percent of all available jobs are considered "unskilled" and that number is predicted to fall to two percent. It is also estimated that 80 percent of new jobs will require some level of postsecondary education whether it is college or a training program. By 2010, there could be as many as seven million skilled jobs that are unfilled and by 2020, three times that many.

In 1980, a college graduate earned 50 percent more than someone with only a high school degree. By 2004, the college graduate earned 100 percent more than the high school graduate and this gap continues to widen. Too few of our high school graduates are able to pursue college studies in areas that this country needs to maintain its lead in innovation. For example, the percentage of American students planning to be engineers has dropped by one third. At the same time, baby boomers are retiring, cutting the current number of scientists and engineers by more than one-half. Many factors influence a student's decision to enter or forego college. My concern is that those who forego college will be unable to find a job with a livable wage and career advancement unless they have the same academic preparation as their college-ready peers.

As recently as 20 years ago, the U.S. led the industrialized world in the percentage of 25 – 34 year olds with high school and college degrees. That is no longer the case. The International Organization for Economic Cooperation and Development (OECD)—an intergovernmental organization of 30 industrial nations—now reports that the U.S. ranks ninth and seventh respectively on these two measures. Our high school graduation rate places us 16th among the 30 OECD member nations.[3]

In 2000, the OECD began assessing the performance of 15-year olds. Every three years, the Program for International Student Assessment (PISA) measures student performance in reading, science, and mathematics literacy. The most recent PISA report (2003) showed that performance for U.S. 15-year olds was below the average score of the OECD member nations in mathematics literacy and problem solving. The U.S. was also lower in science literacy. The average U.S. score in reading literacy was not significantly different than the OECD average. How can our country remain economically competitive if our young people are not as well educated as their global peers?

Meanwhile, our economic competitors and emerging market nations have accelerated improvements in education and continue to do so at an impressive rate. An increasing number of the youth in emerging nations are attending primary, secondary, and postsecondary education. China, South Korea, and India have made remarkable progress between 1990 and now. China plans to open 125 new universities within the next five years and is expending huge resources to attract new scholars from other countries. South Korea, a country with one-sixth the population of the U.S., graduates as many engineers as we do. Last year, China graduated 2.5 million students from college; India graduated 2.3 million. The sheer numbers of educated people in these countries make up a continually growing pool of available talent. The U.S graduated 1.3 million students. Clearly, with these demographics, we cannot afford to leave even one student behind.

There are other indicators that affect our economy and the future of the country. According to the Council of Competitiveness, the U.S. share of world output—once at 40

percent is now 21 percent; our share of world published research was 61 percent but has fallen to 29 percent. Only 52 percent of U.S. industrial patents are U.S. held. This is the lowest in our history. These trends tell us that more and more innovation is happening elsewhere. Our once pre-eminent competitive advantage is not secure.

The link between education and the economy drives other nations and must inspire us. Globalization has forever changed the education landscape. We have closer contacts with societies around the globe. Multi-national corporations manufacture their products in many countries and sell to consumers everywhere. Technology and raw material move swiftly across borders. We live in an interdependent economic universe but it is not just the economies that are interconnected. Ideas and research are readily transferred across countries. Scientists and other academics interact and continually strengthen the global knowledge base. Through all of these transactions, we learn more and more about other cultures. Economic success for any country depends on the educational attainment of its population and the translation of that education into creativity, innovation, and production.

Raising Expectations and Aligning Standards

The challenges to our education system are well known. People realize that many students are struggling and too many students are not succeeding. The public education system has to be more flexible and responsive to the needs of all children. Partisanship and blame are of no use. The world has changed. Over the past decade, business faced shifting realities and had to realign operating and delivery systems to meet customer needs. I believe we have the expertise and the resources to get our education system right and to prepare all children for college and the workplace. What we need is the collective will to do it.

How can we best focus our energy and resources? At a minimum, we have to raise the culture of expectations in schools. We can't afford to behave as though there are groups of students who are "college bound" and groups who are not. We can't pretend that there will be jobs for students who don't meet the same academic standards as those who are aiming for college admission. If students are going to succeed in college level courses without remediation, or if they are going to enter the workforce ready to learn job-specific skills, their preparation must be the same.

Academic standards must reflect these higher expectations. We have to be sure the standards are aligned with the specific knowledge and skills required for success in postsecondary education and work. These standards must be understood by K-12 educators, the business and higher education communities, and by students and their parents. This will require better communication among these groups. It's essential that the postsecondary and business communities affirm that the standards reflect what high school graduates need in order to enter their colleges and workplaces. Everyone should be on the same page.

The alignment process goes further. High schools, middle schools and elementary schools need to work together to align curricula and standards of achievement. The flow from one academic level to another should be transparent. Results from the National Assessment of Educational Progress (NAEP) underscore the need for alignment throughout K-12. The scores show a troublesome trend towards gains for younger students, while older students

lose ground or their scores remain flat. In science, the average score for fourth-graders was higher in 2005 than in previous assessment years; eighth-graders' scores showed no significant change; and twelfth-graders' average science score was lower than it was ten years ago and was unchanged from where it was six years ago. In comparing reading scores between 2003 and 2005, fourth-graders' average score was a little higher; eighth-graders' a little lower. Mathematics scores for the same years are better. Fourth- and eighth-graders' average scores in mathematics were higher. And the average scores in mathematics for these two grade levels have increased since 1990.[4]

In support of high expectations and meaningful standards, we have to raise graduation requirements. High school graduates should be confident that the diploma they receive represents achievement that has prepared them for entering college or obtaining a good job. Every student should take a core curriculum that includes four years of rigorous English and mathematics (including at least Algebra II), three years of science, three years of social studies, two years of foreign language, and one year of computer science. In fact, this is essentially the same core curriculum recommended more than 20 years ago by the National Commission on Excellence in Education's report *A Nation at Risk.* Schools have made progress in adopting such a core curriculum but it's not enough. In 2004, about 31 percent of high school graduates completed this core curriculum as compared to two percent in 1983.

Our ability to assure student success depends as much on the quality of our teachers as any other resource. We have all experienced the influence of good teachers. State Farm supports the efforts of the National Board for Professional Teaching Standards (NBPTS) because we recognize the importance of the teacher. All teachers should be educated in the subjects they are expected to teach. This applies to elementary school teachers who should have a subject major just as high school teachers do. Nationally, 25 percent of secondary school classes in core academic subjects are taught by teachers who do not have even a college minor in the subject. It doesn't make sense to have teachers teaching subjects they did not study or studied only briefly. The situation is particularly serious in mathematics and science and in high poverty urban and rural schools.[5] Postsecondary institutions should make sure their undergraduate, graduate and continuing education programs are aligned with the skills and knowledge teachers need. States and localities should keep open the idea that the laws of supply and demand may be applied to teacher compensation. Why not offer a financial incentive to the chemistry teacher who is prepared to teach in geographically remote areas or high poverty schools?

Measuring Results and Taking Action

The tools for assessing student performance have to be consistent and effective. A recent report from Achieve states that "…There is no shortage of testing for high school students… particularly for those preparing to attend a post-secondary institution. The problem is that most of the tests students take are not aligned with one another…the result is too many unnecessary tests and mixed messages to students, parents, and teachers about which (tests) matter most…" The report also states that tests measuring readiness for college and work should be given to all high school students before their senior year. Test results help determine what high schools need to do to fill learning gaps before the students

graduate.[6] It is also important to publicize assessment results in a useful format that makes sense to students, parents, educators, postsecondary institutions and employers. People should be able to understand what the results mean and how student and school performance compare locally, statewide, and nationally.

Finally, we have to take action when schools and students are failing. States have their own accountability systems for identifying low-performing schools. Each state has to do a better job of supporting these schools and turning them around. Local school leaders should have the authority to make needed changes. Ultimately, if low-performing schools cannot improve, even with adequate support, then states have to take stronger action such as reassigning children or replacing the school with a model that has proven effective. There are examples of schools in every state that have high-achieving, low-income and diverse populations. It can be done. We don't have time to waste on excuses.

Mixed News on College-Readiness

In two national assessments of postsecondary education readiness, the SAT and the ACT, there are mixed results. While the 2005 SAT scores showed an increase across all student groups, the 2006 results of the revamped SAT show a decline in both reading and mathematics. The SAT reading scores reflect the biggest annual drop in 31 years.

The national ACT scores rose significantly in 2006 and were higher for students across all racial and ethnic groups. The 2006 increase is the largest in 20 years with the average score reaching its highest level since 1991. Despite this increase, the results suggest that the majority of ACT tested graduates are likely to struggle in first year college mathematics and science. Only 21 percent of those tested met or exceeded the College Readiness Benchmark scores on all four ACT exams, unchanged from last year. So, while the ACT scores in general are rising, we still have much work to do to assure college readiness in all the major subjects. ACT score results point to the importance of taking a challenging program of courses in high school and suggest that far too few students are doing so. Students who took a core curriculum earned a markedly higher score than those who took less than a core curriculum.[7]

Conclusions

Public schools have successfully moved our nation through changing times. The immigrants of the 19th and 20th centuries found more than a haven in the United States. They found public schools that became a path to their economic and civic well-being. The role of our schools today is to assure equal access to a world-class education for all students. This will require that we:

- Develop meaningful standards for all students and align standards with postsecondary education requirements and the demands of the work place.
- Raise graduation requirements to include a core curriculum for all students.
- Measure dropout rates consistently among states and implement programs to improve graduation rates toward a goal of 100 percent.

- Streamline assessments of student performance. Make sure the assessments accurately measure performance for all students according to established standards and course content.
- Assess student performance at regular intervals that allow enough time for students and teachers to improve performance well in advance of high school graduation.
- Publicize assessment results widely.
- Plan interventions and new programs as indicated by assessment results in order to close achievement gaps.
- Assure teacher quality commensurate with the expectations, standards and core curriculum.
- Hold schools accountable for student performance.

As we reflect on such a demanding course of action, let's not forget history. The U.S. was a pioneer in aviation and built the first mass production assembly line. We harnessed the power of the atom, discovered polio vaccine, and were first to set foot on the moon. The electric light bulb and the Internet were born here. Imagination and optimism have always sustained us as a nation. The public schools have educated our inventors, writers, and scientists. They remain our best hope in the face of global challenge and opportunity.

Endnotes

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CHAPTER 15

The World is Flat, and U.S. Education has Flat-Lined: Designing an Information Infrastructure to Support a Globally Competitive Educational System

Kent Seidel

Education's purpose is to replace an empty mind with an open one.
–Malcom Forbes

Much attention has focused in recent years on global competition and increased pressure to adapt as other countries are filling roles which have been dominated by the United States in the past. These include both manufacturing (e.g. China's supply of inexpensive products) and service sector work (e.g. India's technology and customer support industries). Any solution advanced to address these circumstances typically includes education reform in a central role, and with good reason. When work roles change, education needs change. We must adapt if we are to maintain our historic position as an economic superpower and continue to produce new sources of revenue. As other nations join the global marketplace, adding workers with ever-increasing skill levels to the available workforce, the consensus is that we need to do something different to maintain our competitive edge.

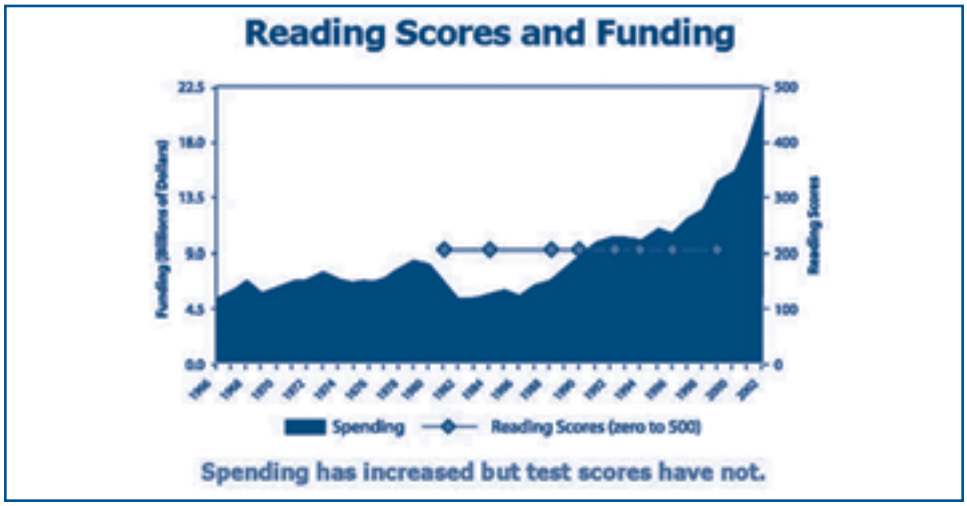
This threat is growing exponentially at an incredible pace. To put a finer, if more cynical point on the matter, it is not so much that our educational system has become ineffective (from the standpoint of producing workers for the past economy, anyway), but that other nations are co-opting our system. In a sense, the traditional "product" of U.S. education is being outsourced. To reform our educational system with the goal of producing more of the same old result, but for more children, is not going to address this problem. We must build upon our well-established educational infrastructure, enabling life-long learning in such a way that our youth and adult citizens can take on the "new work" of the 21st century. (It is worth noting, however, that without our long-established system of public education, neither we nor the rest of the world would likely be in a place to need to take education to the next level.) As with other aspects of our economy in the world marketplace, if we can't compete on price, we must compete with quality and innovation.

In truth, the call for education reform in the name of global competition is not new. Every decade or so for the last 50 years, a national report or book has resonated with policy and business leaders, who have now become education's most vocal customers. Most recently, these reports of researchers, journalists, and high-powered committees have focused more on global economic competition,[1] but the need to foster innovation, creative and critical thinking, rich literacy, and deep math, science, and technological understanding through education reform has been a common call to action. Consider this description of the National Defense Education Act (1958):

> "Sputnik once again elevated the word 'competition' in the language of government officials and the American public. Sputnik threatened the American national interest even more than the Soviet Union's breaking of America's atomic monopoly in 1949… Perhaps more importantly, however, Sputnik forced a national self-appraisal that questioned American education, scientific, technical and industrial strength, and even the moral fiber of the nation…. Sputnik raised questions about the ability of the nation's education system to compete. Congress responded with the National Defense Education Act of 1958. It emphasized science education and became a significant part of the country's science policy."
>
> (National Science Foundation, 1994, online, Chapter III)

That moment in history in 1957 when the Soviets pulled ahead of America is considered a major turning point in the history of education reform as well. Since then, the pressure has steadily increased on the educational system to support the nation's efforts to compete successfully in a rapidly changing global society. Economic justification—the "human capital" model—for education is so ingrained in multiple generations that it is rare today for students, teachers, or parents to think beyond job utility and economic prosperity as a reason for schooling. Another landmark report, *A Nation at Risk*[2] arguably led directly to the standards reform movement, with development of national and state standards and related standardized testing agendas. But while the pressure on schools has been increasing and constant, the educational system as a whole has not responded with results that are satisfactory on a scale to meet the global challenge. One can make an excellent case that students are leaving schools better educated than ever before,[3] but the U.S. Department of Education and others make the point that scores on the Nation's Report Card[4] have remained fairly flat for decades (see Figure 1 below, the inspiration for the title of this chapter). Likewise, many schools have risen to the challenge of closing achievement gaps. Yet standardized achievement scores overall leave much to be desired, substantial gaps remain among our racial, ethnic, and other minority groups. Dropout rates are high, and too many children do not attend college or, if they do, do not graduate with a degree. Why, with so much attention paid and so many smart people working on the problem for so many years?

Figure 1[5]



It does not seem that the needs assessments were off-base. These have been consistent over time, they make sense given the evolving workplace and technology trends, and they have been supported by research in many locations. The sort of education that helps students be more creative, innovative, adaptive, and able to learn and apply learning in new ways is not only possible, it has been outlined fairly explicitly in the national standards for most content areas. These reports were also not wrong in their assessment of the role of education in the economy and in the need to prepare a workforce for tomorrow rather than yesteryear. What has gone awry at a very basic level is the way in which these calls to action have been put into play, with policies calling for more of the same old way of doing things. Rather than putting policy and governance structures into place that will encourage and support education for the 21st century, we have simply stepped up the pressure on a system designed for industrial age results to give us more of the same.

This chapter will review the importance of education for maintaining and growing our economic advantage, as well as how the outcomes of this perspective can simultaneously satisfy other important justifications for formal schooling. This includes some discussion of the type of education really needed for us to finally begin to transition at scale from the industrial age into the 21st century and beyond. I will then look at the role of business and the private sector in the mix, sorting out some issues of public and private good, and discuss why traditional market drivers are unlikely to get us anywhere different than we are going now. A purposeful system of information and accountability that will drive the appropriate changes and support the right work in schools is essential. To this end, I offer some thoughts about modifying support and accountability systems in order to meet societal needs and acknowledge policy realities. Finally, I present a few ideas for modifying current systems to begin to move us toward the educational goals for which so many have been calling for the last half century.

Education Matters: Human capital, global competitiveness, and personal and social benefits

To manage a system effectively, you might focus on the interactions of the parts rather than their behavior taken separately.

–Russell L. Ackoff, Wharton School of Business

Let's return to the cynical point above: that other nations are successfully co-opting our processes of producing an educated workforce, with the result that both the quantity of jobs and the quality of skills required by those jobs are more easily outsourced across the globe. How can we maintain our leading stance in the world? It is increasingly clear that leaving no child behind in meeting industrial age outcomes is nowhere near adequate, even if we were to succeed: other nations are able to produce more individuals very like the graduates of our current school systems without even attempting to educate their entire populations.[6] This is a global competition we cannot win. We still have several unique advantages on which to build new successes, however, including:

- an infrastructure designed to reach the majority of our population, providing accessibility not only to children but to citizens of all ages;
- a diversity of participation in the system which, when it works, provides access to a broad range of experiences, ideas, and the opportunity for learners to bring these together, fostering creativity and innovation;
- a network of educational institutions, policy bodies, accountability systems, and the public which has the potential to be responsive to these needs of the nation if some important changes can be made.

Before getting to some of the changes in the infrastructure that could move us forward across the board, we must clarify a few issues related to human capital and globalization. As an aside, I hope the reader will permit some leeway in my discussion of students and schools in economic, industrial terms—my choices are made to emphasize the arguments. I also assume that we wish to place the educational system, at least in large part, in the service of economic ends. This is because society demands it as a means to prosperity, but also because the shift in the quality and type of education that will meet the demands of the future workplace will also satisfy many of the humanistic and democratic goals that are of prime importance.

Whose needs are driving the system?

Humans live in particular places while corporations, the entities powering globalization, are able to "live" in many places at once. Many live in multiple nations, and if successful, corporate entities have much, much longer and different life spans than an individual. The point is that we cannot any longer assume that the "national," "state," or "local" needs are the needs of the corporate members of the global workplace. In fact, our corporate citizens have proved themselves willing and able to go where the talent lies at the best cost (which is arguably sensible behavior for a corporation).

How are interactions of globalization and rapid technological change impacting education?

