

**THE REVOLUTION THAT IS OVERDUE
FROM INFORMATION FACTORY TO LEARNING AND TEACHING
IN RESTRUCTURING SCHOOLS**

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Public education in this nation is in deep trouble, and many, if not most, educators don't recognize just how bad things are. So I'm here as a messenger and I'm here with a message of my own: It will take a revolution in public education to turn things around; more of what we're already doing won't work.

A number of things that have happened in education during the last six or seven years ought to be read as a serious questioning of our education system -- at the very least. I would say they go beyond questioning to an attack on public education's system of governance and maybe on public education itself. In fact, if our schools were a private corporation, the owners would be very concerned; they'd be worried about going out of business.

To begin with, there was what people called the "first wave of reform," when state legislatures handed down thick books of regulations spelling out in great detail just what schools were to do. It was as if they said, "We don't trust you folks to run the schools. So here are the rules." During that same period, a number of states started talking about passing -- and some passed -- educational bankruptcy laws. These laws permit a state agency -- usually a state board of education -- to push aside an elected local school board, and run a school district the agency finds to be educationally deficient.

Followers of the choice movement want to add another safeguard. They say "Well, we try to get these schools up to speed by telling them exactly what to do, and we're threatening some of the worst of them with takeovers, but really, they're likely to botch things up anyway. So at least we want you parents to have the chance to get out from under and move your kid to some other school. We also hope that, if a school or school district loses enough customers, they'll shape up a bit."

Then, in Chelsea, Massachusetts, we've got another kind of takeover. The state legislature has adopted a home-rule petition that will turn over this public school system for a period of ten years to a private institution, Boston University. And it will lift many of the laws that apply to school boards -- laws dealing with conflict of interest and requiring public hearings, access to public records and the like. What is happening there has significance far beyond Chelsea. Boston University's president, John Silber, didn't just develop an interest in this district's problems; he offered twice to run the Boston schools, and then he tried another school district. Silber's message is that school boards are the main problem with public education in America -- they're political and corrupt. And to set things straight, schools need to be run by somebody with dictatorial powers -- like the ones Silber has been given.

In New York City last year, the Municipal Assistance Corporation found \$600 million that it had through investments, and said it was willing to have the money used to refurbish and build new schools. But MAC was unwilling to turn the money over to the New York City Board of Education because it felt the board

was not competent. So the state legislature met and created a New York City School Construction Agency and took the power to build schools away from the local board of education and put it into a new agency.

A recent law passed by the Illinois legislature seeks to deal with problems in the Chicago schools by creating a separate board of education with a majority of parents for each school. This legislation sends a similar message to Chicago's central school board, the regional school board, the union and city hall: "We don't trust any of you. We're going to move the authority to do school business elsewhere."

I submit to you that if you were the owner of a private business and you had all these things happening to you, you'd have to take them as a pretty strong message, the kind consumers sent the U.S. auto industry when they really started buying Japanese cars. Auto makers didn't pay much attention at first, either, but finally they had to see the significance of the decline in sales, and they had to begin a search for answers.

I guess the next question that has to be asked is, "Is all this fair?" And since I do quite a bit of meeting and speaking with educational groups across the country, I know that the initial tendency of most groups is to say that things are really not as bad as legislatures or business people or the public think. A few problems, maybe, but most of it is a bad rap created by the media. That's one version. Another is, "Well, of course we've got a lot of bad schools in inner-city areas -- schools with a lot of underclass kids -- but everywhere else things are fine." This point of view works against any kind of

change. On the one hand, people feel that you can't do anything in the inner-city schools because the problems there are so overwhelming -- drugs, teenage pregnancy and racial polarization. But when you drive out of town a couple of miles to the suburbs, people will tell you, "We don't need to change anything here. Our schools are fine; our kids are going to college."

So you've got these two groups: One that says "It's hopeless; you'll never be able to change anything here." And the other group that says, "We're okay, so why do we need to change?" Well, it's quite clear that, in spite of all the reports and all the negative reporting, many people in education don't have a clear picture of just how bad things are. I hate to say this because anybody who's elected as leader of an education constituency wants to get support and get resources, and to do this you've got to create confidence in the institution. One way of doing this is to show that things really are better than people think they are. But I can't honestly say that. In fact, I think things are worse than most people think they are.

