

What I know best are universities and colleges, and I could easily devote more than the allotted time talking about these institutions, their exotic problems, their political correctness, their vaulting tuition, their scientific misconduct and questionable handling of money.

Not to mention various other problems. Universities put too much emphasis on research and too little on discovering how they can help their students learn. They concentrate too much on providing the services and programs that society will pay for, and do not show enough leadership in finding ways to offer the research and the teaching that the country needs. Alas, the two are not always the same.

But that said, I think it fair to remark that universities are not where our critical educational problems lie. America still has the best system of higher education in the world. Our scientists continue to win most of the Nobel Prizes, students come from all over the world to study with us, we have the largest and most accessible system of higher education for the most diverse group of students in the world.

Very few people would make such a favorable assessment of our primary and secondary schools. Therefore, I want to concentrate today on public education as the more urgent and important task before us, particularly at the dawn of a new administration.

Public Schooling in the Spotlight

Public schools in this country have been very high on the national agenda for a full 10 years, ever since 1983, when the Gardner Commission issued its report. To the best of my knowledge, that is a record length of time for public schooling to get that kind of high-level attention in this country.

Why have we continued to give greater than normal attention to public education over such an extended period of time? The answer is contained in four propositions which a great many people in this country believe:

1. Education is vital to improving the productivity and competitiveness of our economy at a time when that economy is being challenged by foreign competition more than ever before.
2. The academic proficiency of our young people has gradually declined in recent decades.
3. Whether you look at science, math, reading, writing, or analytic skills, our students rank below their counterparts in almost all other industrialized countries.
4. The root of these problems lies in our schools, either because—depending on your point of view—they're underfunded, or encrusted by rigid bureaucracies, or staffed by mediocre teachers, or weakened by flabby ideas and undemanding standards.

When you put all those propositions together, you have a very powerful case for being deeply concerned about public education in this country. I see only one problem with it: All those propositions are either wrong, unproven, or subject to serious qualification.

By
Derek Bok

Rethinking Public Education

Although I believe there is an urgent need for the reform of public education. I think it's important to start by being clear about the underlying premises.

In my view at least, we should not exaggerate the role of public education in raising productivity and making us competitive in world competition. Education is not the most immediate cause of our productivity problems, and improving education will not necessarily improve productivity.

It certainly won't do it in the short-run, and it will only help improve productivity in the long-run if we decide to save more, and invest more, and if American companies decide to reconfigure their operations to fully utilize highly educated workers. None of those improvements is foreordained, and none can be taken for granted.

As for the declining educational standards, that seems to me something of a myth inspired by reporters and publicists, who find it very difficult to keep the public's attention without talking about decay and imminent collapse. If you look at most tests of achievement over the last 20 or 25 years, they indicate our students are performing about as well as they ever have. Some of them even show that students are performing at higher levels than they had before.

That is true for the reading levels of 17-year-olds, it's true of math and science for 9- and 13-year-olds. It's true for blacks and Hispanics in math and reading at ages 9, 13, or 17. All of these groups are performing better than in the last 20-odd years. The idea that everything is declining is simply not supported by the evidence.

As for student achievement compared with other countries, there are dismaying results. It is disturbing to find, in one poll I recall, that we were performing worse in math than students in Thailand and other far-off countries. Yes, these are dis-

turbing findings, but you have to look at those tests very, very carefully, and read the fine print. When you see that students in some underdeveloped countries are doing better than ours in math, it's a pretty good bet that their tests are being taken by the very small percentage of the population that makes it to high school. That isn't comparable to the 75 percent of young people that complete high school in this country.

Whatever international comparisons show, and however dismaying they may be, it would also be a mistake to believe that the differences are explained primarily by differences in the quality of our schools, or our school practices, or the length of the school year, or the amount of time on tasks that teachers spend in our classrooms. The most careful work I have seen on international differences suggests that by far the most important reason for our poor showing in those competitions is that a much higher percentage of American children grow up in poverty or in broken homes, not that they have attended inferior schools.

When you get through revising these popular beliefs, does it mean that we no longer need to worry about the quality of our schools? Certainly not. It does mean, I think, that there are a lot of other factors besides schools that have a lot to do with how much our students learn—nutrition, parental attention, the amount of TV that is watched, the quality of neighborhoods.

It does mean that if any occupant of the White House is really serious about wanting to be remembered as an education president, he should also try to be remembered as a housing president, an antipoverty president, a health president, and a great many other kinds of presidents, as well, because a serious assault on education must include serious attention to this whole range of problems.