A second clarification is about the global workplace itself. We can only make educated guesses about what the future holds for our workers of tomorrow. We may never have really known what the future held, but today we are sure that we are uncertain. The top industries of today did not exist until fairly recently, and it is almost guaranteed that if today's jobs are still around in quantity for today's pre-schoolers to claim in 20 years, they will be done in very different ways. Our traditional educational system designed to produce workers for clearly pre-defined roles cannot surmount this problem. Consider this summation of the knowledge-based economy and the speed with which it is evolving:

> "The removal of routine mental activity such as arithmetic calculation from human beings and its transfer to computers will be seen as of equal significance as the removal of the tool from the workers hand and its transference to the machine in the First Industrial Revolution. This freed the human mind for involvement in higher order

creative tasks. Rather than devaluing the productions of the human mind, it appears that value in the 21st century will become even more dependent upon the creations of the human mind mediated by computers and data communication and processing.

As knowledge creation became a focal point of our thinking about economic activity, managers faced an environment with two attributes: increased emphasis on knowledge creation and a transience of existing products and knowledge. The acceleration of new knowledge creation sped up the devaluation of the concrete results of knowledge creation, the products… For managers, understanding and operating at the industry's speed will be the difference between success and extremely rapid failure."[7]

Just like for-profit and nonprofit businesses in other sectors, schools must develop the ability to respond and adapt at a much quicker pace than ever before. And educational institutions have a second side to this coin: their ability to become adaptive at a rapid pace will permit them to prepare the individuals they are teaching to become successful managers and workers. What needs to be teased out in detail is how education is interconnected with individual, local, and regional economic and social success. There is a strong body of evidence that education and the economy are related in important ways:

"On the national level, there is convincing research showing that public schools have a profound effect on national economic growth, by influencing the quantity and quality of education. "Human capital" theory documents that investment in the skill level of a nation's population translates into increased national productivity. Education also leads to higher wages and greater social opportunity."[8]

This relationship is an incredibly strong driver of the educational system and the expectations held of it. If these interactions are changing with globalization and rapid technological change, then we must recognize how and work to adapt the system to our benefit.

The primary relationship driving the formal educational system is currently anchored in localized notions of social capital and competitive economic success on a local scale. Ericson and Ellett (2002) capture it well:

"The belief in the social and economic efficacy of education…holds that social rewards and privileges belong not to an elite, hereditary class, but should go to those individuals of talent, intelligence, and industry….[W]ith the growth of the common school in the 19th century, it takes little imagination to understand how beliefs concerning the social and economic efficacy of education could be translated into a conviction that schooling pays social and economic dividends. Clearly, it is a conviction that could appeal to employers interested in the relatively greater profits an educated workforce could generate…

[But] imagine a society that distributes social and economic benefits (income, status, earnings opportunities, etc.) on the basis of the distribution of purely educational benefits (knowledge, skills, judgment, etc.). Such a society is likely to be extremely inefficient. It is difficult and time-consuming to discover who knows more and who less. But if there were an intervening social institution that functions to evaluate individuals' relative possession of educational benefits, then such official testimony would straightforwardly provide the basis for a subsequent distribution of social and economic benefits…. In our own society,

> it is through the development of certification in the educational system (by such instruments as grades, test scores, diplomas, and transcripts) that made possible the development of a relatively efficient meritocracy based on education and gave powerful confirmation to the belief in the efficacy of education."

This brings us to one explanation for why it has been so difficult to move the educational system from creating a ranked order of its students to truly meeting expectations of standards-based mastery learning, wherein all students achieve to a high level. Simply put, if one is too successful in helping all students achieve, one may be seen as failing at the traditional task of ranking students for social and economic participation. When an institution too far removed from real children begins to change expectations of student populations but still works within the traditions of meritocracy as described above, it seems too much like social engineering for many in our democratic society. Conversely, for an individual teacher or school leader not to embrace notions of equality in learning and bringing all students to high levels regardless of concern for ranking smacks of racism or classism. It is no wonder that the blame and responsibility for leaving no child behind falls squarely on the shoulders of teachers and leaders at the local level, even when these educators' options for attaining results are severely restricted by a system outside their control. Indeed, when past traditions of schooling for distribution of social and economic credits clash with new needs for higher order learning broadly distributed, the local site is where these consequences are felt most deeply.

I am not naively suggesting that we ignore the influence of our democratic market systems and expect schools, communities, and the economy to magically turn on a dime in order to change the outcomes of the educational system. But the operative conflict I describe is a powerful reason why school reforms have not been very successful to date. Furthermore, the situation is unlikely to get any better, and my guess is it will worsen. The combination of globalization and rapid shifts in technology means that achieving and maintaining economic efficiency within the old system will be increasingly difficult. Spring summarizes efficiency in education for us in this way:

> "Ideally, in the human resource model, all graduating students will enter jobs that match their education, interests, and aptitudes.... [In] human capital accounting… external efficiency is measured by the ability of school graduates to get jobs that are appropriate for their education. In this conceptual framework, an educational system is very inefficient if PhDs in literature become cab drivers or students educated to be airline mechanics spend their lives painting landscapes. Internal efficiency refers to the cost of educating each student. For instance, a school system is internally inefficient if students do not graduate on time or if they must repeat grades or subjects."[9]

The problem is, we can no longer be externally efficient as the evidence presented at the front of this chapter suggests, because 1) we do not know what jobs should be targeted; 2) if we do guess correctly at the jobs, we are unlikely to guess how to fully prepare students to do them; and 3) even if we guess the first job correctly, it is likely that our students will go on to have many other types of jobs within their work life—as many as eight or more.[10] We can also no longer be sure of internal efficiency, because our measures

for judging this are designed for a rank-order system. Schools distribute money, time, expertise, and other resources efficiently and "equally," and learners sort themselves into their own successes. The new needs for the 21st century demand that we hold the learning results constant and allow the other inputs to vary. Given this approach, we must clearly define outcomes, as well as ways to measure these, and use the findings for continued improvement or internal efficiency will be impossible to judge.

To summarize, we are in a disastrous position with our educational system. We have strong and unyielding forces in place designed to produce results that are no longer on target for our needs, and we do not have the data systems in place to allow us to understand progress toward results we desire even if they were to occur.

What is the chief product of our educational system?

Let's continue this exploration with a discussion of the results we are seeking for the 21st century—beginning with the end in mind.[11] What can be done in the face of the issues described above? It is much easier to divert a river than to stop it. If we can be clear about the results that we need our educational system to produce for the 21st century, then we may be able to modify the direction of the driving forces that currently prohibit lasting change.

The new focus for our educational production system needs to be larger than the distribution of social and economic credits. Every school must make an intentional contribution to the intellectual and creative capital that has served as the foundation of our success in the world. It has been a necessary and sufficient goal in the past for education to provide opportunities for all students, and to sort students according to how well they avail themselves of these opportunities. One result of this has been that student success can be predicted strongly by socio-economic supports outside of school. Today, one of the most explicit goals of schools must become responding to students' external socio-economic supports: compensating for deficits where appropriate and building on strengths where possible in order to assure all students reach their potential to contribute to our society's intellectual and creative resource pool.

What does the learning needed for the 21st century look like? Lifelong learning capacity is essential, as is the ability to think across traditional disciplines and boundaries in order to discover new things. Two excellent sources articulating these learning outcomes are the Alliance for Curriculum Reform's Schoolwide Goals for Student Learning[12] and the *Framework for 21st Century Learning from the Partnership for 21st Century Skills.*[13] In *Smart Money*, Schweke offers an economic developer's perspective:

> "U.S. firms must compete on the basis of new, higher-quality service and production approaches that utilize new technologies and a more skilled workforce. Economic developers call this "the high road" because it offers a path to a strong economy based on, and generating, higher-paying jobs, greater productivity, and wealth…. How do we travel on this high road? The best prescription would have the following three components:
>
> **1.** Develop a more seamless, well-endowed lifelong learning system.

2. Reform wasteful business incentive programs and redirect savings into education or other state priorities.

3. Create and maintain a modernized revenue base."[14]

Of course, such a shift in outcomes for education is going to require new supports, training, and "re-tooling" on a large scale—not much different from the kinds of re-tooling that businesses in other sectors have been making for some time in order to continue to compete. Our policies and information and accountability systems will need to be modified to expect and empower these changes to be made.

Sorting out public good and private interests.

A final piece of the puzzle that sets the context for how to modify our existing systems is the relationship between public good and private interests, and how the multitude of organizations that comprise our educational system fit into the big picture.

With regard to the public/private good relationship, I offer the following: Learning attained by an individual is by definition a private good. The learner makes the ultimate decision to do the learning, and is the primary beneficiary of doing so. Societal groups benefit by proxy from the collection of learning mastered by individuals in their midst. It is therefore very much in the interest of the public group to influence what learning is attained (that which benefits the group's future); how it is distributed (broadly, and such that many capacities are gained for the group—everyone being an expert at one thing would not be best, for example); and whether and how it is used (e.g., a genius who never applies her learning, or does so to damaging ends, would be bad for the group).

In our current crisis of global competition and technological advances, some fundamental traditions must be uncovered and reconsidered. Schools can no longer be thought of as competing companies, and the traditional market drivers for improvement will not be very effective in the long run. If one thinks of education solely as a consumer commodity, then at what point will it be okay for society if a consumer decides not to "buy?" This is, in fact, happening with alarming consistency across our nation, evidenced by low high school graduation rates, low college attendance, and even lower college graduation rates. Similarly, the traditional ranking of individuals will not disappear, but the population for ranking has greatly expanded. What must change is how we think of ranking within our educational system. We must ensure three things to be successful in today's world:

1. Ensure that ranking is not a goal of the system, but an incidental outcome, and ensure that ranking does not negatively impact individuals' interest in continuing to progress their learning; many educators are dealing with this successfully already.[15]

2. Make available to learners as wide a range of areas for potential success as possible, so we can be responsive and adaptive, open to whatever the future may bring, and allow learners to excel with their strengths. This means we must not narrow the curriculum to only basic "core subjects," but rather work to expand options.

3. Broaden our horizons in judging success—we no longer work to see our students be top in their class, but rather top in the world. The entire group must move up to meet society's needs.

And finally, it is important that we include the full spectrum of the educational system in our change plans. Any institution that is responsible for educating an individual in our society must be a participant in this leap forward—the stakes are too great. This means that our accountability systems must be flexible and respectful enough to accommodate the democratic freedoms we value and permit private, parochial, charter, and home schools, while ensuring the outcomes of these are adequate. To use an extreme example, while a parent should be able to educate a child at home, the result of a poor effort will negatively impact the child's future and, as a consequence, the public (which may have to remediate, support, or jail said child as an adult). We do not permit parents to abuse their children in ways that damage their future lives and society; why should we permit egregious educational efforts?

Extreme examples aside, the evidence is that uninformed parents are not likely to choose educational experiences—in public schools or otherwise—with broad goals in mind, but rather from short term competitive or personal perspectives.[16] This is because individuals are not likely to consider the uncertainty of future workplace issues. They have most likely only experienced traditional educational approaches, quite adequate "back then" but which do not move us toward a bright future now. In addition, they are unlikely to have been exposed to a range of educational experiences and therefore do know what is possible. I believe the solution to these issues is to modify our educational system, so it engages and informs parents and the broader public. This will help our private-sector educational options meet high-quality expectations and be supported as a reasonable choice.

Rewarding the Right Behaviors: An outline for a new information system

Design is not just what it looks like and feels like. Design is how it works.
–Steve Jobs, Apple Corporation

To summarize, we have finally reached a most serious point in our need for change, after 50 years of progressively increasing pressure from global competition and rapidly advancing knowledge and technologies. The future (some would say it is here) requires a true paradigm shift in the type of work we expect of our educational system. This shift includes preparing all of our citizens to be self-directed, capable, and lifelong learners. It requires us to move from isolated silos of basic "core subject" knowledge to providing learners with rich and varied curriculum and instruction linked to real-world applications.

Our assessment of the implications of globalization encourages us to move soon to bring all learners to higher levels, and this means changing our traditional expectations of education, from dispensing social and economic credits to thinking globally with all learners. To do this, schools need more responsive sources of information and they need to find ways to take responsibility for all of the learners in their charge. They must be permitted to change the traditional "inputs" of education if needed to reach every learner.

We must think differently about the natural ranking of individuals that occurs in any endeavor, so that it does not harm the learning process. Finally, the new infrastructure

must engage both public and private components of the whole educational system to help ensure our entire society is uplifted in the change—global competition pressures require no less. All of this means our ground rules for the new system would include the following:

- It must account for the public good while permitting the private successes that provide motivation for an important segment of our society. This will require new and effective ways to engage the public and parents within the educational process and with accountability results.
- It must provide justifiable public results in the short term (a variety of "check-ins" on schools) as well as benchmarks and evidence of success longer-term (e.g., how well do high school graduates perform in postsecondary education?).
- It will modify both the content and the administration of standardized assessments in ways that encourage the higher levels of learning desired.
- It will focus accountability and information systems on the global education results needed, while providing real-time data locally that will encourage the communities of learning and individualization of instruction that we know are necessary for all students to succeed.
- It must place authority at the local level to make key decisions about learning and teaching, within the accountability system (trust but verify).

The good news is the incredible expansion of information, knowledge, and technology capacity can benefit education as well. We have new capacities for data collection, analysis, and management that permit us to pose and answer questions and get important information to the educators and learners "on the ground" with accuracy and speed never before possible. We have new knowledge about human development, the brain, and how people learn that we can apply to address practical problems. We have new informal systems of learning with which we can build new ways to motivate learners, and new networks and technologies, such as the internet, to better connect schools with their partners in education such as parents, other schools, and community agencies. The information and accountability infrastructure that will support 21st century learning will be different in quality and focus, but it can be built on current foundations. It will be important to look at linkages of policies, accountability expectations, and data systems as we move forward, modifying old systems and installing new ones that permit educational work to be done more effectively and efficiently while supporting problem solving and innovations.

Modify accountability and information structures to expect and empower those working most closely with learners to teach for the 21st century.

A difficulty is the traditional hierarchical bureaucratic control systems upon which education has relied work against the kind of close-to-the-learner, responsive, and adaptive structure needed to attain the results we desire. We can establish distributed leadership structures and provide real-time information at multiple levels within the organization, however, in order to encourage the environments that will support learning. Many private

sector corporations have already modified their structures in these ways in order to be more quickly responsive and competitive. Specifically, the accountability system should collect data and provide informational supports that will focus educators on problem-solving approaches based on good evidence about individual students' progress. Elmore notes that, traditionally,

> "Educators do not organize their work around systematic analysis and improvement of the core functions of the institution. Educators have taken the view that "practice" is idiosyncratic to the individual, and it grows out of individual attributes, rather than out of systematic understanding of the nature of the work."[17]

We have already seen a trend toward research-based practice and "What Works" prescriptions for educators' day to day efforts with children, but we must go deeper to get the results we need. The responsive data systems and accompanying training for educators to use system data along with formative classroom assessments must enable locally led problem solving and differentiated instruction. Biesta puts it this way:

> "…research cannot supply us with rules for action but only with hypotheses for intelligent problem solving. Research can only tell us what has worked in a particular situation, not what will work in any future situation. The role of the educational professional in this process is not to translate general rules into particular lines of action. It is rather to use research findings to make one's problem solving more intelligent."[18]

With regard to being able to problem-solve and adjust to meet learners' needs, rather than keeping "inputs" constant and allowing learning outcomes to vary, Elmore offers this:

> "…certain solutions—the age-grade structure, the allocation of single teachers to classroom units, the allocation of specific content to specific periods of time, and so on—have become "fixed" in the institutional structure of schools. They have become fixed, not necessarily because we know they work in some educational sense, although that may be true, but because… they help us manage the demands and uncertainties of mass education."[19]

Re-tooling our educational system's capacity for collecting and using data for problem solving, from individual teacher to large scale, is a top priority. The focus of this "educational problem solving" must be finding ways to teach across curriculum areas, and to anchor disciplinary learning to core learner skills that will prepare students for the 21st century—critical, analytical, and creative thinking; self-guided learning and self-assessment; personal and social responsibility, expanding and integrating knowledge; and communication and interpersonal skills. Educators must be prepared to guide students through the preschool to higher education (P-20) system with a combination of mastery learning summative assessments and assessment for learning approaches. Schools must be permitted to make choices with the management of schedules, curriculum, and instruction to provide students with flexible groupings in content areas as they master learnings and are ready to move on.

Modify our existing accountability systems to strengthen the public good while honoring private interest traditions.

First, expanding the above discussion of modifying traditions to consider formal accountability measures, it will be important to move standardized tests away from the disconnected content "silos" and lower-level skills that are too common today. This can be done by modifying the content of these assessments and by changing the way in which they are administered and used. Ensure that large-scale assessments are vertically scaled and carefully aligned to key standards only, and then sample students within the system (and oversample minority populations as needed for accuracy). This will put standardized assessments back into their proper role—as a "temperature taken" of the overall work of the system—while freeing up funds for different accountability measures. Provide data in a useful and timely manner to districts and schools, and use them in conjunction with other data as the basis for improvement plans—and then support the improvement plans. The National Research Council recommends:

> "Large-scale assessments should sample the broad range of competencies and forms of student understanding that research shows are important aspects of student learning. A variety of matrix sampling, curriculum-embedded, and other assessment approaches should be used… Large-scale assessment tools and supporting instructional materials should be developed so that clear learning goals and landmark performances along the way to competence are shared with teachers, students, and other education stakeholders."[20]

An added benefit would be additional time for quality teaching, as schools will gain little from "stopping teaching" to "prep for the test" in a sampled system. This is just as well, since the reasons students do poorly on standardized assessments[21] are almost never addressed in the short term or long term by test prep strategies.

Second, do not require all high-stakes assessments at pre-set intervals (which have been put in place using a fairly arbitrary calendar). Instead, let students tackle them when ready, with real consequences and rewards for success, and watch schools to be sure that developmental progressions are within reason. Use growth and value-added measures as primary ways to judge progress through schools.

Finally, require some of these mastery learning "boards" (in core areas and key grades) for all students in our society who wish to be formally recognized as educated—even the home schooled—and include private and charter schools in this baseline system.

Modify and improve linkage of data and information across P-20 systems to support success.

We must develop systems that will support, identify, and reward improvements across the P-20 system.[22] This means preparation and professional development resources for the faculty and staff of schools to be prepared to teach for 21st century knowledge and skills, using varied assessments and instructional methods to differentiate support and reach all students.

Instead of using school choice as a punishment that tends to de-fund public education,[23] partner charter schools with traditional schools in a formal system of research and deve-

lopment, wherein the charters can experiment as to whether regulations are helpful or not. Then permit public schools to adapt and adopt the findings. Engage research partners in higher education in these efforts, as well as partnering teacher and administrator preparation programs with P-12 institutions to modify early preparation and induction to be more effective. Connect data related to higher education and its graduates (including teachers and school leaders) with the accountability and information system described above, in order to look at benchmarks for change across the entire educational system.

Conclusion

Fifty years after Sputnik and nearly 25 years after the *A Nation at Risk* report, our nation is perhaps more at risk than ever. It should be apparent these are not temporary trends, but deep shifts in how the global society functions, and our educational system must adapt. It is not enough to hope for market drivers or evolutionary processes to step in—waiting for the system to improve or perish—since as a society we need all of our members to be supported in reaching their full learning potential. If we cannot find ways to adapt our policies, governance, and resources to move the whole system toward meeting 21st century needs, informed by carefully designed information and accountability systems, we will continue to steadily fall behind our global neighbors. In addition, the divides between "haves" and "have-nots" in our society will continue to deepen. We have the technology, we have the knowledge and we can find the resources. I hope that after five decades of needs assessment, we can finally find the will to take action.

