

## THE REVOLUTION THAT IS OVERDUE

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It is a special honor and privilege to deliver the Herbert Lehman Lecture. I was born in New York City in the late '20s and my memories of growing up during the '30s and early '40s give a picture of what this city and many others were like at that time.

There are memories of my close friends being evicted from their apartments in the midst of the depression and being forced to live in the street with their parents and their furniture. They endured the rain and snow and being sent to school with nothing to eat but an apple or a peanut butter sandwich.

I also have memories of Mayor LaGuardia, Governor Lehman, and a great president, Roosevelt. But at the same time, I remember Sunday morning speeches on national radio by Father Coughlin who made violent diatribes against Jews, blacks, and others.

I also think back to the schools of those days. In the last few years there have been a number of educational proposals--in the book A Nation at Risk, in legislation

passed in California, Texas, and Florida, and in many published studies. If the objectives proclaimed in these reports and laws were to become reality, what sort of school system would we have?

There would be schools with a core curriculum, with no "soft" elective courses, with outstanding teachers, with students who would do their required homework, and with school policies under which no student is advanced automatically from level to level.

But as I read and reread reports and proposals, I notice that they suggest the kind of school system that I attended in New York City in the '30s and '40s. The system had great teachers, many of whom had waited on employment lists six, seven, or eight years, because there were no jobs. Teachers had no choice but to wait, stay in college and earn one degree after another. The schools had their pick of the best teacher candidates.

Families were supportive, pushing their kids to get a good education in order to succeed. We had homework and a defined curriculum.

It was a good education. But was it good for everybody? How many was it good for? The figures of 1940, 1941 and 1942 show that the dropout rate nationally was 80%, that only 20% remained in school. There were no headlines in

those days talking about a national disaster because the 20% graduating high school was the highest percentage of high school graduates this country had ever seen!

There were no articles in the press about what would happen to the youngsters who dropped out because as soon as the war effort started those who dropped out could walk a few blocks to a war plant and get a job. No problem. But it is very clear to me that if we were to follow most of the reforms proposed in the last four or five years that we will again return to a system in which 20% graduate and 80% drop out.

Things are not as good today as they were in 1940. We don't have the supply of teachers we had in those days. In fact, we will need a very large number in the new few years. One half the teachers in this country are leaving in the next six years--a total of 1.1 million out of 2.2 million. Many are retiring; others will leave for a variety of reasons.

I travel a lot and wherever I go--to a hotel, airport, restaurant or school meeting, someone says, "Hi, Al. You don't know me but I wanted to say 'hello.' I used to be a teacher." No one ever says, "I used to be a surgeon or anything like that." It seems the world is full of ex-teachers. But where are we going to get the 1.1 million replacements from? The sources are no longer there. We don't have the Great Depression to drive people our way.

We no longer have military conscription which led many talented young men to prefer fighting in the Bronx or Brooklyn to Korea or Vietnam.

We also have wider opportunities for women and minorities than ever before and large numbers have chosen to go into those new fields. Just to maintain current staffing ratios, we will need 23% of all college graduates in this country for the next 11 or 12 years.

How many are actually coming our way? Two years ago, four percent of the students in college said they wanted to be teachers. Last year, six percent chose teaching. Perhaps that is the good news. For, although we are getting some exceptional teachers who are likely to be dedicated, the bad news is that the SAT scores for the majority of those headed into teaching are in the bottom percentile of all college students.

That means that when states like California or Florida give an examination for prospective elementary arithmetic teachers, the test is a sixth-grade arithmetic test. The passing mark for the test is 65% and the failure rate is 30 to 40%. Thank God that some passed and that those with very poor marks won't be teaching. But think of the teacher who barely passes and who gets a class where the kids get all the answers right but she or he marks every third one wrong. It's a disaster.

In Baltimore two years ago we gave prospective teachers a very simple test: We asked them to write a letter to the parent of a make-believe student, either congratulating the parent because the student did something outstanding, or asking for cooperation because of a problem in class. A large number of test papers came back indicating that many of the prospective teachers were illiterate. In May, these teachers were told they wouldn't be hired. But when Labor Day came they were sent a telegram saying, "We need you."

The authorities in Baltimore did two things differently, however. They allowed the press to find out about the teachers not passing the examination, and they required that those who hadn't passed go to college at night to learn how to read and write and count.

This is a time when the entire country is focused on education and where in the last four years a lot of money has gone into increased salaries. The State of California alone has invested more than \$6 billion in elementary schools; Texas had its first tax increase in history with \$3 billion going to education. There have been forty national reports and not one calls for tuition tax credits or vouchers for public schools. Yet businessmen, legislators and governors are all calling for improvements in public education.