Why am I so gloomy? I'd like to spend a minute or two on the only assessment that really tells us very much about how our students are doing -- the National Assessment of Educational Progress (NAEP), and I'll give you the results for 17-year-olds. Remember, these are successful 17-year-olds. The majority of kids who drop out have already dropped out by this time, and most of the kids who are being sampled are in the last year of high school. They are the ones who will graduate, and the majority of them will go on to colleges and universities. As you probably

know, the National Assessment doesn't use letter grades or percentages in scoring. What they have is a certain number of categories, or levels, in each field whether it's writing, reading, science or math. The lowest level represents absolute incompetence -- illiteracy or innumeracy or whatever. The next is a step up -- it's not hopeless illiteracy -- you can do something, but you are very, very limited. And the next level -- the third one -- they usually call "adequate." It's not really adequate but, you know, the National Assessment is federally funded, and if they gave us too much bad news, they'd probably lose their funding. So they have found a way of handling this situation politically, and they call the third level adequate.

To give you an idea of what they mean, take the case of the NAEP writing sample. One exercise calls for these 17-year-olds to write a persuasive letter to the manager of a local supermarket applying for a job. NAEP is looking for one or two paragraphs dealing with a single idea: "Dear Sir, Hire me because I used to work in my father's store, and I know how difficult it is if someone decides not to come in. It's almost impossible to get help at the last minute." Or, "I used to be the treasurer of my Boy Scout troop. I once made a terrible mistake in giving change, and I learned my lesson. So I'll be very careful in handling money." That's it -- one argument, one or two paragraphs. It's even all right if the letter has some spelling errors and some grammatical errors. The percentage of graduating kids who are able to do that, after the dropouts are gone, is 20 percent. And that's called adequate. Now, a letter that we would really consider to be a good one -- not,

intellectual, not brilliant, not literary but a good letter -- the percentage of graduating kids who are able to write one like that is 4 to 5 percent. And remember, I don't mean 4 to 5 percent of the cohort but 4 to 5 percent of the 71 or 72 percent who are graduating.

I've just been talking about the levels these 17-year-olds achieve in writing, but the figures are the same in almost all fields, whether it's science, math, or reading and writing. We could be pleased that the percentage of kids who are absolutely illiterate and innumerate is so low -- practically nonexistent. But the adequate level, which really is not adequate, is only 15 to 30 percent, depending on the area you're talking about. And when you get to the highest level, where you could say that the kid has gotten a fairly good education and really can go on to do college-level work, we're talking about 4, 5 or 6 percent of the 70 percent who are graduating. That means that only a small percentage of those who go to college are really getting what the rest of the world would call a college education; and the overwhelming majority are getting their elementary, junior high school and high school education in college.

To look at it a different way And I'm going to forget about Japan because their culture is so different from ours; we're not going to become Japanese families with Japanese mothers. It's interesting to read about Japanese education, but it's not something we can copy. But a comparison with France or Germany or Great Britain does make sense. In Germany, 27 percent of students about to leave secondary school pass the Abitur, a difficult exam that involves almost a week of answering questions

and writing essays in a number of fields. In Great Britain and France, it ranges from 18 to 22 percent for similar exams. And those exams are much more difficult than the NAEP tests I've been discussing. No comparison. We ought to be producing a top group that is roughly comparable in size and achievement to those in other Western industrial countries, but we are very far from doing so. And our failure here has nothing to do with problems of students at the bottom -- problems with the residual effects of slavery, with racism, poverty and discrimination -- because these are our top students.

I was in a meeting a couple of weeks ago with Jack Bowsher, a former vice-president of IBM. Bowsher used to run IBM's internal education systems, a very, very costly operation. Someone at this meeting raised his hand and asked Bowsher what he thought about the education reform movement. And Bowsher, referring to these NAEP results I've just been discussing, said, "Well, say that we at IBM had an assembly line where 25 to 35 percent of the computers fell off the line before they ever got to the end and we didn't know why. And say that 90 percent of the computers that did get to the end of the assembly line didn't work about 80 or 90 percent of the time. The last thing in the world we'd recommend would be running the assembly line another hour a day or another month a year."