Endnotes

1. See Tough Choices or Tough Times, 2007; Rising Above the Gathering Storm, 2007; and The World is Flat, 2005.
2. National Commission on Excellence in Education. (1983).
3. E.g., see Rothstein, 1997.
4. NAEP, the National Assessment of Educational Progress
5. No Child Left Behind: A new era in education. Powerpoint presentation of the U.S. Department of Education.
6. For an interesting short video presentation on some of the numbers related to this point, readers are encouraged to see "Did You Know?" at http://thefischbowl.blogspot.com/2006/08/did-you-know.html
7. Kenney and Curry, 1999, pages 14-15
8. Weiss, 2004, page 31
9. Spring, 2000, page 148
10. U.S. Department of Labor
11. Thanks to Stephen R. Covey
12. Available in Indicators of Schools of Quality, National Study of School Evaluation, 1998

13. Available online at http://www.21stcenturyskills.org

14. Schweke, 2004, pages 41-42

15. For example, see the assessment for learning work of Rick Stiggins and the Assessment Training Institute, online at http://www.assessmentinst.com/

16. See for example, Lubienski and Lubienski, 2006.

17. Elmore, 2007, page 4

18. Biesta, 2007, pages 20-21

19. Elmore, 1995, page 368

20. National Research Council, 2001, page 13

21. A few to consider: they didn't actually learn the material; they memorized material rather than mastering to the point where they can transfer to different applications such as different intellectual prompts or formats on the test; they misread and made a mistake answering something they really do know; they had personal issues that day; they are sure they'll do badly and thus have no motivation to try; they do not feel that they will be punished for poor results; they see no direct reward for doing well; they are bored by tests and want to be elsewhere, doing something more interesting.

22. A useful resource is the CPRE/CRESST Standards for Accountability Systems, available online at: http://www.cse.ucla.edu/products/policy/cresst_policy5.pdf

23. E.g., see Bracey, 2002.

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Creating 21st Century Learning Organizations

CHAPTER 16

A Nation of Locksmiths: Transforming Our Education System to Guarantee All of America's Children a Quality Education

Mary Hatwood Futrell

"Some see a door locked and walk away.
Others see the door locked and look for a key.
Still others see the door locked and make a key to open the door."
(Unknown)

When America decided more than 200 years ago to establish a public system of education, a critical part of that decision most likely focused on why we educate and how to educate citizens for a changing world. They knew then what we know now, that the primary focus of education is to prepare American citizens for their roles in a continuously evolving democratic, capitalistic society.

We have come a long way since the Northwest Ordinance Act in 1787 (Cremin, 1982), which authorized the creation of schools to serve the public good. Today, thanks to generations of actions at all levels of government, every American has access to education through our public school system. Indeed, our universal education system is one of the fundamental foundations of our democratic society and of our economic system and has played a major role in making it possible for all Americans to be part of our society.

But, does every American have access to a quality education, to an education that will prepare them for the global, knowledge-based society in which we are living today and which will continue to define who we are in the future? As a nation, we have struggled to fulfill our commitment to provide not only access to education, but access to equal educational opportunities for all children, regardless of gender, race, ethnicity, or socio-economic status. And, as a result, we have made considerable progress, as evidenced by America's leading role in our global society, especially within the world economy.

At the same time, we continue to face challenges, which I call "wicked problems," such as, how do we close the achievement gap that persists within our increasingly diverse student population? Can the educative process provide a core curriculum without ignoring or diminishing the need for additional curricula that are responsive to the different learning styles, needs, and interests of students? How can we change schools and simultaneously improve the quality of education they provide? How can and will technology be used to rethink the paradigm that has defined the organizational and philosophical foundations of our education system for more than a century? Some will see these and other similar challenges as negatives. I view them as positives, as opportunities to work together to redesign our education system to educate more effectively the people of America.

We live in a changing world, a world in which well-educated citizens will be in greater demand at every level of society. In order to answer the questions above, we need to first ask one question in particular: "Why do we educate?" And, by educate, I do not mean simply teaching the basics. That is a critical component of the educative process, but for what purpose do we prepare our young people to be citizens, leaders, and workers? What do our citizens need to know to be viable players in this complex, multi-cultural, highly competitive global society? Thus, the question is not whether each one of us will be part of that debate, but rather, if we will be prepared to actively engage in it.

Yes, our students need to demonstrate better mastery of science, math, and technology, but that will not be sufficient. We need to expand not narrow our curriculum to ensure that all Americans have a better understanding of the world. Unfortunately, as we all well know, reports indicate that, because of the No Child Left Behind Act, many school districts are doing just that—dramatically narrowing their curriculum to teach to the adequate yearly progress requirements outlined in that legislation. In order to achieve the goal of enhancing understanding and appreciation of our global society, the curriculum should be enriched, not depleted.

Let me be more specific. We need, for example, to start in primary school, certainly no later than middle school, to teach our children to speak another language and to understand the geography and culture of other nations. We need to ensure that our children are equipped with the "tools" to be independent thinkers, as well as have the communicative, social, and work skills to be team players, whether here at home or abroad.

To achieve these goals, teachers must be key players in the entire decision-making change process, from the beginning to the end. Are educators—teachers, school counselors, administrators, and teacher educators—prepared and willing to assume the role of key players to help rethink the education paradigm, or are educators still being prepared for the industrial era that is long past? Is there support and political will to redesign and restructure the public education system? Are we willing to dismantle the top-down administrative structures and silos that currently define our education system?

The model of schools as cubicles—in which teachers teach their classes in isolation using the didactic method, or where subjects are taught as isolated disciplines—is no longer the most practical or effective way to teach and learn. Further, in too many classrooms, students are isolated as "independent" learners. Students today need to understand the interdisciplinary relationship between, for example, technology, English, history, and biology. To accomplish this, courses might be taught by teams of teachers using strategies like block scheduling or mediated learning that would allow more time for students to develop strong social and academic foundations and to learn how to learn together through more interactive, team-based opportunities. In such environments, students would discover how to do research, synthesize their findings, and effectively communicate the answers. Thus, they would have more opportunities to become self-motivated and inquisitive, to understand how different subjects interact, to become more confident leaders in their learning environment, and to become life-long learners.

Another segment of our education paradigm that needs to be addressed if we are to improve education is the leadership structure. Are school leaders prepared to share leadership responsibilities? Are teachers still regarded as very tall children? Are schools and school districts willing to empower teachers (one of their greatest resources) to be part of the team to identify challenges that need to be addressed, and to implement strategies to improve schools and, thus, the education of our children? In other words, are members of the teaching profession, policymakers, and the public willing and ready to take the necessary actions to redefine that structure to more effectively educate our children for the challenges of the knowledge-based globalized society in which we live? Is it within our reach to challenge our children to achieve today's promises and those of the future? Is that possible in the way our society, especially our schools, is structured?

This conversation could not be timelier. This year, nationwide K-12 enrollments reached a historic high of 55,000,000 students and are projected to reach 57 million by 2010. The same is true of higher education enrollment, which is expected to grow by three million students—from 15 to 18 million—by 2015, at the undergraduate level alone (Institute for Higher Education Policy, April 2006). Of those three million students, 80 percent most likely will come from racial and language minority groups. Will those students, in particular those from minority or poor backgrounds, be able to afford a postsecondary education at a two or four-year institution? Will they be prepared to master the curriculum? This challenge is reinforced by the fact that today, over 80 percent of the fastest-growing jobs require at least some postsecondary education. With these figures in mind, as the United States becomes increasingly diverse, can we afford not to educate all Americans and educate them better than any previous generation?

Whether we are preparing policymakers or policemen, corporate leaders or salesmen, astronauts or artists, counselors or chefs, educators or engineers, a quality education for all is the key to ensuring that the United States will continue to be a primary leader in our globalized world. We, therefore, need to transform our education system—prekindergarten through graduate school—in order to guarantee that every American has access to quality education and to ensure that they are prepared to be life-long learners. Our ability and determination to fulfill that transformation needs to become a national priority. The education citizens receive today should enhance their quality of life, help them adapt in a constantly changing society, and help define what type of society we want and will become.

Let me assure you that the issue of education is not simply an American debate—it is a global debate and a top priority around the world. As Thomas Friedman, author of the book, *The World is Flat* (2005), said, "The more I cover foreign affairs, the more I wish I had studied education in college, because the more I travel, the more I find that the most heated debates revolve around education." The strongest nations will be those that invest in education to build on the interrelationship between human potential and the political, economical, and social viability of their people. They will be those nations which examine their people and their society and determine what knowledge and skills are necessary for them to survive and grow, and contribute to a better quality of life.

At times like these, educators at all levels bear a particular responsibility to help others respond to the mosaic of changes and challenges impacting our society. To successfully

address any of these issues requires commitment and courage on the part of each of us. It is our professional responsibility to help redesign our system of education and to work together to ensure that it effectively fulfills its purpose of teaching the children of America so that they understand the value of education and are prepared to be educated throughout their lives.

The challenges before us—institutional, professional, and personal—are not new. They did not recently bubble to the top of the pot. Whether it be a once in a lifetime catastrophe like Hurricane Katrina or the steady influx of immigrants into our society, we have been through these natural and cultural changes before. As tumultuous as they may be, they help reiterate the defining characteristics of America, past, present, and future. On the international level, globalization is a reflection of the continuous evolution of who we are as a people, as a society, as a world. Again, the challenges we face are not unique to any one particular part of our country or the world. Nevertheless, they impact each of us and all of us.

Yet, we should not need a disaster or demographic revolution to understand the need to transform our education system to continually expand access to and enhance the quality of schooling. Education is not stagnant. Education is vibrant; it is constantly evolving. On the one hand, it must be protected, but it also must be cultivated to meet the changing social, economic, and political needs of our society. And, that requires hard work from all of us.

As I have stated throughout this paper, how well we sustain the viability of our nation will be a reflection of how well we understand the role of education in positioning the United States to be a key player in our modern global village. For almost three decades, we have had national conversations about reforming our education system. While those conversations have been ongoing, and heated, they have been fragmented and have not brought about the necessary transformative results.

At the same time, we recognize that much of what we have accomplished as a nation has occurred because education is, and continues to be, a major foundation of our democracy and, in particular, our economy. Educating people has enabled us to address successfully the myriad challenges that changed us from an agrarian to an industrial, and now, to a knowledge-based society. And, as we accept and adjust to this transformation, key players need to work together to not simply rebuild the same system or correct deficiencies. We need to work together to truly transform our schools to educate more effectively all of the nation's citizens, particularly our children, for they are the future of America.

We need to acknowledge the fact that whether we like it or not, our students are not achieving as well academically as they should and that there are glaring academic disparities among students in schools all across this country. Unfortunately, for example, the fragmentation that defines too many curricula in our schools is not assuring all students that educational foundation or equality of educational opportunity. At the same time, we need to acknowledge that changes throughout our society—economic, social, and political—are placing greater demands on our schools and the teaching profession.

So, what would I do to improve the quality of education in America? First and foremost, I would encourage America to reaffirm its commitment to ensuring that every citizen has the knowledge, skills, and experiences to improve their quality of life, fulfill their responsibilities as citizens, and enhance our national development. To respond to this pledge, we should start, I believe, by addressing five key areas:

1. Focus more on student learning

Provide every child access to free, quality preschool starting at age three. Programs should be designed to help prepare children developmentally and socially for formal schooling.

Fulfill the pledge that every child will attend a school that is well-equipped, safe, and staffed with highly qualified teachers. Each child should be taught a well-defined, rigorous curriculum with the focus on student learning.

Encourage students to assume more responsibility for their learning. Support students' efforts to be more avid learners.

Support students needing extra assistance through tutoring and mentoring programs.

Increase parental involvement. Programs especially designed for parents who need help with their child's schooling should be provided.

2. Strengthen and enrich the curriculum

Implement a core curriculum, especially through 8th grade. Ensure that the educational foundation of all students, whether they end up pursuing an academic, general, or vocational track, will be predicated upon a solid academic core. Students as a result will be equipped with a greater capability to successfully function in our knowledge-based, multicultural, multilingual global society. Core subjects should include mathematics, science, English/language arts, history, the arts, and technology, and should be heavily supplemented by world geography, world history, and foreign languages.

Ensure that all course content is rigorous, coherent, and clearly sequenced from one grade level to the next.

Align curricula and assessment standards. Ensure that educators (especially teachers and school administrators), students, and parents are fully aware of and understand what the standards are, how they will be applied, and the consequences of failing to meet them. Schools and school districts need to align curricula, content, and instructional and assessment standards so that all children are assured the educational foundation they need to demonstrate not only mastery of the subjects they are taught, but how to use what they have learned to further educate themselves. Require that teachers and administrators know how to disaggregate the data in order to improve the curriculum, teaching and learning.

3. Honor and fulfill the promise that every child will be taught by a "highly qualified teacher."

Recruit and place only highly qualified, certified, professionally-prepared teachers in classrooms. Stop by-passing the certification process and placing non-certified teachers in our schools. Require every teacher to be professionally prepared to teach and able to demonstrate successfully mastery of content, as well as a repertoire of pedagogical skills and dispositional values.

Require all new teachers to complete a two-year induction program before they are issued certification.

Place more National Board certified teachers and other exemplary teachers in low performing schools. This recommendation is particularly critical in light of the fact that research shows that poor and minority students are far more likely to be assigned teachers who have not been professionally prepared to teach, are teaching out of their content area, and/or have not demonstrated that they are exemplary teachers.

Recruit high-performing administrators to provide instructional leadership and who understand how to help teachers address their instructional needs. These administrators should also require preparedness and efficacy of the teachers in their schools. Equally as important, administrators must share the responsibility for the improvement of teaching and learning in the school. In other words, administrators must be managers and disciplinarians, but they must also be instructional as well as distributive leaders who share leadership responsibilities with their faculty.

Increase professional development opportunities for all teachers and administrators, with a special focus on concerns that they have identified within their schools that are impeding efforts to improve student learning. Teachers should be involved in identifying areas that need to be addressed, but also involved in defining and sustaining professional development programs to address those needs. Such programs should be resourced to be ongoing and should be designed to help educators address problems within their schools and master new curricula and instructional strategies.

4. Transform schools, colleges, and departments of education (SCDEs) to better prepare teachers and educational leaders for 21st century schools.

Align the work of SCDEs more closely with state and national standards to ensure that pre- and in-service preparation programs reflect the demands of our society and the changing dynamics in our schools.

SCDEs and local school districts should form learning communities designed collaboratively to enhance the continuous professional growth of all educators—P-20—and to ensure that their faculty are well-versed and well-prepared to help transform schooling and, thus, education.

Ensure that SCDEs are themselves transformative and have the capacity to prepare K-12 educators to help redefine and teach in 21st century schools, using distance and mediated learning technologies and other innovative new methods of educating students for the information society in which they live.

SCDEs should work closely with their counterparts in other professional schools, such as arts and sciences, law, business, medicine, and engineering in order to form professional learning communities that enhance the relevance of teaching and learning.

Urge colleges and universities to stop treating SCDEs like cash cows. Higher education institutions should invest in the educational quality of future students and the rest of America by investing in the quantity and quality of the preparation of future educators at all levels of the system. In other words, enhance the capacity of school districts to effectively staff their schools with well-prepared, well-trained professional educators by supporting the efforts of SCDEs to transform teacher education, counselor education, and educational leadership programs to more effectively prepare educational professionals.

5. Maximize the capacity of schools to enable students to improve their education by providing an environment that supports and encourages high academic and behavioral standards and is collegial and innovative. To effectively implement the four foregoing recommendations, schools must have the physical and fiscal capacity to improve. Schools should:

Implement smaller class sizes, especially at the elementary school level. Kindergarten-grade 3rd classes should have no more than 12 students, and grade 4th-6th classes should have no more than 15 students. At the secondary level, efforts should be made to ensure that class size will not exceed 20 students, especially in the core subjects. By keeping class size at these optimal levels, teachers will have more opportunities and time to address the learning needs of each student.

Establish a longer school year and/or extend the school day to increase instructional time. Educational demands have been steadily increasing without a simultaneous increase in instructional capacity. Refusal to address this issue is a strategy for failure. If instructional time is not increased, in-depth teaching and learning will not occur.

Guarantee that all schools are equipped to use technology to reinforce and advance educators' and students' ability to communicate effectively, engage in problem solving, better understand the subject area, analyze and interpret data, and so forth. Teachers and other school personnel, therefore, must have the expertise to use a variety of technologies in ways that will more effectively expand learning opportunities to educate our nation's children.

Ensure that schools have the capacity to encourage and implement interdisciplinary learning, team-based learning, block scheduling, and other innovative strategies. In other words, schools need to rethink the design of teaching and learning space to be more student-focused and effective.

These are five recommendations that will improve our public school system and, thus, the quality of the education our children receive. Yet, I am well aware that implementing these suggestions is easier said than done. Our system of education is multi-layered, extremely complex, and serves a huge segment of our society (55,000,000 K -12 children over a period of at least 12 years). Efforts to change the American education paradigm must reflect that complexity and that is what I have attempted to do with these five recommendations.

Our modern world is a different world, with different needs and demands. Our education system—P-20—must educate students to understand the rapidity, scope, and depth of the changes that are redefining the 21st century and the implications they will have for our future. And, when do we start? We start with building that foundation in preschool and nurturing it all the way through graduate school.

Implemented individually, the above recommendations will bring about incremental change in our schools. Collectively, they have the potential to transform our education system to enhance every child's schooling. These recommendations are not designed as a one-size-fits-all solution, but as a comprehensive set of reform proposals to be used based upon the particular needs identified within schools that want to transform themselves. They cannot be accomplished without adequate resources such as time, expertise, and funding, as well as a commitment from the full community to ensure their realization. They are based on an acceptance of a mutual desire and responsibility—at home, at school, and within the community—for assuring a stronger commitment to improve the quality of schooling and, thus, improve the quality of education each child receives. As Lawrence Cremin (1977) said many years ago, "Public schools democratize America by assuring every child the right to be educated." (p. 45). Even as schools all over the world adopt online and mediated learning strategies, the common denominator will always be the quality of education each child receives.

Many of our education institutions are in fact responding to societal change and understand that education is the key to maintaining America's position in the global community. But the response is not widespread. Are we prepared to change on a grand scale? Are we willing to transform our national education system? Our response must be, "Yes! We hear the call and understand the message." By working together, within our reach is the capacity and commitment to address successfully the challenges facing America's education system and the nation as a whole.

As I consider this issue, I am reminded of an anonymous quote I heard recently about a locked door: "Some see a door locked and walk away. Others see the door locked and look for a key. Still others see the door locked and make a key to open the door." As we begin this school year or the next, we may find the door to transforming our education system still "locked." We may not find a key right away. But, we must not walk away! We must work together to make a key to open the door to transform our education system and, thus, reach within and welcome the challenge of providing this generation of children and future generations the best education possible. So, let's make the key together and open the door to a quality education for all of America's children!

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CHAPTER 17

Transforming Education: In Search of a 21st Century Solution

Peggy Siegel

"This is a story about the big public conversation the nation is not having about education…"
Claudia Wallis and Sonja Steptoe, "How to Bring Our Schools Out of the 20th Century"
Time Magazine, 12/18/06

"…The World may seem like an immovable, implacable place. It is not. With the slightest push – in just the right place – it can be tipped."
Malcolm Gladwell
The Tipping Point (2000)

In 1983, *A Nation at Risk*[1] sparked the last nationwide transformational moment in public education. The National Commission on Excellence in Education report, with its "rising tide of mediocrity" rhetoric, galvanized state policymakers nationwide into action. Having issued a critical challenge, the Commission also articulated a workable action agenda for the times, which included upgrading state standards, high school curricula, and teacher preparation programs.