And what is likely to happen? It may be that despite this effort, we may end up with a system that's worse

because there are just not enough teachers to go around. If that should happen, American public education faces a very serious problem. We will have governors and legislators saying, "We gave you the money, we toughened the requirements, we told students what to do. We did all these things and instead of things getting better they got worse. That means that public education is hopeless, school boards are too political, management is incompetent, unions won't allow change to occur and they protect incompetence, and so on."

There will be enough blame to spread around and then people will come forth with proposals for vouchers and tax credits. They will say, "The only way to shake up these people is to develop some alternative system--scare the hell out of them. Let the kids start leaving, let their schools start closing, start laying off people because there aren't enough customers around." Maybe that will wake them up and, if it doesn't, at least we'll have schools where parents choose to send their children.

How do we change all this? The usual answer is to raise teachers' salaries. Not a bad answer but it is not going to happen. There are 2.2 million teachers in this country; a \$1,000 increase totals \$2.2 billion. An increase in the national average from \$24,000 to \$35,000 or \$36,000 is a 50% increase which still wouldn't make teachers rich. It would take about \$30 billion including pensions and social security costs. It is not going to happen. However

we'll continue to fight and run and struggle. Every ten or twenty years we'll find we did a lot of running just to stand in place.

What else do we need aside from salaries to attract teachers? Well, we need lower class size because teachers want satisfaction in their work. How do they get satisfaction? The real mission of a teacher is not to give idiot multiple-choice tests, but to get kids to think... to express themselves... to be able to advance arguments... to be able to persuade. You get kids to do these things by getting them to write, to put their thoughts on paper. Then, the teacher has to mark the paper and spend three, four or five minutes with each student. Then she gets them to redo it and redo it. With constant coaching the student eventually begins to think, to express, to write. Without that coaching and practice, the student will never get there.

But teachers can't do this today. With thirty kids in a class, five periods a day, 150 students, five minutes to mark each paper and five minutes to coach a student adds up to 25 hours per set of papers. There are not many teachers who will do that or, if they do, not for very long. The National Educational Assessment for progress essentially says that very few of our youngsters leave school knowing how to think, to express themselves, to persuade, or to write.

How do we achieve such a goal? Do we simply reduce class size? But I have just said that we can't find enough teachers to fill the vacancies we already have. If we're to hire more teachers, we're going to lower the teaching standards. Instead of a score of 65% on that sixth grade arithmetic test, we may need to lower it to 50 or 40 or 30. That means we'll be employing people who are basically dumber and that is not a good tradeoff.

There is no way of solving this problem given the way the schools are currently structured. Furthermore, even if we were to reduce class size from 30 to 15 it would mean that this country would need 4.4 million teachers. We would need to hire half of all the college graduates in the country just to teach school.

To attract teachers we need to give them time to develop a colleague relationship. Teachers have to be able to see what they do; they have to be able to exchange ideas. Teachers don't want to be locked in a room with kids and without human contact. Kids are going to be human eventually--that's what education is all about--but they are not there yet. Yes, doctors work with patients and lawyers work with clients, but all other professionals have a life with their colleagues, in addition to the people they serve.

To achieve that, we need a system where teachers teach four periods a day instead of five. To do that, we would need more teachers. But we can't hire more teachers because



they are not available. From the perspective of supply and demand, there is not an adequate number of people available for the quality teaching we need. On a national basis, it cannot be done while schools are structured the way they now are.

I would like now to focus on the students. Suppose that this country found itself with lots of extra money for teachers pay. Suppose, too, that many educated people found themselves out of work--through technological advances--and the only labor-intensive fields open to college graduates were teaching and working in hospitals. Also suppose that the United States and Western Europe decided to develop parity in conventional forces after agreeing to abolish nuclear arms. Then imagine that women who had gained success in law, medicine, advertising, banking and other fields decided that they preferred to spend more time with their children, and that teaching would give them this time. If all these things happened then we would have no teacher shortage and could institute reforms.

As I stated earlier, we had only 20% of our students graduating from high school even with all those things going for us. The interesting thing is that in England, France, Germany, Holland--and most other European countries--about the same percentage move on to higher education. Does that mean that God made 20 percent of us smart and we may forget about the others? I would suggest that there is another reason besides the laws of nature or God. It seems to me

that if you have an educational process that is roughly similar, namely, that you take all the kids of the same age on the same day and have them sit still for a certain number of hours, the only way they can learn is chalk and talk. That is, they listen to the teacher, read the stuff on the blackboard, or read the book. All you have shown is that a percentage of kids can sit still, be quiet and learn by listening. We have not proved that if there were other ways of learning and other structures, the numbers might not be somewhat different.