Societal Gains From Reform

That said, however, I still believe that schools can have an impact. You have only to look at the many examples that have now been accumulating of inner-city schools, in blighted neighborhoods, that are still managing to do much better than other schools with similar ethnic and income groups in their student populations. When you see the higher achievement scores, the higher graduation rates, the larger numbers of students going to college—you get a sense of what can be accomplished by successful school reform.

Improving schools will also be important for a lot of reasons other than productivity, whatever the connection with schooling and productivity may be.

Schools are one of the few places in our society where problems of race relations and diversity that are so important to keeping our society somewhat unified and cohesive are being confronted. Schools continue to provide places of opportunity for students who might otherwise be forgotten. ” They also do a lot to make better citizens. We know, for example, that voting rates in this country are below those of almost any other advanced country in the world. What we don’t always remember is that when you look at the reasons why people don’t vote, by far the most important factor is how much education they have had.

So in all these ways reform of schools is important. And in addition, you have to believe that as our workforce becomes better educated and better able to deal with higher level problem solving, American business will find a way to use those skills productively, with higher paying jobs.

U.S. Goals Have Changed

To recapitulate, our schools are doing as well as they ever have. The problem

is, that isn't good enough. The world has gotten more complicated, and though our standards haven't declined, our needs have gone up, and we have not improved the quality of education to keep pace,

Although the best way to improve that student achievement would be to reduce poverty, diminish crime and stop drugs, improving schools is surely important enough to be worthy of our best efforts.

We’ve made a lot of false starts in the past 10 years in trying to improve our schools, and that’s not altogether surprising, because historians of education tell us this is practically’ the first time in which America has asked its schools to make learning and clear thinking, problem solving, careful reading and writing their primary goals.

That astonished me the first time I heard it, and yet, as one looks into it, it’s true that for generations we didn’t really want a terribly intelligent work force. What we wanted was an obedient and disciplined workforce.

As a result, other goals took precedence throughout most of our history—goals such as integrating the races, or assimilating immigrants, or teaching them the American way of life, or helping students adjust to life problems, or teaching basic ideas of citizenship. These were all very worthy goals, but not the same thing as making as your primary objective the need to develop well-educated, articulate, problem-solving, literate people,

Thus, we’re at a rather early stage of truly caring about improving these intellectual skills, and after a decade of vigorous experimentation, we’re beginning to arrive at a consensus.

We’ve learned that the way to improve schools is not to hand down a lot of detailed rules that prescribe what students should learn, and how they should be taught. We did a lot of that in the early ‘80s, and it didn’t work very well. It

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merely exasperated teachers and diminished their morale. That shouldn't surprise us: no one ever taught a good class because they were ordered to do so. Education is a much more complicated process.

The emerging consensus is a wiser one. It's also much harder to implement, because it recognizes there is no one big thing we need to do, but a number of things, and you can't just do them incrementally or piecemeal, because they're all interdependent. No one change is going to accomplish very much if the other changes aren't made at the same time.

Recipe for Reform

Six steps are necessary for reform. Let me try to cover them briefly.

1. The states, in cooperation with the federal government, must set minimum goals and standards that define what all students should learn. Setting those minimum standards and articulating the goals are critical if you're going to lift the levels of achievement across the country, if you're going to focus effort in the schools and establish clear priorities, and if you're going to provide a basis on which we can assess how well we're doing, and hold schools accountable.
2. The second goal, which follows from the first, is that we need good ways of measuring the progress schools are making toward achieving the goals. If you don't have those measures, there's no way by which states and school systems will know how individual schools are doing, there's no way by which parents will be able to assess the quality of their schools, there's no way teachers will know how well their collective efforts are succeeding.
3. Once these goals and methods of assessment and accountability are in place, we have to give schools a lot of discretion in deciding what teaching materials, what methods, and what kinds of policies are needed to achieve the goals we want them to meet. Schools that manage to meet those goals should be left alone, and freed of a lot of the regulations they now are encumbered with. Those that don't meet the goals ought to be given new leadership, with the funds and authority and the help they need to try to turn themselves around.
4. If schools are going to discharge these responsibilities, they're going to need principals who are intellectual leaders, capable of motivating and guiding and involving their teachers in a collaborative effort to improve schools. All the studies we have of effective schools indicate that leadership is a very important component, yet in this country choosing principals has always been a rather casual occupation. It's a post often given to popular coaches who are tired of the football field, or people who seem to get along with everybody; you teach them some management, how to deal with unions if you have them, and how to deal with building management and maintenance problems, and then you let 'em go. But that's not the kind of leadership we need. We need intellectual and academic leadership—that's a very different thing, and requires very different preparation and selection.
5. We need to recruit better teachers. For years, public schools were able to capitalize on some kind of captive audience, by making heavy use of women and minorities, whose careers were blocked in many other direc-

tions. That is over now. Many talented women and minorities are going into law, business, and medicine. Education majors today in this country fall somewhere in the bottom 40 percent, or even 30 percent, of their college classes.