Over the past 24 years, the drums have beat incessantly for improving education – and for good reason. Recent federal education history has given us national education goals under Presidents Bush (41), aggressive expansion of state standards under President Clinton, and enactment of No Child Left Behind (NCLB) – state standards with consequences – under President Bush (43). Sadly, these reform efforts, accompanied by repeated threats of global competition and admonitions to close the achievement gap for poor and minority students, have assumed a "cry wolf" quality with a public that has not internalized the consequences, or if it has, does not know what to do about it.

In no way is this meant to minimize the impact of NCLB, which nationwide had been considerable. But NCLB has divided the country on what needs to happen to improve education as much as it has brought us together. The good news is that the law – particularly with its emphasis on "all kids" and the disaggregation of student performance data by subpopulations – has kept education in the national spotlight, has joined the two important issues of rigor and equity in the same conversation around accountability, and has underscored the importance of teachers in achieving student success. The bad news is that NCLB attempts to provide a national solution based on 50 different state platforms of success. It has also had the unintended consequences, in many cases, of narrowing the curriculum and marginalizing teacher input.

Reauthorization of the Elementary and Secondary Education Act/NCLB is unlikely to create broad public will for transformation either, particularly if other priorities – positioning Presidential candidates for the 2008 election, preserving or denying the Bush education legacy, and assuming lockstep positions either for or against NCLB – crowd out a more

insightful policy debate on what is working well and what needs to be changed. Chances to build widespread support around NCLB are also likely to wane over time as the law's proponents are succeeded in office by others with no stake in its passage but held accountable for the consequences.

So, absent another *A Nation at Risk* galvanizing moment and faced with a relatively disengaged public and a politicized federal education agenda, what is our best recourse? Specifically, how can we spark the "big public conversation" over transforming education that we need to have – and are not now having? And, by engaging the public, how can we then accelerate the "tipping point"[2] that will lead to a thoughtful resolution?

I fear that we will never reach the educational tipping point unless we initially confront two underlying questions. First, are existing state assessments likely to enrich 21st Century learning? And second, are existing instructional approaches likely to engage 21st Century learners?

The Current State of State Assessments

Addressing the first question – Are existing state assessments likely to enrich 21st Century learning? – represents an "Emperor's New Clothes" moment.

Our current patchwork of state standards, assessments, and accountability, despite the best of intentions and years of hard work, are not doing what we need them to do – inform instruction so that teachers can use the information to help all students improve. In the worst cases, the pressure to meet state accountability requirements/NCLB actually competes with time devoted to effective instruction.

The reason has to do with the nature of the assessments themselves. Most states, notes UCLA Professor Emeritus Jim Popham, are either implementing standardized achievement tests, which measure the impact of socio-economic status and intrinsic academic aptitudes that students bring to school, not what they are taught once they get there. Or they are using standards-based tests, which overwhelm teachers because the standards were developed by subject matter experts who, in determining what students should know, often went overboard.[3]

Popham goes on to describe the impact on students this way: Existing state tests are assessments *of* learning, which "attempt to get a fix on what students know for the purposes of giving grades or evaluating schools." Unfortunately, they crowd out classroom time spent on assessments *for* learning, "the frequent, continual use of both formal and informal assessments...based on a careful analysis of the enabling knowledge and sub-skills that students must first acquire to master a higher curricular aim...which is always linked to the next question 'What's next instructionally'?"[4]

University of Illinois Professor James Pelligrino also advocates in favor of rethinking our current assessment practices with a particular look to the future. "Consider the possibilities that might arise," he suggests, "if assessment is integrated into instruction in multiple curricular areas and the resultant information about student accomplishment and understanding is collected with the aid of technology. In such a world, programs of on-demand external assessment such as state achievement tests might not be necessary. Instead it might

be possible to extract the information needed for summative and program evaluation purposes from data about student performance continuously available both in and out of the school context."[5]

Thus, the first step in creating an education system for the 21st Century is to take a hard look at our existing state assessments, rather than accepting them at face value.

A Reality Check on 21st Century Learners

Addressing the second question – Are existing instructional approaches likely to engage 21st Century learners? – has become a lot easier because of Tom Friedman. The author of *The World is Flat*[6] teed up a provocative discussion of what it means to be a lifelong learner in the 21st Century. What we now need to do is to flush out the essence of lifelong learning for a "plug-and-play" generation of students worldwide.

At the very least, we need to move away from the sit-and-get paradigm of learning that afflicts too many classrooms so that we can deal realistically with what 21st Century students are capable of. The good news is that this is happening in a number of our school systems today where students as young as first graders can articulate the reasons they are in school as well as their classroom and personal goals. These lifelong learners in the making are also taught how to use multiple data sources to assess and track their own performance and that of their peers, work together in teams, and determine when and how they are adequately prepared for the second grade and on up the education food chain.[7] Obviously, student-centered learning does not occur accidentally. Based on students already in the educational pipeline, such practices also need to become the norm rather than the exception.

Educators who seek to engage students confront an even greater challenge. "Today's students," observes Marc Prensky, "think and process information fundamentally differently from their predecessors. These differences go further and deeper than most educators suspect or realize."[8]

He explains: "Today's students…have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys of the digital age." Prensky refers to such students as "Digital Natives" in contrast to the rest of us "Digital Immigrants" who were not born into the digital world but have had to adapt to the new technology.

The single biggest challenge confronting education today, he concludes, is that "Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age) are struggling to teach a population that speaks an entirely new language." Prensky's solution: "invent Digital Native methodologies for all subjects, at all levels, using our students to guide us." In other words, unless we begin to think like today's students – or at least understand how they think by engaging them in the process – we will never be able to transform the education system to meet their needs.

In 1988, actor Tom Hanks starred in *Big*, a movie in which a 12-year old boy wished to

become grown up all at once. Although he looked like a 30-year old adult on the outside, the Hanks character retained his childlike sensibilities, enabling him to identify which toys would become wildly popular with his real peers. That scenario was about toys. This reality is about our future. Given the stakes, can we afford to involve students any less?

Here, then, are five suggestions on how to transform the education system for the 21st Century.

1. Engage the Flat World in Defining 21st Century Learner Expectations

So what would lifelong learning look like in practice, not from the perspective of separate subject areas or skill sets, but from the learner's perspective?

We don't have good answers yet, but that's not to say that we shouldn't make every effort to get them. Increasingly, people are turning to the small "d" democratic attributes of the Internet to address and resolve major challenges.[9] In the same vein, what if we were to convene a structured global discussion, using open source technology, to define 21st Century learning expectations, including proposed measures as well as examples of curricula designed to help students demonstrate their competency in meeting lifelong learning objectives? If this idea appears too "out there," just think of it as the modern day version of Tom Sawyer handing out digital paintbrushes to whitewash the global fence.[10]

No doubt, hosting such an Internet discussion would prompt valuable participation from the "experts," such as global companies, test developers, college admissions officers, and reform advocates from this and other countries. But it would also provide a venue to engage the "non-experts" – millions of students, themselves, and their parents – who have the most at stake in and therefore might have something interesting to contribute to the outcome.

There are two additional reasons for involving students as active participants in this discussion. First, such a worldwide initiative could spark broad-based interest in having "the big public conversation" to transform the education system. Second, involving the plug-and-play generation directly will embed in the resolution a realistic picture of how today's students actually learn, one not limited to the time they spend in class.

2. Transform Teaching into a Shared Enterprise

If expectations for 21st Century learners change significantly, so, too will expectations for their teachers. Instead of ensuring that students pass an annual state test of basic skills, teachers in such a learning system will be charged with – and supported in – instilling in all of their students an intrinsic understanding of and appreciation for what it means to be a lifelong learner.

Accordingly, the new set of skills demonstrated by teachers will need to include: an understanding, based on brain research, of how different students learn; the capacity to use data diagnostically to assess student competencies formatively and summatively; and the ability to facilitate learning opportunities for students, both individually and in groups. Other skills will include: the ability to design and assess, with external partners, the learning opportunities available to students within the greater community as well as work

collaboratively with other teachers and parents to reinforce ongoing student learning. Although daunting in scope, these changes promise to be much more rewarding for teachers, both intrinsically and professionally, than is the current situation.

That said, we will never be able to transform teaching if we continue to think about teacher preparation in traditional ways. The law of supply and demand, relatively non-competitive salaries, the high number of new teacher dropouts, pressures to meet current accountability provisions, and the compelling need to attract the best teachers to work with struggling students in high poverty areas – combine to create nearly insurmountable obstacles to recruiting, preparing, and sustaining an effective teacher workforce.

In contrast, here are some thoughts intended to redesign teaching as a shared enterprise for the 21st Century:

- Prepare the core teacher workforce as learning specialists with the skill sets listed previously.
- Compensate the learning specialists with a salary reflective of their skills and enable them to engage in ongoing professional development opportunities driven by staying current in their areas of expertise, which increasingly would become cross-disciplinary based.
- Partner the core teacher workforce with a supplementary, short-term workforce that would include Teach for America participants, second careerists, local business and community leaders, university faculty on sabbatical and part-time professionals – in order to replenish information on ever changing content areas and workforce needs.
- Create professional development schools as permanent customer-supplier relationships between local school districts and feeder teacher preparation programs.
- Grant preferential hiring to new teachers prepared by such joint programs.
- Create partnerships with local universities, businesses, government agencies, and community organizations in order to sustain the pipeline of the supplementary teacher workforce.
- Provide non-threatening, reciprocal opportunities for teachers (Digital Immigrants) and students (Digital Natives) to work together to enhance their technological skills.

3. Redesign the 21st Century Education System from the Ground Up

Once we articulate lifelong learning expectations for the 21st Century and redefine the student-teacher relationship, it follows that we will need to redesign the education system so that it is capable of achieving these objectives.

As stated earlier, one of the unintended consequences of NCLB is that too many teachers feel disenfranchised by the current implementation of the law, the intent to serve all students notwithstanding. That said, what better way to interest students, parents, and teachers in transforming the education system than to make them the key participants in making it happen?

Toward that end, we need to redesign the system from the grassroots on up:[11]

- Identify and invite a group of teachers (pre-k through high school) who have demonstrated success with students, regardless of their individual backgrounds and learning styles, within a student-centered environment. "Success" in this context is defined beyond insuring that all students behave in class or pass annual state or minimum competency tests. It includes involving students as active partners in the learning process in the following ways: assessing individual progress, using multiple data sources, on an ongoing basis; co-designing, with their teachers and peers, classroom, Internet, and community-based activities to meet school, community, and state performance expectations; working collaboratively on team projects; and providing feedback to their peers. Accountability in this setting becomes a shared responsibility between students of all ages and their teachers. In addition, these teachers would be experienced in working closely with their colleagues in developing interdisciplinary activities, as well as with parents, to support students as they progress from grade level to grade level.
- Task the group of teachers to create a scenario of what it would take to have all students meet the new definition of 21st Century learning expectations by the time they exit high school (the outcome of point one above). Resources could include access to the entire community. Current structures, such as grades, grade levels, and Carnegie units, would all be up for grabs. Matriculation and eventually high school graduation for each student would occur in real time, whenever he or she met the new expectations.
- Engage, for their feedback to the scenario, a group of Digital Natives, including current students, college freshmen and entry level workers, all of whom were educated in a learning-centered setting; also include students who left the public schools for alternative settings – via distance learning, in charter schools, and on the street, for students exercising leadership skills within dysfunctional settings such as gangs.
- Invite a number of important groups to listen to the scenario-building and student feedback and ask thoughtful questions based on the following charges to each:

a. *Building and district administrators,* to identify the planning and resource needs at the school and district levels, plus resources from the external community, that would support the new learning system.

b. *Product designers/organization developers,* to redesign, based on the teacher/student developed scenario, the school system from the ground up. They would be teamed with building and district administrators in reorganizing the work of the schools and the central office. Also at the table would be a group of innovative business and community leaders, to identify the roles that business, the civic community, and local government could play to ensure successful implementation.

c. *Policymakers at all levels,* to identify the current policy levers for and barriers to supporting the new learning system.

d. *Computer game designers,* to ensure that the curriculum and assessments, including student portfolios, be developed with a digital, web-based mindset.

e. *Schools of education and workforce development specialists,* to redesign teacher and administrator preparation programs as described previously.

f. *Communications specialists,* to design a comprehensive public awareness campaign to build public and political support for the changes.

g. *Researchers from higher education and leading education research organizations,* to design a formative and summative evaluation plan that will inform and assess impact as well as capture the lessons learned in progress and, ultimately, in retrospect.

h. *Military generals,* to assist all of the other groups connect and sequence the logistical tasks so that they will result in a thoughtful, comprehensive, and lasting educational campaign to define the future.

i. *Foundations,* to fund and participate in the work and the initial rollout strategy.

4. Reinforce State Leadership in Transforming to a Lifelong Learning System

Because states are constitutionally responsible for education in our federal system, they must take the lead in transforming to the 21st Century learning system. If past efforts are any indication, major changes can't happen without the states. But they will not succeed only with the states. State education leaders will need powerful allies to provide them with air cover and ongoing support.

Toward that end, a potential implementation strategy could look like this: Create the opportunity, through federal or foundation funding, for teams of state education leaders (chiefs, state boards, governors, legislators, and higher education commissioners, plus a number of pilot districts) to work collaboratively over time[12] on the following activities:

- Use the new 21st Century learner expectations, coupled with the grassroots scenario/learning system redesign, to rethink the contents of their state standards, assessments, and accountability requirements. As a result, states would hopefully come up with comparable or, optimally, a shared set of standards, assessments, and accountability requirements to support a 21st Century learning system.
- Provide incentives for teachers across the disciplines to redesign state curriculum frameworks and provide examples. Use open source technology to expand outreach to anyone interested in contributing ideas/materials to enrich the curricula.
- Provide incentives to create in-service programs for teachers to work across content areas in order to assess the competencies of their students as well as their longitudinal progress.
- Provide incentives for testing companies to collaborate in designing a new common assessment. The companies would then be able to develop "niche" products (targeted assessments, training, instructional materials) based on the common assessment platform.
- Provide incentives for schools of education, in partnership with other organizations, to redesign their teacher and administrator preparation programs.

- Fund external evaluators, to analyze progress on an ongoing basis as well as provide a summative evaluation every three years.

Enable everyone to be on the same page by inviting the following groups to observe and reinforce the network of the state teams:

- Congressional members/staffers and U.S. Department of Education officials, to identify existing incentives and barriers in federal legislation and regulations. If federal policymakers have an opportunity to see firsthand that state leaders are serious about being accountable for meeting more rigorous expectations for all students, then they should be more receptive to providing the flexibility needed to accelerate state efforts.[13]
- A coalition of think tanks on the right and left, to bring thoughtful discussion and analysis to the issues and ensure that the transformation not become captive of particular ideologies.
- Successful business leaders who understand what it takes to innovate and can make it politically feasible for public officials to take risks, not all of which will result in success.[14]
- The national groups representing state and local educators, as well as key education organizations involved in state reforms, to identify and map their core competencies around the new learning system in ways that will enhance the participation of their members.

5. Align Existing Institutional Levers in order to Accelerate and Sustain Transformation

Individual leaders come and go. All too often their change initiatives go with them, which is why we need to form institutional partnerships that can weather leadership transitions at the top.

Toward that end, here are a few suggestions:

- Redesign collective bargaining agreements between local school districts and their teacher unions to reinforce collaboration around a 21st Century learning system. For example, unions and school districts, as well as teacher training programs, all have a vested interest in keeping the skills of the teaching workforce current. Negotiations should make this both a priority and a shared responsibility.
- Encourage local education and community organizations to endorse school board candidates based on the willingness of individual candidates to support sustained implementation of a learning system.
- Provide incentives, through state and community P-20 coalitions, for social service agencies, early childhood providers, school districts, and higher education institutions to collaborate in providing opportunities for students of all ages to enhance their lifelong learning skills.
- Leverage the use of certification to reflect and reinforce the skill sets needed for the new teacher and administrator workforce.

- Leverage regional accreditation to support the creation and reinforcement of learning systems. Regional accreditation, with its common quality standards, built-in improvement cycle, and peer review feedback, provides a way for schools and districts to baseline and document their improvement efforts and benchmark with other sites worldwide that are using the same approach.
- Align the use of state department of education field resources, regional accreditation, and state quality (Baldridge-based) programs as a seamless support system for school districts to enhance their internal organizational capacity for continuous improvement, to meet the learning needs of all students.
- Build in a systemic capacity for lifelong learning within the education system by focusing the work of the U.S. Department of Education in two areas: developing and maintaining common state data bases and capturing lessons learned, not only on the end results of scientifically-based research but also on the impact, in real time, of implementing reforms. We need to create a "living repository" for change agents and researchers so they can pass along the lessons learned – both what worked well but just as critically, what did not work and why – from one generation to the next. In creating lifelong learners for the 21st Century, the education system itself needs to model such practices internally. Hopefully, by institutionalizing the capacity for generational sharing, we won't be entertaining this same conversation – 24 years from now – about why we have not progressed farther faster in improving education.

In sum, focusing on lifelong learning provides a way to recommit this country, post 9/11, to its democratic ideals. That, I would suggest, is the "big conversation" around education that we should be having, but are not. Hopefully, by involving everyone – particularly students themselves – in coming up with an appropriate 21st Century solution, we can expedite the tipping point to transform the education system in the process.

Or, as Tom Sawyer might have observed during the 21st Century "Does a boy get a chance to whitewash a fence every day?"[15]

Endnote

1. National Commission on Excellence in Education, A Nation at Risk: The Imperative For Educational Reform, April 1983.
2. Malcolm Gladwell popularized the concept in his book, The Tipping Point, Little, Brown, and Company, 2000, 2002. It refers to "the name given to that one dramatic moment in an epidemic when everything can change all at once."
3. The basis of these thoughts was captured in a presentation by UCLA Professor Emeritus W. James Popham, keynote speaker at the Council of Chief State School Officers, CEO-CEO Exchange, Park City, UT, September 10-12, 2006 and reproduced in the meeting proceedings, Leading Change: Innovative Opportunities fro States in the Twenty-First Century.
4. W. James Popham, ASCD Educational Leadership, "All About Accountability/Assessment for Learning: An Endangered Species?" February 2006. See also the work of Richard J. Stiggins, who has written extensively on the difference between assessments that take stock of "learning of" as opposed to "learning for."