Let me point to a few things that we need to look at. I am suggesting that the reports mentioned earlier have looked for reform but only of gradual and relatively marginal changes in the current system. We have teachers of a certain level; we have to replace them with others of a comparable level or maybe a little better. We have students who go to school a certain number of days; maybe we can add a few more days. They are going to school a certain number of hours, maybe the school day can be stretched. They may be doing no homework; perhaps they can do an hour a day. In short, these reforms assume that we have a good system, that we only need to do more of the things we are now doing.

I disagree with this conclusion. We need to think of something quite different. I like to use the analogy of our automobile industry, which used to be the greatest in the world. When Americans began to visit Japan about 15 years ago, they saw that the Japanese were making a better and

cheaper automobile than we were. But our auto dealers decided that if we made ours a little more powerful, or in different colors, or if we offered a better stereo set or change in design, that would be enough to compete with the Japanese. That assumption did not turn out to be right.

What we need to do in the schools is to go through a process of rethinking like the one the Japanese went through before they started competing with us. There are two different philosophies of quality control. In the United States, we go ahead and build automobiles, sell them, and then recall 250 because we didn't make them right in the first place. Recalling cars is very expensive, not only in money terms but in terms of the loyalty of the people who purchased the automobiles. The Japanese learned that even if it takes longer to get it right the first time, it is always cheaper and better to do so.

With a human being it is even more essential to get it right in the first place because you can't recall students in the same way that you recall automobiles. If you have ever been a teacher, you know that at a certain point some kids just lose confidence. They say, "Hey, I'm dumb. I can't learn, I'll never understand that." Once a kid says that to himself, it is close to impossible to reignite the flame, the willingness to learn. No one ever taught a student anything without the act of cooperation by that student. Once you lose that cooperation, your ability to teach--and the child's ability to learn--is gone.

What are some of the things that are wrong in the way we teach? Let's just look at a few of them. Consider the kids entering the first grade. We tell all 25 or 30 or 35 of them to sit down. Then we talk to all of them at the same time, write the same materials on the blackboard, ask them all the same questions. The message to these kids is "You're all six years old and you are all the same and why don't you compare yourselves to each other, because I am going to ask you all to do the same work.

Are they the same? We let them enter school only once a year and they are all six years old because their birthdays fell anywhere in the previous year. The oldest child in the class is really one year older than the youngest. And one year makes a tremendous difference at age six. In other words, we are asking kids who are a year younger to compete with those a year older and we tell them all that it is fair. While there are some exceptions--an older child who can't make it and a younger one who can--typically the older ones learn that they are smarter, faster, stronger. The younger ones learn that it is hopeless and they are stupid, and there is no use trying.

When you look at the dropout rates, the kids who have the right birthdate do much better. Then why do we have to bring them all in at the same date? If you brought them in a few months later, would it be like coming in the middle of a movie?

Let's think about setting up a school where all pupils don't have to be admitted at the same time and where kids a year older don't compete unfairly with those a year younger. Suppose I am the teacher in that classroom and I start calling on students. Some of the kids always have their hands raised. They love school. They would stay for an extra hour and they might even come Saturdays and Sundays--because every couple of minutes they would be saying: 'Mirror, mirror on the wall. Who's the fairest of them all?' They demonstrate how great they are.

But then there are other kids who never raise their hands. I had better call on them too. I want them to participate. I want to see if they are learning. I want to try and help them. But every time I call on them I find out that they are praying. (Whoever says there is no prayer in the schools has never seen a kid who doesn't know the answer.) Maybe the first, second or third time they are silent. Then they make make a wild guess and everybody laughs at them. Without meaning to do so, I have humiliated those children in front of the class. I have made them feel dumb and horrible. They would rather be anywhere else in the world.

Did you ever have an experience like that? I have--lots of them. Years ago some friends took me out and said, "Al, this morning you will learn to pay tennis." I missed the first ball and the second and the third went into

a swamp. The forth went into a swimming pool and the fifth went somewhere else. I decided that tennis was not my game and I have never looked at a tennis ball since. Maybe I would have stuck with it longer if there weren't a lot of people watching.

Maybe we should ask if it is possible to organize school in such a way that a child's learning is relatively private, especially in the younger years. Maybe then a pupil won't think he is stupid just because he is learning a little more slowly than the child in the other row. Is there a way of organizing school so that children are not publicly humiliated?