The chances in the late '60s that someone with an IQ of 130 would go into teaching were just about as great as the chances that somebody with an IQ of 100 would go into teaching, proportionately speaking. Today the chances that someone with an IQ of 130 will go into teaching are less than a fourth of those of someone with an IQ of 100. The exceptional talent, that thin stream of excellence that's so important in providing an inspired teacher, a mentor, a future principal, is being drained out of the system.

To correct that, we need to begin by paying teachers more. Only a 10-percent increase relative to other professions, would, according to the best estimates we have, increase the number of applicants enough for us to lift the standards of our teachers up to the average for all college graduates. I've never heard a good reason why we should settle for less than average quality of college graduates to teach our students.

Simply offering higher salaries isn't enough. We also have very casual methods of selecting teachers in many parts of the country. When able candidates apply they aren't necessarily chosen. Teaching is the only learned or quasi-learned profession I know in which people with higher academic records do not receive any more money during the course of their careers and are not promoted any more rapidly than people with lesser ability and intellectual accomplishments. Once teachers are hired,

they rarely have an opportunity to collaborate with their colleagues, to talk about the desperately difficult problems they face in trying to improve learning in their schools. Many of them have little opportunity to participate in school policies.

For all those reasons—their working conditions, methods of selection and promotion, as well as the salaries they receive—talented people do not become teachers or do not stay long once they begin. It's not just that the students who major in education are not up to the normal standard in the college classes to which they belong. The best of the students who major in education and graduate never go into teaching. Of the ones who do go into teaching, the more able among them are the first to leave. Among those who leave, the ablest are least likely ever to return. What we are getting at every stage is a progressive loss of our most talented group, and the results over time are quite serious and must be corrected.

6. Finally, we have to find some way of strengthening the incentives for students to learn. If you look at surveys of teachers across the country, you find that one of the most disturbing changes is in the number of teachers who regard student apathy as a serious problem. There's little wonder in that. Part of the explanation may have to do with the quality of teaching, but a lot of it has to do with the fact that there are so few incentives for students to be motivated to take their work seriously.

There are only two incentives under the current system that I can think of. One is to graduate, because that helps you get a job—that's very easy. The other is to do well enough to get into college. That affects rela-

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tively few people, because only about 200 of our 3,000 or 3,500 colleges are very selective, so it's not that difficult for most high school graduates to get into a college they want to go to.

If we are going to motivate students, we're going to have to add to those incentives. We're going to have to make the quality and the quantity of their schoolwork matter to their future lives. Somehow we have to develop in businesses and universities enough confidence in the curricula, and the ways in which students are assessed, so the quality of a student's record will matter when it comes time to hire students or decide whether to admit them to college.

Those are the six basic steps. They're very daunting, but as I said before, what really makes it tough is that we have to do them all if we're going to get reasonable improvement. Paying student teachers more is not going to help very much if the systems are rather casual about hiring better teachers. Goals and standards are not going to help much if the students aren't motivated to reach them. Good teachers aren't going to accomplish much unless they are ably led, and given a real chance to work together to improve and participate in the curriculum and teaching policies of their school.

So we're talking about really massive changes that are bound to encounter a lot of resistance and inertia.

The ultimate question is, how can we break through that thick crust of tradition of the vested interests, and all the other forces that block substantial change, and try to bring about the reforms we need? We know that issuing orders won't work. We've tried that—teachers are expert at adapting to orders and rules without changing fundamentally how they teach. What other method can we use?'

'Parental Choice' System

The most popular idea in recent years to create a motive for change is to turn the schools into a competitive system. By giving vouchers worth sums of money to parents, schools would bid for and compete for students, just as commercial firms compete for business. The pressure of trying to attract enough students with their vouchers would force schools to get better.

That's a very attractive idea—it might even be correct. But it is also a very expensive method. It would require the government to assume the share of the total school budget now borne by private schools. That's not an inconsiderable number of billions of dollars—and once we begin we're never going to be able to draw back. So we need to be absolutely sure that competition is going to work before we start down that path. Alas, there are quite a number of reasons why it might not work.