5. James W. Pellegrino, "Rethinking and Redesigning Curriculum, Instruction and Assessment: What Contemporary Research and Theory Suggests," commissioned by the National Center on Education and the Economy for the New Commission on the Skills of the American Workforce, November 11, 2006.
6. Thomas L. Friedman, The World is Flat, Farrar, Straus and Giroux, New York, 2005.
7. Firsthand observations, Azalea Elementary School, Pinellas County, FL, mid-1990's.
8. Marc Prensky, "Digital Natives, Digital Immigrants," On the Horizon, NCB University Press, Vol. 9 No. 5, October 2001.
9. For a fascinating discussion of the possibilities, see Don Tapscott and Anthony D. Williams, Wikinomics: How Mass Collaboration Changes Everything, Portfolio Press, 2006.
10. With sincere apologies to Mark Twain.
11. Where is NASDC now that we really need it? In 1991, a number of leading US companies created the New America Schools Development Corporation (NASDC) as a non-profit venture capital fund to create break-the-mold whole school reform models. NASDC was probably before its time. Today, particularly with advancements in technology and brain research during the past 15 years, it would be great to have a new "public/private NASDC" to fund and oversee truly innovative whole-system reform.
12. See Chester E. Finn, Jr., Liam Julian, and Michael J. Petrilli, To Dream the Impossible Dream, the Fordham Foundation, August 2006. This thoughtful report, based on the ideas of a number of leading educators, posed four different approaches that could result in national standards and tests, or their equivalent. My ideas are most in line with Model 3, "Let's All Hold Hands," with the states coming together voluntarily, potentially with federal incentives, to develop common standards and tests/test items.
13. A good starting point to join this discussion would be the ESEA Reauthorization Policy Statement drafted by the Council of Chief State School Officers in October 2006, which advocates on behalf of real innovation and meaningful accountability delivered through additional flexibility in implementation. CCSSO was later joined by the National Governors Association and the National Association of State Boards of Education in issuing a joint statement on behalf of this idea and many others.
14. Business leaders need to weigh in on two levels. They need to provide a safe haven for state and local education leaders to redesign the education system. Just as critically, however, business leaders need to get involved directly in the design and implementation issues. Such engagement could be strengthened greatly by involving third parties who have working knowledge both of education's organizational needs and business operational experience, which could be positioned effectively as a resource to address such needs.
15. Mark Twain, "The Glorious White Washer," *The Adventures of Tom Sawyer,* 1876.

CHAPTER 18

Looking Back, Thinking Ahead

James Kelly

Introduction

When a great architect and leader of education reform in America for the past quarter century, Bob Wehling, invites colleagues to think ahead about what should be done to improve education in our schools during the next quarter century, it's both an obligation and a privilege to attempt to think ahead. If, indeed, a man's reach should exceed his grasp, so should a nation's education system; a failure of leaders to think ahead beyond today's constraints places the system at risk of being bypassed by new economic realities and new technologies that promise increased productivity.

In the 20th century, the system successfully adapted to major demographic and societal trends, but huge shifts in society and the U.S. economy will require equally significant changes in its organizational structure and labor markets. Business is changing. Our society is changing. The world is changing.

Today's students must be prepared for these changing conditions. The schools of the 21st century must adapt to these new challenges not only for improved education for students, but also because markets are rapidly providing new types of learning opportunities for students outside the formal school structure.

Have Schools Changed?

Some say that the schools never change – never have, never will. They're wrong. In fact, there were significant changes throughout the 20th century. The advent of civil-service employment during the first quarter of the 20th century led directly to the growth of professional cadres of administrators organized into hierarchical bureaucracies at both local and state levels. The number of local districts was reduced during the 1920's and 1930's from over 130,000 to the present number of about 15,000. Enrollment in elementary schools, and then secondary schools, became universal, and, when combined with robust decades of immigration, led to enormous expansion in the size of the "common school" enterprise. Preparation for teaching jobs changed from two years of college typically observed early in the 20th century, to four years and even five after the 1950's. States relied heavily on local administration of state-regulated curricula and also relied on local property taxes to provide most of the financial support for schools. One unfortunate impact of this decentralization is the inequitable distribution of taxable property per student, a problem reduced in severity in recent years due to court decisions requiring many states to provide a fairer system.

After World War II, enrollments continued to increase, and schools struggled to provide the needed buildings and staffs. During the 1960's, schools faced demands to strengthen instruction in science and math to support national efforts to match Soviet technical and military threats. Beginning in the mid-1960's, the desegregation of schools, and the provision of improved educational opportunity for disadvantaged children, became dominant

themes. Federal influence grew with passage of the Elementary and Secondary Education Act (ESEA) in 1965, and adoption in the 1970's of a second historically important initiative requiring education of handicapped children.

Beginning in the late 1980's and continuing into the first years of the new century, the principal focus of education policy and reform was to improve the educational attainment of all students, especially low-performing students. This became known as the "accountability movement," and was led by state governors, corporate leaders, and educational reformers. Soon standards led to testing, and more testing, and still more testing – all in the name of accountability, or rather, information about average student achievement on standardized tests in two or three content fields. The federal No Child Left Behind Act (NCLB) resulted in federal mandates and directives regarding details of instructional materials and methods of teaching reading, testing strategies for multiple sub-populations, and organizational incentives and penalties that prior to the late 1990's would have been deemed unthinkable federal intervention, and are the focus of intense political controversy even today.

Even this inadequate and all-too-brief survey reveals wave after wave of demographic and policy forces that led to significant changes in the public education system. Indeed, public education did change, perhaps slowly, but it did change. It is changing today, under pressures from NCLB and major initiatives in individual states and some local districts. Without overstating the case, it is fair to say that critics of public education miss the biggest point of all – one cannot separate the triumphant ascendancy of our great and stable democracy and powerful economy from the public education system that has been attended for generations by 90 percent of all students.

What hasn't changed in schools? Even as public education systems adapted to these demands for change, their structure and bureaucracy remains a "given." Today, the schooling "industry" suffers from a serious case of hardening of the arteries. Schools are essentially command-and-control organizations run by administrators who once were teachers but were "promoted" into administration. Teacher salaries within local districts vary only with years of teaching experience (growing older), and additional college courses taken (without regard to whether the courses have any relationship at all to teaching assignment or professional responsibility). Indeed, patterns of employment, compensation and incentives in schools rarely have to do with new missions, new contexts, or improved institutional performance.

One reason for this stability is that most parents remain satisfied with their local schools. Facing no revolt among their core constituents, school leaders have been all to willing to encourage the belief that public schools, as currently structured and managed, are the only institutional method of performing the public education mission. Demands for change in local school managements and bureaucracies are sometimes resisted as if any change in school structure or policy would represent a weakening of the entire public education system – when just the opposite is probably true.

Recent educational reforms have been focused on an improbable idea – that paying attention to internal classroom instruction is not only necessary but is a sufficient strategy to achieve major improvements in student performance.

Large segments of the educational reform community have been focused for 20 years on this policy idea — impose standards from above, impose new tests a few times a year, publish the results — and forget about such critically important issues as out-of-school influences on kids, organizational constraints, workforce capacity, and the absence of performance incentives. Recently, educational policy leaders have begun to focus on problems of capacity, such as lack of alignment between and among standards, tests, teacher preparation, and the "taught" curriculum – that is, what is actually taught by teachers once the classroom door is closed.

Another encouraging trend is found in initiatives to create smaller schools. In large secondary schools, it is almost impossible for teachers and other school personnel to know and work effectively with individual students and parents. Creation of smaller secondary schools in cities is promising. A few thousand public charter schools have been created, most authorized by appropriate public authorities. One idea worth encouraging is for cultural institutions to create public charter schools and to use their intellectual resources to strengthen curriculum and teaching. Through the development of these new, alternative schools, choice is enhanced for parents and students, but charter schools sometimes draw funding away from the remaining public schools. All too often, though, many new schools, especially charter schools, represent more a change in governance than new thinking about internal school organization and teaching-learning strategies.

It is important to observe that the external politics of schools are quite different from the internal. Most changes in schools in the recent decades have been driven by the external politics of schools. The Congress passes new laws, presidents make speeches, court rulings push the schools to offer new programs and to achieve new equities, governors and mayors demand more accountability, and states adopt ever more detailed regulations. But since World War II, the internal political economy of schools has seen only one significant change – the advent of collective bargaining with unionized workforces. In important respects, the status-quo internal politics has functioned to resist reforms sought through external politics.

Ends and Means of School Reform

One looks at this situation and notices an absence of policy attention to what used to be called the purposes of education. Traditional statements of these purposes required schools to attend to the personal, social, emotional, physical and academic development of students – all of the above. Today, schools face policy influences that are leading to a narrowing of the curriculum and, therefore, a narrowing of the purposes of education. These consequences are important to discuss and to study as policy issues whether or not they are intended effects of policy. A more robust public dialogue about the ends and means of education reform is needed.

There are many examples that could be cited of the narrowing of the schools' purposes. One example is the decline of music, art, and health education in many schools. To the extent that children are learning about these subjects, much of the learning occurs outside of school through services purchased on the open market by middle class parents.

Here is how one leading corporate CEO, Michael Eskew of UPS, described in 2005 the traits that UPS wants and needs in its future employees. Mr. Eskew says that UPS needs people who are:[1]

- Trade literate – people who understand the basics of 21st century trade and economics.
- Sensitive to foreign cultures – people who are adaptable and are knowledgeable about and sensitive to other cultures.
- Skilled in foreign languages – people who can read and write languages such as Mandarin.
- Technologically savvy – people comfortable with using and developing modern technologies.
- Skilled at managing complexity – people who can learn how to learn, a trait acquired through a liberal arts education.
- Ethical – people with a firm foundation of ethics developed in schools and through families and communities.

Even a casual glance at this list makes clear that students preparing for successful lives in the 21st century need to learn a lot more than just cognitive skills in a couple subject matter fields. It would be an enlightening "audit" to examine actual instructional programs in schools in the context of the traits described by Michael Eskew as essential purposes of education.

Another challenge to the "cognitive-skills-are-what-it's-all-about" camp comes from *New York Times'* Op-Ed columnist David Brooks. His November 13, 2005 column in the *Times* should be required reading. Brooks wrote that "…skills and knowledge – the stuff you can measure with tests – is only the most superficial component of human capital. U.S. education reforms have generally failed because they try to improve the skills of students without addressing the underlying components of human capital. These underlying components are hard to measure and uncomfortable to talk about, but they are at the foundation of everything that follows." He describes these components as cultural capital, social capital, moral capital, cognitive capital, and aspirational capital. He goes on to say:

"These programs (writing about No Child Left Behind) are not designed for the way people really are. The only things that work are local, human-to-human immersions that transform the students down to their very beings. Extraordinary schools, which create intense cultures of achievement, work. Extraordinary teachers, who inspire students to transform their lives, work. The programs that work touch all the components of human capital."

Looking Ahead – New Directions

As our society and economy change, schools will face continuous demands for improved performance. It's doubtful if schools, as they are currently organized and managed, are up to the task. Good people will work hard and achieve marginal improvements, to be sure, but not the kinds of gains in productivity (needed outputs compared to inputs) that American manufacturing experienced in the first three fourths of the 20th century and that

have been observed the past 20 years in non-governmental service sectors in our economy. To have any realistic hope that schools can take a "great leap forward" in productivity, major reforms are needed in how our educational system is organized, how learning opportunities are offered, and how modern tools of technology are harnessed to modernize traditional school organizations.

Stop for a moment and think about how little attention is being given today even to common sense reforms that are largely being ignored by our unthinking acceptance of the fragmented and uncoordinated ways that our educational system has been structured. To break down this tunnel vision and short-sightedness, we need courageous and bold proposals of where we need our educational system to be 25 years from now. We need public and professional debate about the big picture, not just the tactical measurement obsessions of today.

To provoke such debate, I offer below a short list of ten such needed "systemic" reforms. Some may scoff and say it can't be done, but none of these is more bold or challenging than many reforms adopted successfully by schools in the 20th century.

1. Break down institutional, policy and attitudinal barriers that divide "preschool" from "school." Create new child development programs beginning at age three with purposeful cognitive content, with seamless continuity from age three through age eight. This is a large institutional cooperation and collaboration issue and should not require large new resources. A major national foundation could map this initiative for the nation.

2. Similarly, break down institutional, policy and attitudinal barriers that divide "high school" from "postsecondary," creating college level for-credit courses starting in 10th grade, allowing students to learn and grow at their own pace, with seamless transitions bridging grades 10 through 16. Recent proposals focused on "K-16" reforms are well-designed but may be too timid considering the deeply embedded institutional fragmentation that must be overcome. This is essentially an issue of institutional collaboration, but the issue needs to be "taken up a notch," to paraphrase a famous TV chef. Foundations again could fund projects to "map" this kind of reform.

3. Create and support teams to design entire educational programs organized around the fundamental idea that all children are different and grow and develop at their own individual pace. Modern technologies can be huge enablers of individualization, but our thinking lags behind these capabilities. This initiative will require bold thinkers and is the sort of issue that a coalition of national foundations should undertake.

4. Engage cultural, scientific and civic organizations to establish and run model schools reflecting their expertise and resources. These schools should be publicly regulated as to desired outcomes and legal rights of children.

5. Abolish every law and regulation (except court decisions regarding racial segregation) requiring pupils to attend specific schools in a state, and open all public schools in a state to open enrollment, with random selection if applicants outnumber available seats.

6. Reduce deeply ingrained professional and regulatory barriers keeping parents out of schools. Provide financial incentives to reward schools that welcome parents to become engaged as partners with teachers, promoting academic growth of students, especially between ages three and 12.

7. Invest in new models of how to organize the time of students and teachers, providing learning opportunities that utilize 250 or even 300 days per year. New "curricula" are needed for what students should study and learn in summers and during other extended vacation periods. The National Science Foundation can lead this initiative using its traditional grant making functions, developing both "high-tech" and "low-tech" programs that states and local districts could adopt and adapt.

8. Invest modest public funds to create initial markets to stimulate substantial private-sector investments to create online curricula in all subject areas for students age three through 22, and for lifelong learning. Infiltrate with educational content the video games and iPods that consume so much of the lives of today's students. Use "RFP's" to attract "bidders" to earn "good housekeeping seals" for learning initiatives.

9. Develop radically improved human capital management systems for teachers, principals and other key educators, so that the now-separately conceptualized and administered elements - pre-service training, recruitment, employment, induction, deployment, professional development, evaluation and compensation - are strategically aligned to support the attainment of the teaching and learning goals of the system. The strategic management of human capital in schools means structuring the entire organization and its instructional systems, cost structures, and operations to provide the people and related knowledge, skills and capacities required to create and run successful schools.

10. Create a modern educational research-and-development system instead of the fragmented R&D activities in education today, so that national resources scaled to the task are allocated to solve educational problems and bring learning into the 21st century. American ingenuity and determination run deeply through R&D in other sectors such as agriculture and health, but sadly not in education. America needs an educational version of The National Institutes of Health (NIH); proposals to create such an enterprise have been advanced by the National Academies of Sciences but fell prey immediately to lack of political leadership at the Federal level. America spends more than $500 billion each year on its schools; an annual commitment of even one-half of one percent of that would be a good start. After all, education R&D is the historic core federal role in education. This initiative should be housed in a relatively autonomous federal agency similar to NIH and not within the U.S. Department of Education.

To create and launch many of these initiatives, the first step in advancing any of them is to get a core group of leaders to decide that they are important and that they will commit themselves to making something happen. Frequently this will require that an entirely new organization, or coalition, be established, to do the groundwork, chart the course, develop realistic plans regarding substance and financial support, and obtain outstanding staff leadership. Non-governmental financial support from corporations and foundations is usually essential at these early stages.

Assembling the network, or coalition, is critically important. All too many education reforms founder because they are launched by groups in one or another of the many "silos" in the education policy landscape. Getting groups across the "silos" to communicate and cooperate is not easy. Many say it can't be done. While it isn't done often, it can be done, and is absolutely essential to creating the possibility that a significant new initiative can have the time, space, and support needed to grow to self-sustaining scale.

One example of how this process can work is the National Board for Professional Teaching Standards (NBPTS), of which Governor Jim Hunt of North Carolina was founding chair and I was founding president. When the NBPTS was founded in 1987, leaders from many disparate groups and "silos" were brought together: teacher unions, academic organizations, governors, corporate CEO's, university presidents, educational researchers, school principals, local and state school board members – and last but definitely not least – teachers. In fact, a majority of the 63 members of the NBPTS board of directors were regular classroom teachers. Their "wisdom of practice," as Stanford's Lee Shulman called it, was the critical source of guidance needed to enable NBPTS to manage successfully the invention and establishment of National Board Certification, including its substance, administrative systems, financial support, and politics. When NBPTS was founded, the skeptics and cynics said it couldn't be done. They were wrong then. Initiatives like NBPTS can work again and again with the right combination of ideas, leadership, collaboration, and support.

Organizations and Technology

An absolutely essential need is to adopt and infuse technology into the entire enterprise - not only into the existing instructional program but also into the very heart of the organization itself – how local schools and districts are organized, and how schools relate to parents and taxpayers. In short, we need a hard look at how schools can use technology to revitalize the most basic processes of schools as organizations – how they organize to deliver goods and services. Defenders of public education need to recognize that major technological innovations for "high-touch, low-tech" school must be encouraged and supported. One example among many exciting new developments already available to schools is new wireless handheld devices that permit real-time but unobtrusive assessment of student progress by primary-grade teachers, with results instantly available to the teacher and the student. Assessment and analysis of actual day-to-day student performance offers an alternative approach to late-20th century reliance on centrally designed, once-a-year, "accountability" testing, the results of which sometimes takes months to filter back to the teacher, student and parent and thus have little or no influence on the teaching-learning interaction in the classroom.

New sources and forms of "supply" – teaching/learning opportunities – are beginning to be offered in the marketplace, frequently over the Internet, and more directly accessible to "demand" – parents and students and teachers. This is already happening in a major way through parental purchase of supplementary learning opportunities – computer games, summer camps, violin lessons, community-led athletics, travel, and countless other ways.

Let's think for a moment about these two issues – organizational change, and technology, and how they operate outside the schools. In the U.S. economy, there has been a brutal re-examination, firm by firm, of everything firms do and how they are organized to do them. The market forces this: profits decline; customers shift to new preferences; and competitors offer new technologies with both improved services and lower costs. Similar market or political forces have swept across sectors such as higher education, health care, transportation, telecommunications, and bio-medical research, causing major changes in the structure and internal operating functions of institutions. This simply has not happened with the schools – despite similarly significant changes in the social and policy environment in which schools operate.

Significant productivity increases are difficult, perhaps impossible, to achieve in today's schools. Yes, new revenues are provided regularly through state-local finance systems, reflecting the influence of pro-education governors and pro-funding education lobbies. But the new revenues tend to be allocated first to salaries and, importantly, employee health and retirement benefits. Expenditures thus increase, but program improvements are not achieved. This inability of the schools as organizations to allocate increases in revenue to improvements in effectiveness and efficiency undermines their prospects for long-term sustainability, especially given constant innovations in technology for learning outside schools.

Modern organizations survive by learning to adapt, not just do business as usual. They harness technology to create power, not just control it. They utilize technology to broaden, not restrict, leadership, and to promote a shared, not imposed, vision. They encourage individuality, rather than emphasizing conformity. They use technology to distribute authority, not to restrict and consolidate it. They promote collaboration among colleagues, not isolated individual performance. Modern organizations recognize that productivity doesn't come from top-down directives but from the collective performance of the people doing the work. They trust professional employees – not treat them like early 20th century factory workers. And last but not least, they listen carefully to customers and clients.

By these criteria, schools today are not organized to thrive indefinitely in their current form. They exhibit few of the characteristics desired in modern and adapting organizations. They are organized to control professional workers, not trust them to make good decisions. They are not adopting technology at an acceptable rate. Their students know more about technology than many of their employees. While schools may not be in imminent danger of collapse in the next few years, their mission is being eroded, and their potential to influence young people is being diminished. In the long run, perhaps measured as one or two decades, they will have difficulty sustaining their current position in the marketplaces they occupy.