I think it is clear that school reform so far has accepted the existing system and talked about improvement or incremental changes; the system basically remains in place and you do some fine tuning. That's a sensible strategy if you're doing a pretty good job, and you're just trying to improve your quality

control. It's not a very good strategy if you are as far from the goal as we are. It's very clear that we need to think about why we are getting such poor results given the large investment that we make in education.

An obvious starting point is the differences between our system and the systems of the industrial European nations I mentioned. One of them is clear: The group from which we draw our teachers is smaller and less well-qualified than the comparable group in Europe. In Europe, the only students who go on to college are the 20 or so percent who score at the highest level in the exams I've mentioned. We send nearly sixty percent of our graduates to college though only 5 percent, more or less, score at the highest level in the National Assessment tests. And the National Assessment is much less demanding than the exams the European students take.

Maybe I'll get a little nastier and more specific about this problem. Europeans find it absolutely unthinkable that someone who cannot do arithmetic can be a teacher. They don't believe it. Yet, if you look at scores on entry examinations for prospective elementary school teachers in states that require them, you'll see that a substantial number of the candidates who take these exams can't pass the arithmetic test -- something like 30 percent. And many of the people who pass get one out of every three questions wrong -- all you need to pass is 65 to 70 percent. And I'm not talking about advanced math. The tests are basically sixth-grade arithmetic; it's the kind you'd easily do in your head as a student, not just as a teacher. So, in America, you can graduate from high school without knowing

sixth-grade arithmetic, and you can go to college and graduate, and you can become a teacher -- well, that could not happen in schools in Europe.

A second big difference is school boards. Most of these other countries have no local school boards; they have some national or provincial system of school governance. If they have something like a school board, they don't have the same close and rather intrusive relationship that exists in the United States between boards and the schools they operate. That arrangement that probably needs to be looked at.

Another difference between our system and Europe's is in the area of student incentives. As John Bishop, a professor of labor and industrial relations at Cornell University has pointed out, American kids who are going directly from high school into the work force are given no incentives to work hard in school. They know that potential employers will ask only one question: "Do you have a high school diploma?" These kids will not be asked, "What was your attendance record?" "Did you take physics, chemistry, mathematics and foreign languages?" And "What grades did you get?" Just, "Are you a high school graduate?" It's different in other industrialized countries. There, the subjects students study and the marks they get make a difference in terms of who gets a job first and what the starting salary is. So our kids are not dumb. Not at all. They are asking the right question -- "What is the least I need to do to get the diploma?" -- because the diploma is the only thing that counts.

Bishop points out that the situation is similar for students who go on to college. In the United States, selective colleges

may use the SAT, which is not closely related to how well you did in high school or what subjects you took -- it's designed to be an independent measure of aptitude. Less selective colleges just look at whether you've taken a certain minimum number of courses and have achieved a certain minimum grade average. And again, it doesn't really matter how badly you've done -- if you have a high school diploma, you'll be able to find some college to take you.

Another big difference between the United States and most other industrialized nations is a national curriculum. It's unpopular even to say the words "national curriculum" in this country, and if you talk about the subject, people are sure you are racist or sexist or unsophisticated enough to believe that there is some kind of eternal canon. Anybody who writes about a common body of knowledge that students should have gets wiped out. I'm not saying that we have to go the whole length of the road with E.D. Hirsch or Allan Bloom. But we can't even discuss the subject seriously in the United States; and yet it's a key element in all other school systems. And it seems to me that we need to consider whether identifying and teaching a common body of knowledge is one of the keys to success.

Another basic issue that comes up when we look at the way other nations educate their children is how to handle differences among youngsters. Europeans do it by tracking. In Germany, they give all the kids an examination in the fourth grade and send them off to three different kinds of schools. What they're saying is, "We've got a central curriculum and a certain way of teaching it. Those who can take it tougher and harder and deeper and faster -- they go into this school; those who need it a

little slower and a little easier and a little softer can go to this one; and the kids who are really slow and are better off working more with their hands will go to this third school."