One is that we may not get many new schools springing up to create this competition. It takes a lot of work to develop new schools. It's not clear that the mere handing out of vouchers will bring lots of schools into being, particularly in rural areas and inner cities where starting new schools is a pretty tough business.

It's also not clear, if we do get these new schools, that they are going to be superior to the schools we have already. One of the other things that is widely believed, I think inaccurately, is that private schools do much more for their students than public schools, and that, if we only had more schools like those coming into existence, competitive pressures would lift the quality of what we do.

Actually, the performance of students in private schools is only slightly better than the performance in public schools, and a large part of the difference may be

explained by the fact that the parents who send their children to private schools tend to be more involved in their education, more supportive, and hence have a positive impact on their learning.

So it's not clear how much improvement the new schools will give us. Furthermore, we're not even sure students will choose the academically superior schools. Once before we gave a lot of choice to students, when we opened up the required curriculum and established a lot of electives in the '60s. What we found then is not that the students flocked into the academically demanding courses. Quite the contrary, they began to take basket-weaving and life adjustment and sports in modern American life, and all sorts of things that acid-tongued conservatives objected to, and rightly so. Why should we assume that students will do better choosing schools than they did choosing courses'?

Finally, of course, there is the problem of the schools that are left behind—the unsuccessful schools. What's going to happen to them?

Public education is not like business; unsuccessful schools will not go bankrupt. We have some experience with what happens to them when their students leave—remember “white flight” when busing was in vogue. Like old soldiers, they don't die, these schools, they just limp along, in somewhat worse shape than they were before. No choice plan that I have read has made a serious effort to come to terms with how we can deal with those lagging institutions to try to make them better.

In sum, parental choice is certainly an experiment worth trying. But it's very much unproven, and it would be hazardous to bet the family store on that as the instrument of reform.

Community Coalitions Show Promise

If I were to guess how large-scale reform could occur in this country, it would not be through competition, it would not be through merit pay for teachers—that's never worked where it's been tried—and it wouldn't be through issuing more regulations.

The best hope that I can see is if coalitions are formed in communities—political leaders, business leaders, universities, school officials, teachers, and other leaders who feel strongly enough about the need for changing their schools that they're prepared to work together until real reform takes place. Only such coalitions are powerful enough, only they have all the interests in the room that can worry about how to establish the connections between school and work, and school and college, and create the incentives we need. Only they have power to strike a grand bargain in which the teachers get higher pay and more autonomy from nagging regulations—in return for the kinds of accountability and standards and goals that we need to improve the system.

Government's Role

What can the federal government do to speed the process of reform'? Its role, of course, must be limited; public education remains primarily a local responsibility. Yet I believe the federal government can do a number of useful things to help us progress.

It certainly can do a lot, and I hope will do a lot, make sure that children in this country arrive at school in larger numbers truly ready to learn. According to a 1991 survey of kindergarten teachers in this country, some 35 percent of young children are coming to school unprepared. And what do I mean by “not ready

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for school"? Let me just quote one New Jersey teacher:

"It is so sad to realize just how many children are not ready to learn when they come to school. They deserve to know by age five their full name; they deserve to know the name of the town in which they live; they need to know that a pencil is something you write with, and not something to eat; and that someone believes in them, no matter what."

Now, what does it take to improve (that? Obviously, one could start with fully funding Headstart, early child nutrition, prenatal counseling, and so on. We're behind almost all countries in those areas. Nearly half a million of our children are malnourished, and 12 million report they go to bed hungry at some point every month. Fetal malnutrition, I am told, affects some 10 percent of all the babies born in the United States.

All these things take their toll on IQ, on motivation, on ability to learn. They're relatively easy to correct, and they're a good investment—they return many more dollars than the cost of implementing them.

Secondly, the federal government can participate in setting goals, and it can participate in helping to develop better ways of assessing schools and teachers and students to see how they are progressing toward those goals.

This is a very competitive country. If we set goals, and define the measures to see who is reaching the goals, and publicize the results, we're going to motivate a lot of people and affect their behavior positively.

If we've got the goals wrong, and if we are measuring progress in the wrong way, particularly if we are measuring progress in schools by some kind of triv-

ial true-and-false, multiple (his-and-that, that tests the accumulation of little facts, then that is exactly what we're going to get in return; and that is not what the future of this country requires.

There's a lot the federal government can do in improving the quality of teachers and principals. Teacher training programs are, by all accounts, mediocre. Some kind of competitive grant that would inspire institutions to vie with one another to come up with more creative programs would be very helpful.