Leadership For New Initiatives

To accelerate adaptability and reforms in our schools, bold and farsighted leadership is needed from the corporate community, from national foundations capable of shaping national agendas, from educational leaders, and from governors and the White House. New reform coalitions have to be developed through networks of individuals and institutions that are neither far left nor far right, neither dug-in defenders of the status quo nor

advocates seeking the complete privatization of public education. A dispassionate but more imaginative public policy discourse is needed about how markets can contribute to improved student learning while at the same time offering acceptable solutions on both social equity and choice criteria. Yes, I say both equity and choice, for these are two inseparable values, each deeply cherished by Americans for centuries.

Fresh thinking is needed. Boldness is needed. New goals are needed. New coalitions are needed. Risk-takers are needed. Private foundations, a critically important source of innovations, must think more creatively about how their grants could stimulate bolder educational reforms. More of the same will yield more of the same. Reforms that have a chance to prevail are likely to emerge not from the far left or the far right, but rather from what I would call the moderate-center of American politics, and the politics of education. We must hope that these reforms open new pathways for enhanced choice for students and teachers, yield advances in productivity and learning achieved through organizational innovation and new uses of technology, and thus provide an improved quality of education for the private benefit of students and the public benefit of society.

Endnote

1. Address by Michael L. Eskew, Chairman and CEO, UPS, at States Institute on International Education in the Schools, Washington D. C., December 7, 2005.

CHAPTER 19

The Meek Shall Inherit the Public Schools: Who Will Be Left Behind in the Learning Economy?

Chad Wick

Travel with me, if you will, into the public education system of 2025. When we arrive, we find no schools and no school days. No textbooks, lesson plans or grades. Even no teachers and no students.

Have we arrived at a future where public education has disappeared? Not at all. We've come to a place where education has changed so radically that we recognize almost nothing about it – a system where learning is dispersed throughout all kinds of places and activities, where people of all ages learn together, and where learning is individualized and dynamic.

In this view of the future, a wholly new system of learning has arisen in response to trends we see at work in the world today. School is no longer defined by place and time, and education is no longer a one-dimensional transfer of knowledge from teacher to student. Instead, children and adults are guided through a constellation of learning experiences intricately shaped to their individual abilities and interests by a diverse team of content experts, learning coaches, cognitive specialists, professional mentors and other master learners.

Rather than the industrial-era model of institutions manufacturing graduates whose diplomas signal that they are prepared to be productive workers, the future education system might more closely resemble a brokerage firm or clearinghouse. It could function as a brokerage in that families would rely on its learning experts to help them choose among a huge array of commercial and nonprofit as well as public providers of education services. It might be a clearinghouse or community center for a host of services that answer children's physical and emotional needs as well as their academic ones. Or it could take a shape that is so far outside current models for the delivery of service that it is beyond our imagining. For example, just 50 years ago we had the first televisions – who at that time could have imagined what a video iPod® would look like?

This forecast of a completely new paradigm for public education is far from a certainty. But I am convinced that nothing less will suffice to meet the challenges presented by a world where perhaps the only boundaries are geographical.

A Map of the Future

My call for a radically different approach to education is based on more than idle speculation. Many of us at KnowledgeWorks Foundation recently have engaged in a kind of intellectual time travel – a lengthy exploration into how our world is changing. We collaborated with Institute for the Future (IFTF), a Palo Alto, California-based think tank specializing in identifying and interpreting the trends shaping our future for many of the world's largest companies to produce a forecast for public education in the next decade.

The resulting "Map of Future Forces Affecting Education" for 2006-2016 is a comprehensive and startling look at what learning may look like, just in the next decade. (The map is available online at www.kwfdn.org/map.) In a larger sense it is in some respects a sobering picture – no one welcomes a future where daily life is uncertain and volatile, where even those in developed economies suffer chronic illness, where megacities sprawl and extreme climate events threaten land, infrastructure, and lives.

But the forecast is not relentlessly grim. Nor is it hopeless. We see extraordinary possibilities from a new connectedness arising out of the technology that so easily links humans across the globe, and we expect a growing awareness of the common good to shape our interactions. In an environment where information tailored to our needs can reach us wherever we are, the possibilities for education will expand in ways none of us could have predicted even a few years ago.

The challenge for educators and education activists inherent in this forecast is the need to learn about the trends shaping our world and respond in ways that move beyond the tinkering and patching that has marked so much of education reform in recent years. We must ourselves become forces shaping the future if we are to preserve the values of public education and ensure that the benefits and opportunities in this new world are distributed fairly.

It is a challenge we at KnowledgeWorks Foundation are taking on. Because our work focuses mostly on the urban poor, we find ourselves grappling specifically with the difficult questions of how the future will arrive in disadvantaged neighborhoods. While it is easy to imagine many students and families flourishing in a learning economy rich with educational opportunities, we worry that those opportunities will not be available to children whose families are not prepared to play the role of informed and motivated education consumers.

We believe bold and courageous thinking is necessary to ensure that these children – the "meek," if you will – do not inherit an antiquated and insufficient public school system. As Nobel prize winning physicist Kenneth Wilson says, this system can make the necessary changes "only if it stops trying to hold together a collapsing intellectual foundation and opens itself to a new paradigm — a system wide conceptual revolution that allows people to understand the new meaning of education itself."[1]

Three Key Trends

Before we can explore the future of the public education system, we must understand the context in which it will operate. Institute for the Future, which completed a careful and detailed analysis of current trends and where they are taking us, has helped us create a plausible forecast for the next decade.

Within that forecast, we've identified three changes that will be critical to the future of education. While literally dozens of factors will come to bear on how we teach the next generations, we believe these are among the most powerful.

A Learning Economy

One of the most significant changes facing teaching is that we are moving from a time when monolithic institutions delivered education in a "father knows best" manner to one where consumers seek out the information, skills, and experiences they need. We are calling this new commodity-based approach to education a *learning economy*.

Perhaps the best way to understand this change is to think of what happened to banks in recent decades. Not so long ago, bank customers conducted their business at neighborhood branches, and access to their money was restricted to banking hours. As ATMs and, later, online banking became available, customers were able to get cash, make deposits, and conduct other banking transactions when and where they wanted – and everything from the nearest gas station to hospitals and amusement parks became venues for banking.

In the same way, education is becoming a commodity increasingly shaped by consumer demands and delivered by many different providers. We see this in the growth in popularity of such things as tutoring services, teaching toys and computer games, brain-enhancing supplements and foods, and even educational vacations.

What's more, advances in technology are breaking the traditional boundaries of time and place – making learning possible anytime and anywhere. The freedom we have gained from our desks through the use of cell phones, iPods®, PDAs, and other devices is just the beginning of this evolution. Eventually, even our physical environments will become learning tools, thanks to wireless connections, portable communications devices, global information systems, and applications that literally embed information into places and objects. For instance, students will be able to walk along a neighborhood street and learn, perhaps wearing glasses that flash messages about the architecture of each building or listening through a headset to an oral history of the neighborhood cued by the route the student follows.

Digital games also are reshaping learning. World-building and role-playing games like *The Sims* and *World of Warcraft* or cell phone games like *GoGame*, where players receive scavenger-hunt assignments on their phones, require teamwork, critical thinking, and problem solving. Serious games, those intended not only to entertain but also to educate, are engaging learners in new ways, creating new opportunities and strategies for teaching. *Second Life*, the internet-based virtual world, has already found its way into innovative learning environments.

Another factor creating this learning economy is the move toward personalization. People are rejecting mass-produced items and instead are active in creating their own worlds, whether through do-it-yourself home improvement, music downloads to create custom play lists, or entrepreneurship that allows them to be self-employed.

The specialized products and services created by this demand can be marketed inexpensively online, so retailers offer seemingly infinite inventory, splitting the mainstream market into innumerable different niches.

The demand for personalization will affect public schools as well. Parents who have learned to network and mobilize resources for other purposes will apply the same tech-

niques to seek the best education for their children. As we see today with the trend toward charter schools, home schooling, and online learning, parents will be more and more willing to construct their own education alternatives. Each student may navigate a custom education system, perhaps attending several different private and public "learning houses" rather than going to a single school building.

With consumers placing more and more value on education and the means to deliver that education expanding rapidly, the learning economy is robust and widely distributed. Education is breaking free of the traditional concepts of time and place, as well as the physical limitations of classrooms.

In short, schools no longer have a monopoly on organizing the process of learning.

Democratization of Learning

Our forecast also shows a set of strong trends that are creating movement toward democratization – of knowledge, of learning, and of the tools for creativity. One of the trends pointing in this direction is the emergence of grassroots economics, a "bottom-up" way of doing business. Whether it is the popular website YouTube allowing viewers essentially to create their own broadcasting networks or the free Linux computer operating system built by developers around the world, a trend toward shared resources is reviving the power of collaboration.

This trend is amplified by the ever-more-powerful technologies of connection. Information is easily shared around the globe, which means that anyone with a computer can create a movie or a music album or even software. It also means that educational material – including whole courses – is available online. Anyone can be a student and anyone can be a teacher.

As learners and educators increasingly experiment with sharing resources and new content providers emerge, teachers likely will take on new roles. The classroom teacher's job likely will become "unbundled" to include an assortment of people who support learning, such as content experts, learning coaches, classroom coordinators, cognitive specialists, resource managers, and community liaisons.

Teachers' roles will also change because the Industrial Age approach of transmitting knowledge will give way to methods that emphasize learning through experience. Instead of an instructor in front of the class handing down information, teachers will function more like master learners, extending the trend that already sees teachers moving from the "sage on a stage" model to the "guide on the side."

This explosion of roles will attract a broader range of people into the learning profession, creating alternative career paths that may prevent teacher burnout and dissatisfaction. At the same time, learning will become more visible as students and teachers move outside the classroom, bringing greater respect and status to the profession.

We see the democratization of learning leading in some cities to the development of an urban learning commons where citizens treat their learning resources as a shared, critical resource that should be managed collectively. Everyone would have access, but, with col-

lective management, there would be enough for everyone. A city or society with this approach would treat learning as an essential component of innovation and would maintain and resource it accordingly.

These two major developments – the transition to a learning economy and the democratization of learning – together point toward a completely new education system. Classrooms and school days would be replaced by anytime, anyplace learning. Lesson plans and grades would give way to individualized learning schemes and flexible forms of assessment. Teachers and students would be transformed into a community of learners.

But this view of the future leaves unanswered some fundamental questions about whether education will serve the whole universe of learners. What's more, it does not take into account a third category of change forecast by our map of the future – changes that many will find difficult to consider.

Volatile Times

Our world is becoming an uncertain place, with our security, safety and sustainability threatened by extreme weather events, terrorism, political and economic upheaval, dwindling natural resources, impending pandemic illness, and social discord. The military uses an acronym to describe this chaotic condition: volatile, uncertain, complex, and ambiguous, or VUCA.

Evidence of a VUCA world isn't hard to find. Health problems are increasing, with chronic conditions such as obesity and diabetes on the rise. Increases in extreme weather, the possibility of pandemic illness such as avian flu, and pollution also threaten healthy life, especially for those living in dense urban centers – and more than half the world's population will live in cities before the end of this decade.

Stability also is threatened as the gap between rich and poor households grows, polarizing communities on issues of work, education, and urban development.

The shared social narrative that connected people in the past is dissolving as established institutions are replaced by new kinds of social groups. People connect with others with shared interests and values through interactive media such as blogs (online journals) and wikis (web pages that anyone can edit and change, such as Wikipedia), creating subcultures of like-minded individuals – a process that can be positive but also can create rigid belief systems and increase the divide between groups.

Social conventions also are evolving as multiracial, multigenerational, same sex, adoptive, and other kinds of households come together. One result of this social upheaval can be a strongly opinionated and segmented society, with more people holding fundamentalist views about complex problems.

These troubling developments signal new challenges for schools. More than ever, children will bring myriad mental, emotional, and health needs with them into the classroom. Schools may operate in changed circumstances, whether it be within gated communities or the confines of a public health quarantine. Educators may find themselves as arbiters in the struggles over social norms or caught between polarized segments of the population.

If further impetus for change in the education system is needed, the prospect of a VUCA world surely is more than sufficient to compel even the most reticent to re-examine their ideas of public schools.

Preserving the Core

In their book *Built to Last: Successful Habits of Visionary Companies,* James Collins and Jerry Porras discuss the yin and yang requirements for successfully meeting the future: preserving the core and stimulating progress.[2] Our study of the forces shaping the coming decade has persuaded me that this model is a good one. While I am convinced that we must be willing to overturn almost everything we have known as the public education system if this country is to meet the global challenges, I am steadfast in the belief that we also must preserve its core.

Public education was founded on a set of high ideals about advancing the public good, and I believe the ideals advanced by Thomas Jefferson and Horace Mann will be as vital to our future as they have been to our past. I'm not alone in that belief, either. While the reality of public education has in many cases fallen short of the original vision, a 2006 national poll from the Center on Education Policy shows that the public still supports its core mission. The most commonly cited reason that public schools remain important was "to give all children a chance to get ahead and level the playing field."

Simply put, our education system must continue to provide an opportunity to learn that is free to all – to act as an equalizer in our society.

Another ideal that should be preserved is providing the experience of diversity that can enrich and expand us. If we give up such experiences, we will have squandered opportunities to understand each other across the divides of social class, race, and national origin. As a country and as individuals, we will have become smaller.

Public schools also have an important role to play in socializing the next generation for the common good. While we must take care to value and respect the full spectrum of diversity, as a society we also must share some common understanding of our principles, expectations, and goals. Schools can and should be the place where the social contract comes alive.

Further, despite the benefits of virtual experiences, there still seems to be a need for a physical space that serves as a locus of community services and activities, provides a safe place for children, and defines and strengthens a neighborhood identity.

Shadows

The scenarios we've glimpsed in our travels into the future shine with possibilities, but also are marked by areas of shadow. It is important to pause for a moment and peer into those shadows – to ask ourselves how children without the means and wherewithal to find their way in the learning economy are doing in this brave new world.

The learning economy presents many more choices for where and how students get meaningful learning experiences. The downside of this also seems clear. As we move

through the next decade, parents with the resources and backgrounds to be adept at pursuing education options will become more assertive about seeking out the best experiences for their children – and if they follow trends established in recent decades, many of them will choose options other than public schools.

With a greater number of more enticing options to choose from in the future, even more families can be expected to move away from public schools. Who will be left? Students from the poorest families, those who can't provide such basics as transportation to suburban schools or a computer at home. Those from families unaccustomed to navigating bureaucracies to obtain scholarships or vouchers, much less tailoring an education from many disparate sources. Those for whom language is a barrier, and those whose dreams have been deflated by generations of stunted opportunity.

In short, the meek.

The children who are left to scrabble after educational scraps will suffer disproportionately in this scenario. We have gone much too far down this road already, with a two-tiered system of schools that widens the gaps in performance and possibility between the poor and the affluent.

In extreme urban areas, the challenges of VUCA communities play out against a backdrop of poverty and pollution, making it even more difficult for students and their families to cope with uncertainty and upheaval.

Will the benefits of anytime, anyplace learning be available to underprivileged students? While in some ways the digital divide is narrowing as technology becomes more affordable – for example, cell phones are becoming a platform for Internet access – poor schools generally have the least and the oldest technology and teachers often lack the training to make full use of the resources they do have. Without the equipment and expertise to take advantage of the media-rich learning environment around them, poor students will trail behind in their interest in and the ability to use technology, in the critical-thinking and decision-making skills best developed by new applications, and in exposure to cutting-edge discoveries and information.

Personalized education has the potential to be of enormous benefit to all students if it is accurately tailored to each child's real abilities and needs, but here again students from disadvantaged backgrounds will be at risk. The ongoing controversies over the fairness of IQ tests and other evaluative tools attest to the fact that some standard curricula and standardized testing are so remote from the experiences of poor urban kids as to be completely irrelevant. Personalized education based on faulty evaluations could perpetuate bias or compromise potential.

Will educators who embrace the new roles teach in our poor urban schools? Will inner-city students profit from the expertise of these specialized teaching functions? If today's trends continue, the answer very likely is no. Teacher attrition in poor schools is 50 percent higher than in wealthier areas, with some 20 percent of teachers leaving high poverty schools every year. And while the federal No Child Left Behind Act aims to ensure that all schools have highly qualified teachers for core academic classes, no state had achieved that mark

by the end of the 2005-06 school year and states were required to formulate new plans to ensure that all classrooms had a highly qualified teacher and that those teachers are evenly divided between poor and rich schools.

Our map of the future shows a world where interests and opinions are fragmenting, and where it is economically feasible to satisfy the personal needs and desires of niche markets. Can a market operating according to these principles be counted upon to provide what our students need?

Will voters in this future still see education and learning as public goods, engines of opportunity, to be provided for all children? Or will the century-old compact on universal public education finally shatter? It is all too easy to envision a state where the function of "sorting" students, which the schools are only now and with difficulty discarding, goes underground, and students' futures are once again largely determined by family wealth.

Distributing the Future

In a much-quoted comment, science fiction writer William Gibson has proclaimed, "The future is here. It's just not widely distributed yet."[3] If those of us in education accept the challenge of making sure the benefits of a relevant and strenuous education are evenly distributed in the future, what are we to do?

We need to figure out a few places to start making decisions and taking actions now if we are to succeed. We might begin by addressing some of the most pressing issues identified by our forecast. First, the public learning system needs to adopt, teach and assess a new definition of skills. The map tells us that key skills for thriving in a VUCA world include readiness, resilience, adaptability, and networking. Simulation is one approach for teaching these skills, but it is time now for public schools not only to create and use simulations, but also to develop teaching methods that exploit the value and attraction of networking both virtually and in person.

Another way to redefine the skills needed by all students is to embrace the "21st century skills" advocated most effectively by the Partnership for 21st Century Skills. The Partnership offers a skill set that includes: core subjects, 21st century content, learning and thinking skills, Information and Communication Technology (ICT) literacy, and life skills.[4]

Some solutions seem both obvious and concrete, such as providing inexpensive technology to those who can't afford it, perhaps through innovative approaches like the $100 laptop, a flexible, durable, energy-efficient computer being developed for the world's poorest children as part of the One Laptop per Child initiative. Supporting the development and distribution of such technology could help bridge the digital divide and revolutionize learning worldwide. Moreover, the public learning system must embrace "immersive media" and technologies of cooperation in order to engage Gen Z students, parents and teachers.

But technology isn't the only answer. We must also look at ways to restructure public schools, the teaching profession, and our communities.

We must position schools better to help urban and poor families prepare for chaotic times. The national community learning center movement encourages public schools

across the country to become the modern-day equivalent of the village green. By including such things as health clinics, gymnasiums, and evening courses for adults, these schools are able to provide the whole spectrum of education and health services that disadvantaged students and families need in VUCA times. Every school must consider taking this whole-child – and whole-family – approach.

In answer to the public's call for more personalized education, we must expand efforts to create more intimate and adaptable structures for our schools. School buildings themselves will change, with facilities designed so that they can be easily reconfigured, able to morph in form and function to support diverse services. And teachers can and must be allowed to personalize instruction while also ensuring that students meet the standards defined around the new skills.

Efforts such as the small schools movement, where large anonymous high schools are divided into more personal schools, are already reforming schools into more responsive and flexible systems. Small schools are also pioneering the pedagogy to personalize instruction in the standards-based system of today.

As schools break out of traditional structures, new funding streams must be developed that do not rely on local districts and resident students.

We must find ways to ensure all students access to the full array of opportunities that are part of the new learning economy. For students whose families are not well equipped to navigate the complicated terrain of this new environment, we should provide guidance and assistance from other sources.