In this country, we have the same individual differences, but we are philosophically and politically and socially opposed to separating kids in the way I've just described. Of course, residential patterns, magnet schools and choice of courses in school do separate students, but there is still less tracking here than in any of the other countries I've been talking about. And if you don't have tracking, it's obvious that somehow you'll have to take these individual differences into account within the classroom. But obvious or not, we don't. We use the same delivery system that you would use with a rather narrow tracking system in classrooms where we have a broad range of abilities. And this is dumb. Think about how a teacher would deal with students in a one-room schoolhouse. If he had 3 first graders, 2 second graders, and so forth, all the way up to eighth grade, the teacher would be very unlikely to stand in front of the class and do what I'm doing right now -- which is to give the same talk to all those kids, ranging from first grade through eighth grade. Most people would consider that an idiotic thing to do. But you can have a bunch of kids of the same age and about the same size and have almost as great a range in where they are in mathematics or in English or in any other field you care to mention. Yet we somehow think it perfectly all right for the teacher to give the same lesson to her extremely heterogeneous class. As a matter of fact, it's the common practice.

Even if someone discovered a machine that would

simultaneously translate what a teacher was saying to the exact level of each of the kids in the class -- they'd all be plugged in to earphones like delegates at the United Nations -- that wouldn't solve one of the biggest problems with the way we teach. I'm talking about our mistaken assumption that kids learn by listening -- that they are passive vessels into which we pour learning. Now, this is not a new insight -- I can't take credit for it. It goes back at least as far as Socrates. Remember, he said, "No, I am not a teacher, I'm only a midwife. You, the student, have to get pregnant and carry the child and go through labor to deliver it. All I can do is help you." Learning is a result of the individual effort of the learners; it is not something that can be done to someone.

Once we realize that fact, we find that the problems of education are very similar to the problems people like Peter Drucker or Waterman and Peters talk about in modern books on management. One big question is how you get people to want to come to work. Another is how you get them to work when you're not watching them -- because you can't watch them all the time. And how do you get them to care about the quality of their own work? What sort of workplace, what kinds of conditions, what relationships do you need to create if you are to have a productive workforce?

These same questions need to be asked about schools and about students. Charles Handy, a British management expert, has come up with a good formulation of the idea that the student is a worker and, therefore, the classroom is a workplace. He asks, "What kind of a workplace is a school most like? It's not like a

clothing factory, it's not like a steel mill and it's not like a coal mine. A classroom is most like an office because in an office you read reports and you write reports; you give and you listen to oral reports. And you manipulate words and numbers.

"So," Handy goes on, "Why is it that no office in the world is organized the way a school is organized?" No office manager greeting a new employee says, "Here is your desk and there are your co-workers. They are doing exactly the same work as you, but you are never to talk to them and they are never to talk to you. After 45 minutes, you'll hear a bell. Then, you'll stop whatever work you are doing and go to a different room where you'll do totally different work for a different supervisor. This will happen every 45 minutes." We know that no bank runs that way, no newspaper office, no administrative office in a college or anywhere else because in the real world, if you're not sure of what you are doing, you turn to the person next to you and say, "Hey, Mary, am I getting this right?" In the real world, that's called common sense. In school, it's called cheating. You wouldn't change employees' work every 45 minutes because some people are just getting the hang of what they're supposed to do after 45 minutes. You'd say changing people's work every 45 minutes is a confusing, stupid way to do things, and you wouldn't give them a different supervisor every 45 minutes for the same reason -- because it takes time to develop a working relationship and to understand a supervisor's expectations, style of supervision and so forth.

So Handy asked why it is that schools are organized in that way. His answer: because we don't consider students workers; we

consider them inanimate objects being moved along an assembly line. In the first period, the worker is the English teacher who hammers English into the students. Then, the students move along the assembly line to mathematics, where the math teacher screws in some mathematics, and so on. And we do that from period to period, semester to semester and year to year.

The accuracy of the assembly line analogy is clear when you look at the structure of the school, and it is interesting that we in education are holding on that mode of production when it is being seriously questioned in the industrial world. Look at General Motors' Saturn Project. There, instead of an assembly line, they have teams of six or seven workers because they understand that workers isolated on an assembly line don't work as well as people who work in teams, and they are trying to develop a different kind of workplace. We understand what's wrong with the system of production in schools, too -- the criticisms have been around for a long time. We know that everybody learns at different rates and yet we use a system of lecturing, which assumes that everyone will be learning at the same rate. We know that people learn in different ways, and yet we only give them one or two ways -- read and listen to the teacher.