We can also use more money for science education, not just to train the 25 to 33 percent of new high school teachers of science and math who are not really qualified to teach those subjects, but also at the elementary school level. In the third grade, girls and boys are equally interested in science, but at that point girls begin to lose interest. If we have no teachers with any background in math and science, it clearly isn't going to help in keeping alive such interest in science as girls at that point in their lives seem to have.

We need fellowships for principals to obtain proper training. With help from the federal government we could create some incentives for creativity in that area by providing portable fellowships that would make universities work much harder to try to attract aspiring principals and prepare them for effective leadership.

And finally, of course, we need to finance a process of continuing experimentation. We are just beginning to learn what works and what doesn't. It's terribly important to continue that process. We need pilot experiments of school choice plans, we need more work on how to use technology to improve learning, we need new textbooks in science, experimental schools—a whole list of things that will teach us how to improve practice and policy in the public schools.

baccalaureate degree and a teaching certificate at the same time; this preserves the option to teach. It seems to me if we could fix it so students didn't have to decide in advance if they wanted to teach, but could preserve the option, we might attract some really good young people into the profession, at least temporarily.

For a number of reasons, it's a splendid idea. We implemented it at Harvard, and more and more colleges are doing it, with the help of state licensing boards. It provides another source of attracting talent into teaching. If we're ever going to get as many teachers as we're going to need in the next decade, when about half of our current teaching force will retire or leave, and if we're going to do it at the levels of quality we want, we're going to have to get away from thinking about (aching as something that we train people for in graduate school and then they spend their life doing it.

We're going to have to get some of these undergraduates, who may spend a few years teaching before they do something else. They're very bright and eager. We've also got to try to get people in midcareer into (aching. There are lots of scientists and engineers, and even lawyers, who have gotten to a stage in their careers where they'd like to teach kids. We've got to find a way of attracting them and training them to do so.

All of this will give some healthy competition to established programs of teacher training.

Q Almost every carefully done piece of research on how to teach better, or how to run schools better, almost always works when it is tested in a few schools. The results are wonderful. The problem is, it never propagates throughout society. Is there a federal role in what I might call

educational extension services? Is there a way the federal government could bring the states together cooperatively to find a way to do that?

I don't have a detailed plan for this. I take your very good point as apparent and valid on its face, without need of a reply.

One thing we have found in some of the work we have done at Harvard is how extraordinarily isolated teachers are, and how extraordinarily isolated principals are. We put together something called a "principal center," where attendees pay their own way and come together for weekend and evening programs. They have a lot to do with picking what the agenda and the topics will be, and the Harvard faculty tries to assist them in putting together a good program, and providing whatever learning we can to help them deal with the problems they have.

The amazing thing is the enthusiasm for this. Several hundred principals very quickly got involved because, as we should have known from research, they have amazingly little opportunity to sit down with peers. And if they don't come together and talk about matters of common interest, obviously they're not going to learn about the best practices being developed, either through research or elsewhere.

So I think we need extension, we need everything we can get to increase the amount of cooperation among and collaboration within schools and people who are grappling with these tremendously difficult problems of how to help students learn better. I think your idea is a perfectly splendid one.

Q As you've identified math and science as areas in which the priorities increase enormously, you've also focused on isolation, which is clearly a problem within schools—prin-

cipals being isolated, individual teachers being isolated. But the area which seems to me is a particular problem is the isolation of people teaching science in the public schools from science itself. Do you think universities or the professional schools are indeed ready to address that aspect of the continuum?

There are universities that have done a fair amount of this kind of teaching. At Harvard we have a professor or two in the science who gives a night course that's open to teachers. We have other professors who have summer courses for teachers who want to catch up in their field. Yale has done very good work in creating courses for public school teachers to come together on a regular basis in certain fields such as history.

If this were identified by the government as a real need, and every university was expected-not commanded, but asked to help out in this common effort to keep science and math teachers up to date-it could be done. After all, universities have as big a stake as any in improving K-12 education.

My experience tells me I could find professors and other qualified people who **would be willing** to teach in the evening or a summer course, or take part in some other form of collaborative venture.

What we lack is a structure to set certain priorities. so people could really focus on the priority needs and figure out a way on every campus to get them done. As it is now, the problem is enormous, and nobody's quite sure of where they should be beginning—and since there are so many other problems, they just don't get to it. It doesn't have to be like this; universities could do **much** better. I would like to see them rail and and challenged to do so.