We must also support teachers and school leaders in this time of transition. Teachers' unions and school administrators will have to find new ways to work together as teachers' roles diversify and old structures no longer apply. Attention must be paid to developing meaningful long-term career paths that retain talented teachers; quality of life, salary differences, and other issues that discourage teachers from working in high poverty schools also must be addressed.

But far more important than any specific solution is the need to stimulate meaningful "out of the box" dialogue that can lead to real change. We must engage outside catalysts for change, recognizing that education is shaped by external forces. Educators cannot allow such discussions to be derailed by a resistance to outside input or by arguments over internal details.

We at KnowledgeWorks Foundation are offering as a tool to spark such discussion the "Map of Future Forces Affecting Education" that we produced with IFTF. Because the map distills and synthesizes the wider body of knowledge in a way that is new – and extremely provocative – it is a useful starting point for all of us involved in improving education to question our assumptions and stimulate new thinking. We have created an online forum for dialogue as a way to facilitate these important exchanges.

Movements toward change cannot be undertaken in isolation. Communities must come together to effect the large-scale changes that will be needed, bringing together business, government, educators, nonprofit and cultural organizations, faith-based groups, social

services, and families. We must form coalitions to advocate for children's developmental, social, emotional, and academic needs.

It is time for educators and all others concerned about the future to start thinking about public education in a new way. We must work together proactively to imagine and create a system of public education that takes advantage of the opportunities presented by the changing world, while adhering to the underlying values that still matter. In this new world, we will need to "learn by doing." As we've seen, maybe the school will become a haven amidst disorder or a zone of health in a pandemic. Perhaps public schools and teachers will be one of many sources for education content, and will turn their attention to guidance and other activities to protect the most vulnerable students. Instead of computer games competing for students' attention, perhaps new games will teach students through simulation and problem-solving.

In the end, we must worry less about saving the public school as an institution, and more about harnessing the forces that are changing the world to take the education of our children to a whole new level.

The new form of public education must keep the needs of poor urban students – the meek – at the center of its creative vision.

Endnotes

1. Kenneth G. Wilson and Bennett Davis, *Redesigning Education: A Nobel Prize Winner Reveals What Must Be Done to Reform American Education* (Teachers College Press, 1994), 12.
2. James C. Collins and Jerry I. Porras, *Built to Last: Successful Habits of Visionary Companies* (HarperCollins, 1994, 1997), 80-90.
3. http://en.wikiquote.org/wiki/Future.
4. www.21stcenturyskills.org.

Conclusion

Together We Can

Bob Wehling

Let me begin by stating how grateful I am to all of the wonderful people who have herein contributed their thoughts on truly improving education opportunities for all children in the United States. I wanted to get all of these different perspectives because of my deep belief that we need a many faceted total system improvement or change, not just another piecemeal effort.

Accordingly, each participant was asked to address what we must do as a nation to ensure that every American child has equal access to a high-quality, world-class educational opportunity. Participants were chosen from across numerous fields and varied areas of expertise in order to present a comprehensive and varied collection of personal and professional visions for the 21st century American public school system.

The end result is a diverse set of possible solutions that we hope will serve to inform, educate, and motivate readers. For example, we were provided with successful templates for sustainable educational improvements through Ackerman's experience as Superintendent of San Francisco Unified School District and Sexton & Adams' chapter which detailed the impressive work of the Prichard Committee. We have been motivated to reconsider our roles, from Futrell's challenge to each of us to take responsibility for transforming our educational system to Hornbeck's identification of political will as the important missing ingredient in sustainable improvements and urgent call for us to find common ground. Jim Kelly reminded us of the importance of fresh thinking, boldness, and risk-taking in order to move us forward. Howey & Zimpher reinforced the notion of mutual mission and shared accountability while calling for deep structural changes to our current P-16 system. Both Tom Carroll and Barb Kelley focused on teaching in the 21st century and the important role of teacher quality. Kelley led us through the intertwined components of teacher recruitment, preparation, induction, retention, and distribution, while Carroll called for an entirely new school staffing model and detailed what teachers would need to be successful in this new system. Siegel laid out her personal vision for American public education as one in which every child has the opportunity to become an active, successful lifelong learner for the 21st century. Palacios described what an experienced early childhood educator sees as the necessary foci of public education as detailed through her own experience and practical examples, just as both Dick Riley's chapter and Jim Hunt's chapter relied on their first hand experiences in national political arenas. Both Riley and Hunt call for shifting education to a national priority and developing a new national consensus as the mechanisms for creating a stronger and more dynamic American education system. Both Ravitch and I detailed the necessity of a national curriculum as the only realistic solution to the myriad of problems that currently face our country's schools, while Linda Darling-Hammond urges us to consider an entirely new paradigm for national education policy. Similarly, Schneider and Zigler called for a national system of training for educational leaders in our schools, while Wise's chapter focused on the importance of national teaching standards. Rust used his experience as a leader in American business to discuss the connection between education and economy while iden-

tifying education as the number one economic problem facing our country. Seidel also discussed the importance of education and the economy as he called for improvements to our information and accountability systems as the necessary drivers of education reform. Finally, Wick's chapter focused us on the future forces that will soon impact the educational landscape and challenged us to consider new models for education, teaching, learning, and policymaking.

We must, as our authors have said, build stronger grass-root groups in every city and town supporting quality education for all. We must strengthen the relationship between every university and its surrounding K-12 systems. We must continue to improve teacher education, training, mentoring, support, compensation, and on-going professional development. We must cease hoping that 50 states and 16,000 school districts will all wake up one morning and agree to put in place and sustain a world class education opportunity for each child. With the help of experts in each field we must move toward national standards, a national curricula framework, a national assessment system, and a base level national funding system passed through the states to local communities which provides for a great, world class education opportunity for all children.

Our vision for a high-quality, world-class system of American public education:

- All children, from day one of kindergarten would be encouraged to develop a love of learning. They would clearly understand what was expected of them and would look at the teacher as a trusted counselor, friend and coach to help them achieve. They would track their progress and would ask for, and receive, help as needed. Expectations would be high; time on task would be significant; but learning would be fun and school would be a great place to be.
- All teachers would be National Board certified or clearly on a path toward certification. They would be deeply and continuously trained in the subjects they were to teach, and would have the talent and techniques to deal effectively with all children and to meet their individual needs. All teachers would feel fully supported by both other teachers and all administrators. All of the teachers in a building would feel a collective responsibility for the success of all students and would help each other as needed. Highly connected learning communities are the way of the future.
- You would sense, as soon as you entered the school, an atmosphere conducive to learning. Students would proudly wear school uniforms; they would be respectful of others and they would be constantly curious and engaged. Smiles would abound.
- Textbooks, software, and ancillary materials would go into all key subjects in depth, fostering critical thinking and questioning; focusing on concepts and the "why" and "how" of things rather than just "what" and "where".
- Parents and teachers would communicate regularly and families would often be in the schools as volunteers, aides, or just observers.
- All students would be allowed to move as rapidly as their intellect and effort would enable them. Diagnostic testing and subsequent individual learning plans would ensure that all students were constantly growing, challenged, and excited by new opportunities.

- By middle school at the latest, all students would be aware of the importance for college education and would be exposed to neighboring campuses and faculty. College faculty would be a routine presence in the K-12 environment.
- Technology would be omnipresent, facilitating learning and offering students the opportunity to go beyond what might be available in the local school. Technology will rapidly drive major changes in how we teach and learn. It is already happening. Technology won't wait for governments and school boards to make changes.
- The community would continuously celebrate the accomplishments of teachers and students, as well as the entire school. Business and community resources would be available to supplement the education opportunities for all students.
- Testing would not be an issue, but simply a snapshot in time. You would never hear "I have to teach to the test", but rather "I teach to the standard." "In fact, my students and I welcome tests to help us understand where we are and what we need to do."
- Teachers and administrators meet and share constantly in a mutually supportive environment. Principals are seen as helpful and knowledgeable educational leaders.
- Achievements in academics, athletics, and other extra curricular activities are routinely celebrated by a supportive community.

To accomplish all of this, we need to, once again, make education a top national priority. Some may say that this is already the case, but I believe the evidence suggests otherwise. In many cases and for good reasons we are preoccupied with terrorism, war, immigration, health care, social security, Medicare and Medicaid, criminal justice, the environment and other issues. All are important, but nothing is more important than our future and our future depends on the education and well being of our children.

Each of us must work with our elected officials and those running for office at all levels of government to put a world class education opportunity for all children high on their agenda. We must also remind our local media to keep the pressure on, report progress or lack of it, and hold us collectively accountable for the opportunities we provide for our children and for future generations.

Together, we can do it. Let's get started.

Bob Wehling

List of Contributors

Arlene Ackerman

Arlene Ackerman served as the Superintendent of the San Francisco Unified School District for six years and formerly Superintendent of Washington D.C. Public Schools before joining Columbia University's Teachers College faculty as the Christian A. Johnson Professor of Outstanding Educational Practice in September, 2006. Dr. Ackerman is nationally recognized for her work in improving student achievement in urban school districts. Under her leadership, the San Francisco school system experienced six consecutive years of academic growth for all students. In addition, the district was recognized as the highest performing large urban school system in California from 2003-2006. San Francisco schools were one of five finalists for the 2005 Broad Prize for Urban Education, given annually to the "best urban districts in the nation."

Dr. Ackerman was elected chair in 2005 to the Council of Great City Schools, a coalition of the nation's 65 largest urban school districts, serving 37 million students. She has served on local and national initiatives and boards including, the Presidential Commission on Historically Black Colleges; the College Board's Writing Commission; and The National Teaching Commission. In addition, she is Superintendent in Residence for the Broad Center's Urban Superintendents' Academy.

Dr. Ackerman has received numerous awards, recognition and accolades from local and national organizations. She received a bachelor's degree from Harris State University; a master's degree from Washington University; a master's and doctorate from Harvard University.

Jacob Adams

Jacob Adams joined the School of Educational Studies at Claremont Graduate University as professor in summer 2006. His research addresses the policy context of education, particularly ways in which governance and finance policies and implementation practices influence school capacity. Currently he directs the School Finance Redesign Project, exploring how K-12 school finance can be redesigned to better support student performance, and chairs the National Working Group on Funding Student Success. He is the author of Taking Charge of Curriculum: Teacher Networks and Policy Implementation (Teachers College Press, 2000). Before joining the CGU faculty, he was a research associate professor in the University of Washington's Daniel J. Evans School of Public Affairs and an associate professor of education and public policy at Peabody College, Vanderbilt University, where he also served as director of the graduate program in educational policy and chair of the Peabody College Faculty Council.

Adams has served in numerous policy and advising roles. From early involvement as staff to the Committee on Ways & Means in the U.S. House of Representatives, field organizer for Common Cause, and campaign and administrative staff to California's former chief state school officer, Bill Honig, he went on to serve as associate director of Policy Analysis for California Education (PACE), an education policy research center at the University of California, Berkeley, and Stanford University. He chaired the boards of directors of the Kentucky Institute for Education Research and Abintra Montessori School (Nashville, TN) and is a former member of the editorial board of the journal Leadership & Policy in Schools. Professor Adams has been a consultant to the National Commission on Governing America's Schools, National Forum on Accountability, National Research Council, and various school

districts. He now serves on the national advisory boards of Standard & Poor's School Evaluation Services and the National Governors Association's Redesigning the American High School Initiative, and as a member of the College Ready Roundtable.

Tom Carroll

As its President, Tom Carroll leads NCTAF's efforts to improve teaching quality by restructuring school environments to meet the needs of 21st century learners. He served as the founding Director, of Preparing Tomorrow's Teachers to Use Technology, "PT3" at the U.S. Department of Education from 1999 – 2001. He was the first Director of Technology Planning and Evaluation for the E-Rate program at the Schools and Libraries Corporation from 1997-1999. He created and directed the Technology Innovation Challenge Grants Program at the U. S. Department of Education from 1994-1997. From 1986 to 1994 he was Deputy Director of the Fund for the Improvement of Postsecondary Education. From 1982 to 1986 Directed Research Centers and Regional Laboratories at the National Institute of Education (NIE). As an Assistant Professor of Anthropology and Education at Clark University from 1975-1979, he received grants from the National Institute of Education, the National Endowment for the Humanities, and the Fund for the Improvement of Postsecondary Education. He earned a Ph.D. in Cultural Anthropology from SUNY Buffalo in 1975. He served as a Peace Corps Volunteer in rural community development in Lesotho from 1967 -1969. NCTAF publications are at: www.nctaf.org

Mary Hatwood Futrell

Mary Hatwood Futrell is the dean of The George Washington University Graduate School of Education and Human Development (GSEHD). A professor of education and co-director of GW's Center for Curriculum, Standards, and Technology, Dr. Futrell specializes in education reform policy, professional development, and diversity issues. She is chair of the Holmes Partnership Board and is a member of the Boards of the National Society for the Study of Education, The National Commission on Teaching and America's Future, The Kettering Foundation, Lynchburg College and the Teachers Support Network.

Prior to becoming dean of GSEHD in 1995, Dr. Futrell was president of the National Education Association (NEA) for an unprecedented six-year term and, before that, served as president of the Virginia Education Association (VEA). In 2004, she completed her term as president of Education International (EI), a global federation of 30 million educators from 152 countries that works with governmental and non-governmental organizations in advocating education for all. From 2001 to 2006, she served on the UNESCO High Level Group for Education for All.

First and foremost a teacher, Dr. Futrell is an advocate for human and civil rights and improved education worldwide. She has received over 20 honorary degrees from universities and colleges and has won numerous awards. Some of her honors include the NEA Foundation Award for Outstanding Service to Public Education (2003), UNESCO's Jan Amos Comenius Medal (2004), and the American Association of Colleges for Teacher Education Edward G. Pomeroy Award for Outstanding Achievement in Teacher Education (2007). In 2007, she was named a Virginia Woman in History by the Library of Virginia Foundation.

David Hornbeck

David W. Hornbeck is leading the design work for Prepare The Future, a national grassroots advocacy effort supporting quality public education for all children, especially poor children, children of color, children for whom English is not a first language and children with disabilities. After spending most of his career as an educator, he realizes that the absence of public will supporting a quality education for all children, not education issues, is the biggest missing ingredient in school reform.

Mr. Hornbeck previously served as Philadelphia's Superintendent of Schools, Maryland's State Superintendent of Schools, Pennsylvania's Executive Deputy Secretary of Education, President and CEO of the International Youth Foundation, an architect of Kentucky's education reform law KERA, a partner in the law firm of Hogan and Hartson, Co-director of the National Alliance for Restructuring Education, Senior Education Advisor to the Business Roundtable and Deputy Counsel to the Governor of Pennsylvania. He has chaired the boards of the Carnegie Foundation for the Advancement of Teaching, the Children's Defense Fund, Council of Chief State School Officers, Good Schools Pennsylvania and the Public Education Network. Mr. Hornbeck served as chair of the Carnegie Corporation's commission that produced Turning Points and chair of the National Chapter I Commission. He has been a member of numerous other national, state, and local boards and commissions.

Mr. Hornbeck is a graduate of Austin College (BA, L.L.D.), Oxford University (Dip. Theo), Union Theological Seminary (B.D.) and the University of Pennsylvania (J.D.). Mr. Hornbeck is married, has two sons (both inner city school principals) and four grandchildren all in or en route to public schools in Baltimore.

Ken Howey

Ken Howey is a Research Professor at the University of Cincinnati. During his professional career he has also served as a teacher, principal, laboratory school director, director of a research center, and dean. His scholarly activities have focused primarily on the preparation and continuing education of teachers. He has also devoted considerable time towards preparing teachers for leadership roles and studying the characteristics of effective schools and high performance teaching.

For ten years he served as Director of the Urban Network to Improve Teacher Education, (UNITE), a consortium of partnerships between universities, school districts, and teacher unions in major cities across t he United States. He was also the lead investigator for the decade long Research About Teacher Education Study, (RATE), and the co-investigator for the National In-service Teacher Education Studies (ISTE).

He is the author of several books and numerous journal articles and has delivered papers in a wide variety of major forums. He has served as a consultant to school districts, universities, and state department and ministries of education in several countries. Dr. Howey has been accorded many honors including the Lifetime Award for Distinguished Service to Teacher Education by the American Association of Teacher Education.

Jim Hunt

Serving an historic four terms as Governor of North Carolina, Jim Hunt is a nationally recognized leader in education who led his state through twenty years of education reform and economic growth. His early childhood Smart Start program won the prestigious Innovations in American Government Award from the John F. Kennedy School of Government at Harvard University and has been emulated by other states across America. Hunt set high standards for K-12 public schools and was a national leader in insuring rigorous accountability for student performance. In the last decade of his governorship the schools of North Carolina increased NAEP scores more than any other state in the country. In the 1980's, Governor Hunt and the Carnegie Corporation of New York organized the National Board for Professional Teaching Standards which he chaired for ten years.

Hunt serves as the Chairman of the Board of the National Center for Public Policy and Higher Education in San Jose, California, the Hunt Institute for Educational Leadership and Policy at the University of North Carolina at Chapel Hill, and the Institute for Emerging Issues at North Carolina State University. He is

currently partner in the large Southeastern U.S. law firm of Womble Carlyle Sandridge & Rice, PLLC, in Raleigh, NC.

Barbara Kelley

Barbara Kelley is the Professional Development Director for the Asia Society's International Studies School Network (ISSN), an initiative targeting minority and low-income students. Supported by the Bill and Melinda Gates Foundation, the ISSN is a nationwide network of small, internationally themed secondary schools preparing students to be college-ready and globally competent. Barbara was inducted into the National Teachers Hall of Fame in June 2004. She served for six years as the first and only teacher to chair the National Board for Professional Teaching Standards, succeeding founding Chair Governor Jim Hunt of North Carolina in 1997. In 1999, Teacher Magazine named her one of ten people who shaped the decade in American education. In June 2003, she retired from teaching physical education in Bangor, Maine for twenty-nine years.

Ms. Kelley received a National Educator Award from the Milken Family Foundation in 1998. She is a former Maine Physical Education Teacher of the Year and a former Maine High School Coach of the Year. In past years, she served as Vice-President of the Maine Education Association and on the Boards of Directors of the National Education Association and of the Hunt Institute. Ms. Kelley graduated magna cum laude from Longwood University in Virginia, and in October 2001 was recognized by Longwood with an alumni achievement award. She holds a Masters of Education from the University of Maine. She earned her Masters of Science in Business from Husson College in Bangor, Maine, where she was recently selected for induction into its Alumni Hall of Fame. Barbara and her husband Ed (a National Board Certified Teacher) reside in Raleigh, North Carolina.

James Kelly

Jim Kelly is a senior advisor to education organizations, foundations, government agencies, and corporations. His clients have included the Asia Society, Widmeyer Communications, the Henry Ford Learning Institute, the Hunt Institute at the University of North Carolina, Atlantic Philanthropies, the National Research Council of the National Academy of Sciences, the World Bank, and Standard & Poor's.

From 1987 to 1999 he was Founding President and CEO of the National Board for Professional Teaching Standards (NBPTS). From 1970 to 1981, he was a senior program officer at the Ford Foundation where he directed the Foundation's programs in education finance reform, public finance of children's services, and related topics.

Mr. Kelly has served on the boards of many educational and civic organizations, including the executive board of the Consortium for Policy Research in Education, and is a member of the national advisory board of two education technology firms. For over 20 years he was a board member of the Institute for Educational Leadership.