Many years ago, Peter Drucker wrote that in American education the most important organ in determining success is the rear end. That's still true. And it's still wrong. We should say to the kid who cannot listen and get much out of it, "Here is a second way of doing it; watch this videotape instead. Or see Fred, and he will help you." But we don't have five or six

different ways of teaching kids. If a kid doesn't learn a lesson in the time we allow and in the way we present it, we say, "Too bad for you." And that convinces youngsters who can't learn it in this one way that they can't learn at all. It convinces them they are failures, that they are too slow, that they can't keep up.

We compound the problem when we ask kids who aren't learning it our way questions in public because that exposes them to humiliation in front of their peers. The usual result of all this is to get these kids to give up. Most of us should be able to understand how this works because we've had a similar experience; we've tried to get proficient in something -- some sport or some hobby -- and if, after a certain point, we are afraid we look kind of silly, we say, "All right, that's not my game." The minute kids do that -- and there is evidence that large numbers of them do -- that's it. You've lost them, unless someone can, miraculously, coax them back. And usually that doesn't happen.

So if we are not to move toward a tracking system -- and I don't want to -- we need people at the school level who will try to design a school in the same way an architect would design a house. If you were building a house from scratch and you were meeting with the architect, he would ask you questions like, "Where do you spend your time? What are your hobbies? What are you interested in? Do you like cooking? Are you a hi-fi nut? Do you have a lot of books? Do you play pool? Do you spend more time outdoors or indoors?" You give the architect all that information, plus however much money you want to spend, and he'll

come up with a number of different designs, and each, of course, will have various tradeoffs.

We need something like that at the school level. We need people who will think and talk about how to design a school, taking into account the fact that kids learn at different rates and that a kid who is humiliated in front of his friends is likely to stop trying and that some kids don't get a point the first time with words -- they have to do it some other way. In this kind of school planning, we might find ways of using a force that we now disregard -- if we don't discourage it altogether. I mean peer group attachments. You've got two kids sitting next to each other and they like each other. We say, "We'd better put you in opposite parts of the room because we don't want you talking to each other." And if they write notes to each other -- God forbid they should learn how to write letters that way -- we ask the principal to move one of the friends to some other room.

School planning might also allow us to use, within the classroom, another fact of school life that we often see on the playground or in the gym -- groups of kids who are competing but who are actually cooperating with each other because they are competing. This could work in learning just as it does in team sports. And we might figure out a way to use peer pressure to get kids to learn and to shape up and to come to school.

The question is how to get teachers and administrators -- people at the school level -- to try to build some new models of schools based on what turns kids on and what's likely to keep them engaged, to keep them going. They might draw on research or experience or analyses of the faults of current schools, or all

of these -- whatever is needed to create some new models that would be more effective and would take into account the problems I've been talking about.

Now, that is not an easy thing to do. We've had successive waves of reform without much real change. But, in all fairness, I think it would have been impossible to establish schools that do what I've been talking about until the coming of modern technology. Teachers would have had to create all of these different experiences for kids, all these different ways of teaching and responding to a child's individual style of learning -- and that was impossible. Today, we have computers, audio materials, simulation games, hundreds of thousands of videotapes -- all kinds of things that were just not available before and that now are cheap and readily available. And those of you who haven't seen the new multi-media technology should have a look. It's way ahead of the boring stuff you've seen in the past, much of which was nothing but a textbook coming at you through a computer or a teacher on a television screen.

Another contribution technology could make to a new kind of school would be through a national professional data base. We don't now have such a thing, but we could within a few years. Here's how it could help. One of the reasons most teachers go on with their lecture-and-question format is logistical. You might not be able to keep all the kids listening -- some of them are sleeping or daydreaming -- but they are sitting quietly. And you certainly don't have time to go through 100 videotapes, 20 book chapters and many computer programs and audio tapes to see which ones are best for each lesson. It's just too much. It would be

like a doctor inventing all of his medicines. And doctors don't do that -- researchers develop medicines and test them, and the doctor gets the information necessary to prescribe the appropriate medicine for a particular condition.

The professional data base could work in a similar way. We could set up large peer review panels to evaluate the available teaching materials. Then, a teacher who wanted a lesson on the Declaration of Independence, say, would call up the data base, press the grade level and the subject, and out would come a review of materials, together with a lot of standard ways of presenting the lesson. This would give teachers a variety of ways to approach every topic. It would keep them from having to reinvent the wheel every time they went on to a new topic. And it would allow them to reserve their real energy for the tough cases.

Now I'd like to spend a minute or two talking about what teacher "empowerment." It's a very popular word now, but I don't like it. It reminds me of the 1960s. And it sounds as though the teachers want to take away some of the power the principals or school boards have -- as though it's a zero-sum kind of thing. Or maybe as though the revolution has come. That's not what I mean, and I guess to make clear what I am talking about I should describe a school in which I believe teachers are empowered.

The school is in West Germany, in Cologne, but you'd recognize it because it's an urban school with 2,200 students. Many of them are Moroccan and Turkish kids. The school has lots of problems. German kids take an exam in the fourth grade, and

those who get the highest marks are eligible to go to the Gymnasium. The school I'm talking about is a comprehensive school so, in principle, it takes kids regardless of track. But very few kids who are eligible for the Gymnasium would go there so, practically speaking, the school is made up of kids in the two bottom tracks, those who were told, on the basis of the test, that they are too dumb to go to college so they'll need some other form of education.

The school is run by teams of seven teachers. If you were a new teacher, the first thing you might hear from the principal is, "This school never hires per diem substitutes because when a substitute comes in for the day, the students run rings around him. No real learning goes on, but the kids learn some bad habits. To make up for this policy, all teams have an extra teacher -- seven instead of six -- so some days your team will have an extra person, and some days you'll be shorthanded."

The second thing you might be told is, "Here are your 120 kids. You will decide how to divide them into classes -- no computer, no central administration, no principal, no program chairman will do it. The seven of you will place these students in classes because grouping these youngsters is one of the most important decisions anybody will make about them. It requires thinking, and it may require rethinking: Five weeks into the semester, you could find you've made some wrong choices. But any time the seven of you get together and the majority of you feels that you need to move a child or group of children to another class, you have the absolute right to make this change. So that is going to be part of what you think about all the time: 'Is

Jack in the right class? Is Mary in the right class? Would they do better here? Would this change lead to too much disruption?' And so forth.

"The next thing you should know is that we don't have any bells in the school. The seven of you decide whether you want a whole morning for German or a whole morning for science -- whatever. And if you find that this is really going too far -- the kids are getting bored; their attention doesn't last that long -- you can get together to change the schedule. You don't have to decide for a whole year or for the whole semester. You can set the schedule on a daily basis or a weekly basis. Because the whole question of how long kids can be engaged in something cannot be a matter for central decision making; it's got to depend on the professional judgment of people on the spot.

"You should also know that we have no lecturing in this school. Everything is done through what we call 'cooperative learning.' Kids sit at tables of five; and they cooperate with each other and compete with the other tables in order to come up with creative and interesting solutions to the problems we set them."

You'd already know, of course, that your students enter in what we would call fifth grade and graduate at the age of 19, but you might be surprised at the next piece of information about your new school: "The seven teachers in your team will be responsible for the same group of kids throughout all these years. This means that, instead of a bureaucracy where you can blame last year's teacher for ruining the kids (and you can't wait to get rid of them next June), the kids are yours. So when

you look in the mirror three years from now you're not going to be able to say, 'Somebody else did it; they were just passing through.' We're creating a model community so you're going to get to know the kids and their families, too.

"As for the division of labor, the seven of you are free to decide which subject you're responsible for, and, yes, a math teacher who is a lover of Shakespeare might decide to take on the challenge of teaching in a new area. Another collective responsibility you'll have is accountability. If you've got a lousy teacher or a lazy teacher, who handles the problem? The other six teachers. You don't have to wait for an administrator to come around." In fact, there are only three administrators in this school of over 2,000 students, and, under German law, they each have to teach for six hours a week. Many of the questions that would be handled by administrators in our system go to the faculty senate. Each team of teachers elects one member to the faculty senate, and no school-wide changes can be made without a majority vote of the faculty senate.

Now that's empowerment. Most empowerment that is worth talking about deals with decision making at the classroom level: How do you group the kids? How do you use time? What materials do you use? What do you do about a staff member who isn't working out? These are the critical empowerment issues. But what prevents us from getting to where we want to go? The people in the German school I've just described have gotten there.