Early in his career, Mr. Kelly was a public school teacher and administrator, and an assistant and associate professor of education at Teachers College, Columbia University. He received his Ph.D. from Stanford University with concentrations in education, economics, and political science. Mr. Kelly is a member of the National Academy of Education.

Rebecca Palacios

Rebecca A. Palacios, Ph.D., graduated in 1972 with honors from Roy Miller High School, from Del Mar College in 1973 with an Associate in Arts, and received a Bachelor of Science from the University of Texas at Austin in 1975. She received her Master of Science in 1976 from then Corpus Christi State University and received her Ph.D. from the University of Texas at Austin in 1994.

Rebecca has been a teacher in the CCISD schools for 31 years and is currently a dual language pre-kindergarten teacher at Zavala Special Emphasis School in Corpus Christi, TX. She received her National Board Certification in 1997, the first Hispanic in Texas to become board certified and one of the first five teachers in the state to receive the distinction. Currently, she is the Vice Chair of the National Board for Professional Teaching Standards, and was a founding member of the National Board in 1987. Rebecca founded the first cohort of teachers seeking Board Certification in Corpus Christi in 2004.

She is a nation-wide presenter and has served on committees or consultant for the National Science Foundation, the Education Development Center in Boston, Scholastic, Inc. in New York, and has written various articles on teacher professional development, early childhood education and dual language programs. She is also a member of the American Federation of Teachers and member of their nation-wide English Language Learners Educator Cadre Advisory Committee.

She has won awards including being the first CCISD "Teacher of the Year," in 1987, and in that year, also introduced President Clinton at a White House ceremony honoring the nation's first National Board Certified Teachers. Among the awards she has received include the "Y Women in Careers" Award; the Senator Carlos Truan Award of Distinction for "Bilingual Teacher of the Year" from the Corpus Christi Hispanic Chamber of Commerce; the LULAC "Outstanding Community Member;" the Hispanic Womens' Network of Texas "Las Estrellas" Award; the United Married Couples Award; and the Roy Miller HS "Alumni of the Year." Her special dedication is to young children and she incorporates music, literacy, technology and science to make learning come alive for her students.

Diane Ravitch

Diane Ravitch is a historian of education, Research Professor of Education at New York University, a senior fellow at the Brookings Institution in Washington, D.C., and senior fellow at the Hoover Institution at Stanford University.

Ravitch is a member of the board of the Thomas B. Fordham Foundation, the Albert Shanker Institute of the American Federation of Teachers, Common Good, the James B. Hunt Leadership Institute, and the Core Knowledge Foundation. Until 2004, she was a member of the National Assessment Governing Board, to which she was appointed and reappointed by Secretary of Education Richard Riley in 1997 and 2001.

From 1991 to 1993, she was Assistant Secretary of Education responsible for the Office of Educational Research and Improvement in the U.S. Department of Education during the administration of President George H.W. Bush, and she was counselor to Secretary of Education Lamar Alexander.

Her most recent book is The English Reader: What Every Literate Person Needs to Know, an anthology of classic English literature, which she edited with her son Michael Ravitch. In 2003, she published The Language Police (2003). She has written seven other books, including Left Back (2000); The Troubled Crusade (1983); and The Great School Wars (1974).

She has edited fifteen books and written more than 400 articles and reviews for scholarly and popular publications. Her books and articles have been translated into many languages, including Chinese, Polish, Arabic, Spanish, Swedish, and Japanese.

She has a B.A. from Wellesley College and a Ph.D. in American history from Columbia University. She holds eight honorary doctorates.

Richard Riley

Richard W. Riley is the former U. S. Secretary of Education (1993-2001) and former Governor of South Carolina (1979-1987). He currently is a senior partner in the law firm of Nelson Mullins Riley & Scarborough L.L.P, with more than 300 attorneys in offices throughout South Carolina and North Carolina, as well as in Atlanta, Boston and Washington, D.C. Secretary Riley counsels clients and works with partners to develop strategy on complex business, governance, financial and legal matters for local, national and international clients.

With the full support of the firm, Secretary Riley remains an ambassador for improving education in the United States and abroad. He has been appointed Distinguished Professor at his alma mater, Furman University, and serves as Advisory Board Chair of the Richard W. Riley Institute of Government, Politics and Public Leadership there. He also has been named Distinguished Professor at the University of South Carolina, and the College of Education at Winthrop University bears his name. In addition, he speaks, provides leadership and serves in an advisory and collaborative capacity with many other entities across the nation and abroad that support education improvement at all levels.

Secretary Riley earned his bachelor's degree, cum laude, in political science from Furman University in 1954 and received a J.D. from the University of South Carolina School of Law in 1959. He is the recipient of numerous education and other public service awards, as well as honorary degrees from universities and colleges in the United States and abroad.

Secretary Riley and his wife, Ann Yarborough Riley but more commonly known as Tunky, have four children and 13 grandchildren.

Ed Rust

Edward B. Rust Jr. is chairman of the board and chief executive officer of State Farm Mutual Automobile Insurance Company, Bloomington , Ill. , and the other principal State Farm® affiliates. A native of Illinois , Rust joined State Farm in 1975 at the Dallas, Texas, regional office. He became president and chief executive officer in 1985 and was elected to the additional post of chairman of the board in 1987. A graduate of Illinois Wesleyan University in Bloomington, Rust holds both juris doctor and master of business degrees from Southern Methodist University, Dallas, Texas. He serves on the boards of directors of Caterpillar, Inc., Peoria, Ill.; Helmerich and Payne, Inc., Tulsa , Okla.; and McGraw-Hill Companies, Inc., New York .

Nationally recognized as a leader of the business community's efforts to improve the quality of education in the United States , he most recently served on the No Child Left Behind Commission, a bi-partisan, independent group that made recommendations to Congress and the Bush Administration on how the federal law can be improved. He is co-chairman of the Business Coalition for Student Achievement and served on President Bush's Transition Advisory Team committee on education. He is former chairman of the Business Higher Education Forum, former chairman of Business Roundtable's Education Initiative, a director of Achieve, Inc., a director of the National Center for Educational Accountability, the James B. Hunt Jr. Institute for Educational Leadership and Policy and the America's Promise Alliance. He also served on the National (Glenn) Commission on Mathematics and Science Teaching for the 21st Century.

He is co-chair of Business Roundtable, chairman emeritus of the Illinois Business Roundtable, and a member of The Business Council. He is former chairman of several other organizations, including the American Enterprise Institute, The Financial Services Roundtable, the Insurance Institute for Highway Safety and the National Alliance of Business. He serves on the Board of Trustees of The Conference Board and is a former member of the board of directors of the American Council of Life Insurance. He is a

trustee of Illinois Wesleyan University and former member of the advisory council of the Stanford University Graduate School of Business. He is a former trustee of The American Institute for Property and Liability Underwriters and a former member of the board of overseers of The Institute for Civil Justice. Rust is a member of the Texas and Illinois bar associations.

Carri Schneider

Carri Schneider holds a Bachelor's Degree in Elementary Education, Master's Degree in Educational Administration, and Doctoral Degree in Urban Educational Leadership. Her research and interests include the intersection of educational theory, research, and practice, particularly as related to the perpetuation of educational inequality in American public schools. She has presented at national conferences and published articles in these areas. Her dissertation is entitled *When Journalism and Scholarship Collide: A Critical Analysis of* Newsweek's *Annual Report on America's Top High Schools.*

Schneider's experience in education ranges from her years as a second grade teacher, to work with the educational policy team at KnowledgeWorks Foundation, and her most recent role as a facilitator for the University of Cincinnati's Distance Learning Master's Program in Educational Leadership and Summer Administrator's Development Academy.

Schneider was a recipient of 2007 recipient of the David L. Clark Fellowship Recipient in Education Administration and Policy, 2006 nominee for the AAC&U Future Leaders Award, and is on the 2005 list of "Who's Who Among America's Teachers". She is also a member of the American Educational Research Association, American Educational Studies Association, and Phi Delta Kappa. Carri is married to Lou, and they just welcomed their first child, daughter Josephine Marie.

Kent Seidel

Kent Seidel is Associate Professor and Chair of the P-20 Leadership division at the University of Denver, where the preparation of educational leaders at all levels, from early childhood through higher education administration, is addressed in a systemic, cohesive fashion. He also serves as Executive Director for the Alliance for Curriculum Reform, a collaborative project of more than 20 national education organizations, and was recently faculty and Chair of the Educational Leadership and Urban Education Leadership graduate programs at the University of Cincinnati (Ohio). He holds a Ph.D. in Education Research with an emphasis on arts and educational organization management.

Dr. Seidel serves as a principal investigator for the large-scale longitudinal study strand of the Teacher Quality Partnership, a research consortium of all 50 college and university teacher education programs in Ohio. TQP is conducting a series of studies to better understand the aspects of teacher preparation, professional development, and early career support that help new teachers be successful in teaching math and/or reading to elementary and middle school children.

Major publications include Assessing Student Learning: A Practical Guide (2000), for school practitioners in every subject area. He has also written on program evaluation and student assessment for the National Association of Secondary School Principals (The Bulletin), the Association for Supervision and Curriculum Development (Curriculum Handbook Series), and the national journal Teaching Theatre. Dr. Seidel has consulted on development of standards and assessments for several states and districts, and has worked with numerous schools, primarily in urban settings. He was one of 25 National Steering Committee members overseeing the development of the National Assessment of Educational Progress exams for the arts, and assisted the Educational Testing Service in the development of arts assessment items. He

was one of six authors of the National Standards for Arts Education in theatre.

Robert Sexton

Robert F. Sexton has been the executive director of the Prichard Committee for Academic Excellence since its creation in 1983. A Louisville native, he has also been the deputy director of the Kentucky Council on Higher Education, an administrator at the University of Kentucky and a professor of history.

A graduate of Yale University, Sexton earned his Ph.D. in history from the University of Washington. He was a Visiting Scholar at Harvard University and at the Annenberg Institute for School Reform at Brown University.

Sexton has been recognized widely for his efforts to improve public education, receiving the Charles A. Dana Award for Pioneering Achievement and honorary degrees from Berea College, Georgetown College, and Eastern Kentucky University. He was a founder of Kentucky's Governor's Scholars Program and the Commonwealth Institute for Teachers. He chaired the board that created the Carnegie Center for Literacy and Learning in Lexington.

He was a founding board member of the Kentucky Institute for Education Research and served on the Governor's Task Force on Early Childhood and the School Curriculum, Assessment and Accountability Council. He is on numerous boards, including the Kentucky Long-Term Policy Research Center and the New Opportunity School for Women. He also serves on the boards of Editorial Projects in Education (publishers of Education Week and Teacher Magazine) and the Education Trust, and formerly the Consortium for Policy Research in Education and the Trust for Early Education. His book Mobilizing Citizens for Better Schools, was published in early 2004 by Teachers College Press of Columbia University.

Peggy Siegel

Peggy Siegel has spent over 30 years working in, consulting for, analyzing, writing about, and helping to enhance state and local education systems. During the mid-70's/80's, she served as a senior staff person on education in the Ohio General Assembly and with the National Conference of State Legislatures in Washington, DC. As a management consultant at Cresap (Towers/Perrin) and Pelavin Associates (now AIR), Siegel focused on change management and organizational development issues.

As Director of Business/Education Leadership Initiatives at the National Alliance of Business for 12 years, Siegel supported the efforts of numerous state/local business and education leaders nationwide to improve their education systems. She directed a long-term business education partnership for the JCPenney Company, including two local projects in Texas and seven national teleconferences, which received a Best in Class Award from the Conference Board. Siegel wrote Using Quality to Redesign School Systems: The Cutting Edge of Common Sense (Jossey-Bass and the American Society for Quality: 1994) with Sandra Byrne and a case study on Motorola's long-term education leadership initiatives during the 1990's. She also directed BiE IN, the Baldrige in Education Initiative, a six-state education reform effort in collaboration with the American Productivity & Quality Center, after serving as a National Baldrige Examiner for three years and working on the successful extension of the Award to education. Dr. Siegel recently served as Vice President of AdvancED, which accredits K-12 public, private, and charter schools and districts in 30 states and 65 countries.

Siegel is a Phi Beta Kappa graduate of Ohio State University, where she also earned an M.A. Degree in Political Science and a Ph.D., with honors, in Education Administration.

Bob Wehling

Bob Wehling is Chairman of the Board of Common Sense Media, a national nonpartisan organization led by concerned parents and individuals with experience in child advocacy, public policy, education, media, and entertainment that is dedicated to improving the media lives of kids and families. Wehling is a former Global Marketing Officer of Procter& Gamble and Co-Founder of the Family Friendly Programming Forum. The Forum includes more than 40 major advertisers working to ensure that families have better options for programs to watch together, especially in the early prime time hours. Except for three years in the U.S. Air Force, Wehling spent his entire career at Procter & Gamble, retiring after 41 years in 2001. He was elected Senior Vice President in 1994.

Wehling has been actively involved in education and children's issues at the local, state, and national level for over 35 years. These activities range from serving as President of a local Board of Education to the founding of the Cincinnati chapter of the Children's Defense Fund. He also co-founded a statewide business/education coalition in Ohio. Many of his efforts relate to quality teaching. For example, Wehling serves on the National Commission for Teaching and America's Future and recently retired as Vice Chairman of the National Board for Professional Teaching Standards. He currently serves as Board member for the James G. Hunt, Jr., Institute for Educational Leadership and Policy Development.

Bob is married to Carolyn, and they have 6 daughters and 24 grandchildren.

Chad Wick

Chad Wick is driven by a desire to create equity of educational opportunity in order to effectively prepare students for college, work, and citizenship. Recognized by former U.S. Secretary of Education Richard W. Riley as "one of the outstanding education leaders in the country," Chad leads KnowledgeWorks Foundation in its mission to solve national education problems innovatively and with others. KnowledgeWorks Foundation in its mission to increase the number and diversity of people who value and access public education. As the founding president and CEO, he has led the Foundation to achieve this mission by providing not only seed grants and operating funds, but extensive technical assistance and training that promotes and supports sustainable, system-wide changes.

Arthur E. Wise

Art Wise is president of NCATE (National Council for Accreditation of Teacher Education) in Washington, D.C. During his career, he has worked toward teacher quality and professionalism, school finance reform, and the advancement of educational research. At NCATE, he has directed the design of Performance-Based Accreditation, a new approach, and led efforts to develop a system of quality assurance for the teaching profession. He is co-author of A License to Teach, which is a blueprint for the professionalization of teaching. Art first came to national prominence as the author of Rich Schools, Poor Schools: The Promise of Equal Educational Opportunity. That 1968 book conceived the idea of the school finance reform lawsuit. Since then, at least 18 state supreme courts have ordered the equalization of state school finance systems.

As director of the RAND Corporation's Center for the Study of the Teaching Profession, he proposed education policies concerned with teacher licensing, teacher evaluation, and teacher compensation. Many of these proposals have been incorporated into state laws and regulations. Long active in federal education policy, he proposed to Congress the creation of the new National Institutes of Education; In 1995 Congress established five new institutes. In the late 1970s, he helped to create the U.S. Department of Education.

Art's previous positions include: associate director, National Institute of Education, asso-

ciate dean and associate professor of education at the University of Chicago, and captain at the U.S. Military Academy, West Point. He is a graduate of the Boston (Public) Latin School, Harvard College, and received an MBA and a Ph.D. in education from the University of Chicago.

Ted Zigler

Ted Zigler spent 30 years in public education with five school districts as a teacher, counselor, and administrator in Ohio before joining the University of Cincinnati as a faculty member. After three years as an assistant professor with the Educational Leadership Program, Ted is currently the Coordinator of the online Masters of Education at Ohio Dominican University, located in Columbus, Ohio. In 2001, Ted was named the "Ohio Principal of the Year" by the secondary schools administrator association. In his current position, he works with the Cincinnati Public Schools and the Mayerson Academy on leadership development, in addition to work with the Ohio Department of Education on developing Principal standards and making connections for those standards between practice and higher education. Ted is a current board member and the president-elect for the newly formed Ohio Council of Professors of Educational Administration. He is also a member of the Ohio Leadership Advisory Council, which plays an advisory role for the department of education and other educator organizations in Ohio.

Nancy Zimpher

Dr. Nancy L. Zimpher is the president of the University of Cincinnati, one of the nation's top 25 public research universities. Dr. Zimpher has become a national leader in higher education administration, teacher education, urban school renewal and PK-12/higher education partnerships. Dr. Zimpher is the co-author and co-editor of books on university leadership as well as books on teacher education and urban education. She also has authored and co-authored many monographs, book chapters, and academic journal articles related to academic leadership, school/university partnerships and teacher education. She previously served as the chancellor of the University of Wisconsin-Milwaukee. A teacher and an educator, she also served as Dean of the College of Education and executive dean of the Professional Colleges at her alma mater, The Ohio State University, in Columbus, Ohio. Dr. Zimpher serves on the boards of the American Council on Education and the National Commission on Writing for America's Families, Schools, and Colleges, and as the chair of the board of directors of the National Association of State Universities and Land-Grant Colleges. She leads a national consortium of comprehensive research campuses, called the Urban Serving Universities, with member institutions that are committed to enhancing the quality of life within their respective cities. Dr. Zimpher has played a pivotal role in the formation of two university/PK-12 partnerships, both the Milwaukee Partnership Academy at UWM and while at UC, Strive, a partnership in Greater Cincinnati-Northern Kentucky. She also served on the board of the Ohio Partnership for Continued Learning and co-chairs the Ohio Board of Regents Articulation and Transfer Advisory Council.

Appendix

Business Roundtable

Essential Components of a Successful Education System

Business Roundtable's *Essential Components of a Successful Education System* is a nine-point policy agenda for K-12 education improvement. This framework was adopted in September 1990, and updated in May 1995 and February 2000. It is based on the fundamental belief that all children can and must learn at much higher levels — from students who now drop out of school to those considered to be high achievers. The nine components are a comprehensive, integrated strategy for system change. Taken together, they outline the changes needed, in each state and community, to improve student achievement. The components are:

1. **Standards.** A successful system clearly defines, in measurable terms, expectations for what students need to know and be able to do to succeed in school, in the workplace and in life. A successful system aligns and focuses its policies and programs on student achievement of high academic standards.

2. **Assessments.** A successful system focuses on results, measuring and reporting student, school and system performance so that students, teachers, parents and the public can understand and act on the information.

3. **Accountability.** A successful system bases consequences for policymakers, educators, and students on demonstrated performance. It provides students the curriculum, instruction and time they need to succeed. It assists schools that are struggling to improve, rewards exemplary schools and penalizes schools that persistently fail to educate their students.

4. **Professional Development.** A successful system insists on meaningful preparation and continuous learning for teachers and administrators that drives improved teaching, learning and school management.

5. **School Autonomy.** A successful system gives individual schools the freedom of action and resources necessary for high performance and true accountability.

6. **Parent Involvement.** A successful system enables parents to support the learning process, influence schools and make choices about their children's education.

7. **Learning Readiness.** A successful system recognizes the importance of the years before children come to school. It provides high-quality pre-kindergarten education for disadvantaged children. It also seeks the help of other public and private agencies to overcome learning barriers caused by poverty, neglect, violence or ill health for students of all ages.

8. **Technology.** A successful system uses technology to broaden access to knowledge and to improve learning and productivity.

9. **Safety and Discipline.** A successful system provides a safe, well-disciplined and caring environment for student learning.