Several things. First is just the fear of letting go. Most of the empowerment arrangements that exist across the country are very narrow. Often school boards or superintendents are

unwilling to allow school regulations to be changed unless the teachers or faculty of the school come back and ask for permission for each change. And often unions are unwilling to allow teachers at the school level to make changes in union contracts unless they come back for permission to the union on each of the changes. Well, it's hard enough to get people to make basic changes, and when you introduce all sorts of rigmarole, you make it nearly impossible.

So one of the key problems is how to get the two major makers and enforcers of rules to loosen up. That's only a first step because most people at the school level still will hesitate to make major changes. Their hesitation isn't hard to understand. We all went to these schools as kids, and we've worked in them, and even if we were told that we were absolutely free to change anything we wanted, the changes would still be pretty small because we're so used to what is. But relaxing the rules is a start.

A second major problem has to do with knowledge and imagination. Most people in American education are anti-intellectual. For example, very few of them knew about cultural literacy when E.D. Hirsch's book was on the best-seller lists -- the public knew about it, but people in education didn't. And Education Week, a very nice newspaper that gives you the little bit that you need to know about what's happening in schools, has very few subscribers in schools. The prevailing philosophy in American education is that knowledge doesn't make any difference. They think that everybody is different and every situation is different, so you can't really know anything anyway.

Well, you aren't going to get any experimentation or any changes until people open up their minds to think about and imagine new ways of educating our kids. We have to start looking at things like that school in Germany or how education is delivered in a Boy Scout troop or what the Marine Corps does to train its recruits or how certain industries are retraining their workers or how apprenticeship programs work -- or even how babies learn to talk. I mean, until people start reading and thinking and talking about basic issues, nothing will happen to change our schools.

I'd like to conclude with an idea I've come to rather reluctantly and very recently. I am now convinced that we won't get any movement towards substantial change in schools unless there are real incentives. To a certain extent, we have the same problems in public education that Gorbachev has in the Soviet Union. Many of our schools are getting miserable results, and, of course, you can't guarantee that if they did something else they would do better tomorrow or a year from now or even ten years from now. But somehow it's immoral for schools to keep on doing the same thing. There's no guarantee in medicine that, if you try different ways to cure AIDS or the common cold or cancer, you'll have a cure within three or five or twelve or fifteen years. But you know that somebody is constantly trying. And you can't say that about education.

Trying means risking. It means changing your habits. It means having discussions and debates. It means doing a lot of things differently. And except for a handful of idealists, most people are not willing to put themselves through that. That is,

unless they have something big to gain -- or to lose. And so I would like to throw out an idea. It's very unfinished and it may even be wrong-headed, but I'd like you to think about it.

Just for the sake of discussion, let me latch on to President Bush's merit schools program on which he proposes to spend about \$500 million a year. If the President wants to offer a modest encouragement to teachers, he could use this money to give every teacher in the country \$250, but that wouldn't accomplish much -- certainly it would do nothing to bring about change in our schools. However, if he distributed the money to every tenth teacher on some basis that I'll discuss in a moment, it would be \$2,500 per teacher -- and that's not bad. But I don't think he should do that, either. Instead, I suggest that he take that \$2,500 and invest it in some fairly safe investment and that he do that each year for five years. Then, at the end of five years, we'll have about \$15,000 per teacher. In the meantime, though, he'll challenge school systems across the country to participate in the National Merit Schools Program, and if all the schools in America participate in this program, all the staff members in 10 percent of the schools could receive a bonus of about \$15,000. I'll talk about how they'll earn this bonus in a minute.

Now, if only half the schools of the country participate, the bonus would be \$30,000 per individual. So participants won't know at the beginning how big the bonus could get to be. There will be a minimum bonus of about \$15,000, but it could be \$30,000 or \$45,000 or \$50,000 or \$60,000. These bonuses will be awarded to staff in the schools that show the biggest improvement over

the five-year period.

How will we make that determination? Well, we'll get together a national group with some of the best people in cognitive areas to set up the assessment. But it won't be based on current standardized tests. Probably, we're talking about percentage improvement over a base line in things like the ability to write a good letter and to read an essay, understand it and discuss it. We'll only be doing the assessment in the first year and the fifth and probably with only a small number of students so we can afford to spend some money on a state-of-the-art assessment. The challenge will be to set it up to provide a level playing field so all schools have an equal chance. We don't want to favor schools that are already doing a good job. The point is the degree of improvement.

Now, I'm not saying that there won't be unfairness in this system. A market system -- which is what this merit schools program will set up in our public schools -- doesn't guarantee fairness; you find some marvelous people who end up in poverty and some terrible ones who end up being very rich. What you can say about the market system is that, in the long run, it produces a lot of wealth and a lot of goods. And it encourages people to use their intelligence and imagination to improve what they are producing. But controlled economies -- like our schools -- allow methods that are not producing anything worthwhile to go on and on because there are no incentives for doing things well or disincentives for doing them badly.

Schools -- or school districts -- that wish to enter the merit schools program must get some specific concessions from the

school board and the unions. The school board must allow the staff of a participating school to set aside all school board rules and regulations except for the ones concerning health, safety and civil rights. And they must give the staff control of the school budget plus a certain administrative cost that the central board saves from not regulating these schools. For its part, the union must agree that union members, by a majority vote, may modify any provision of the contract in order to engage in this competition. This freedom to bypass rules and control the budget is essential to bringing about change. Say a school does not have a qualified math teacher. They would be able to try to lure back the one they lost who's now working for a computer firm by paying him a better salary than his current one. Or they could decide to pay higher salaries to some of their own teachers, who are in danger of being stolen by a neighboring school.

What I'm suggesting is that professionals within the schools be given the power to experiment and make basic changes and the money to put these changes into effect. The five-year time period is important because people can't really change a system in one year -- all they can do is work a little harder at the things they're already doing. To change anything you need time to make mistakes, to realize you've made them and to rethink your strategy. A five-year span gives you that time.

If this competition works as I think it will, schools within a school district are not going to be identical -- or nearly so -- any more. This variation, of course, is one of the points of the competition -- different people are trying different ways to

increase productivity in their schools -- but it will have two incidental results. The need for parental choice is one of them. If schools are going to vary, parents must be free to remove their children from a school that is doing something they hate and send the kids to a public school they find more acceptable. But this variation among schools and the parental choice that results will also lift from school boards the responsibility of closely monitoring schools to see that they are all alike.

I have been traveling around for a number of years, and I've found that people are very interested in change and eager to hear about it. But I can't say I've seen many results from my speech-making or their interest. So I've started feeling like the itinerant preacher who comes in and gives this powerful sermon about how people ought to throw off the shackles of sin. Almost everybody in the audience is moved to repentance, and they promise themselves to lead new lives. But when the preacher comes back a few weeks later, they're almost all back to their old ways. Without a system of incentives that will move people to action because they have something to win or lose, I don't believe there will be any substantial or significant change in the system.

Now, I'm interested in how this idea of getting schools to compete on the basis of economic incentives strikes all of you. Let me just see a show of hands. How many people think it's a terrible idea? Okay. How many think it's a good idea and would be ready to go with it right now? How many think it's interesting but want a lot more time to think about it? This is

a more conservative group than usual. I've tried it on 23 audiences so far, and usually between 45 and 50 percent of the audience is ready to get started on it the next day. About one or two percent think it's a terrible idea. The rest think it's interesting, and they are willing to think some more about it, which I think is pretty fantastic for an idea that shakes things up as much as this one would.

I would like to conclude with a favorite anecdote that comes out of my two visits to Poland last year, where I managed to get out to talk to Solidarity people while the union was still banned. When I came back to the United States, I was reading in the Wall Street Journal about the strikes I had seen in Poland and about the terrible poverty I had also seen, and the article included an account of an interview with a Polish economist. When I read it, I thought it was a great Polish joke, but I quickly realized that it was also an American education joke.

The Polish economist was asked whether it was possible to lift the Polish economy from its terrible state of poverty into a state of prosperity. The Polish economist answered, "Yes, there are two ways in which this could happen: The first is the natural way and the second is the miraculous way." When he was asked to describe what these two ways were, he said, "Well, the natural way would be if a host of angels descended and lifted Poland into prosperity. The miraculous way would be if the Poles did it themselves."

I submit to you that there is no host of angels to change our schools, and it will indeed be a miracle if we do it ourselves, but there is no other choice.

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