Let us consider another problem. A student enters high school and on the first day asks the teacher about the final marking day. If the teacher says "next June," the youngster says to himself, "This is early September and I have until June to get my homework done." He puts it off and pretty soon it is the middle of October. Then he thinks, "How terrible it was for me not to keep up with my work. What is the rational thing for me to do now? If I stay, I'll be called upon and be humiliated. If I drop out in October, I can't drop in again until September and then I'll be a year older than everybody in the class." Maybe, though, it would be possible to organize a school so that you can drop in again soon after you dropped out.

Let me give you an example. My youngest son decided

that college was not for him so he went to work in a restaurant. He washed dishes, made salads, made soups. After a year, he said, "I want to go into the CIA--the Culinary Institute of America. I want to be a chef." I knew that it involved learning about nutrition, contracts with vendors, French menus, etc. He enrolled. One night I asked him to go to dinner with me. He said he had to work until midnight, that the semesters are only three weeks long. Now think of a school where the semester is only three weeks long. If you are ten minutes late, you have missed an important part of the semester. If you are a teacher, you don't crack a joke unless it makes a real point. If you go to Fort Lauderdale with a wonderful girl and it turns out not to be forever, you can drop back into school after three weeks. (Now if somebody flunks, you have the choice between making them repeat the year or to move on without knowing what they should have learned.)

The basic problem is that teachers have two major functions: custodial and educational. Whenever there is a conflict, the custodial function always wins out. For instance, Baltimore never would have hired illiterate teachers if it were mainly interested in education. The people they hired were okay to stand in front of the class, take care of the kids--be "child-minders" as the British call them. You could not justify them as educators, because they obviously didn't meet those standards.

We have to give kids a bunch of different ways of

learning and not just by listening to lectures. We have to provide privacy for pupils so they are not engaged in unfair competition with others and face humiliation. We need a system where students don't all come in the same day and unfairly compete with each other. We have to create a system in which we can attract teachers, because many of them could earn \$75,000 to \$100,000 in other professions. We have to give teachers an opportunity to work individually with students--coaching them in writing, expression, persuasion and critical thinking. And we must give teachers a chance to work in a collegial relationship. To do that we have to restructure the school totally.

Consider hospitals, law firms, accounting firms, engineering firms. See how they are organized. Ask whether it is possible to reorganize a school, not to be exactly like these others because no delivery of services in any profession is exactly like that in any other field, but whether it could be something similar.

Just think about medicine. Suppose that doctors decided, at the turn of the century, that every person who worked in a hospital had to be a doctor. No nurses, no paramedics, no pharmacists, no x-ray technicians because everybody had to be a doctor. You would have seven million doctors who would all earn teachers' salaries because you cannot pay seven million people at the same rate as 500,000.

Think of a school in which students do not learn



primarily by lectures. Why should 2.2 million teachers in this country be going home to write lesson plans on how to lecture to students about how Eskimos live in Alaska, or how the Grand Canyon was formed, or what the Founding Fathers said to each other before they signed on. There are video discs or tapes that do a far better job of imparting information than the average teacher can. I am not discussing critical thinking or expression.

Think now of schools that don't have the kind of walls ours have. Think of a school where the teacher is like a doctor, prescribing for the individual student a course of action, saying, "Mary, you can learn this best by reading this section of the book; Johnny, why don't you listen to this audio tape which gives a good dramatization of it? You two students can watch a video tape that covers one aspect of the subject." In another case, you can take one student who has mastered the subject and pair him with another, or perhaps he can be helped by an adult paraprofessional or volunteer. That gives you peer tutoring and adult tutoring.

It is not a self-contained classroom because nobody is lecturing in it. You have essentially a bunch of work stations and you are the person who is prescribing something. Is what you prescribe as a teacher always going to be right? Of course not. You go to a doctor and he suggests, "Try these pills. If they seem to be working, double the dose. If there are any problems, stop right away and call me up. I'll suggest something else." In the same

way, teachers will try different things and when some things don't work, they would suggest something else.

Since each student is working on his own, on a piece of equipment, or with other individuals, no lecturer is involved. The students are not doing exactly the same thing at the same time. Although we want them all to learn the same things--such as reading at certain levels of ability, they can do it in many different ways. It is private. Students can come in and out of the system without the concern that the class will not work if they are not all there at every moment. The student who learns a little more slowly just proceeds more slowly. Also, teachers would have time to think about what the kids are doing.

If Johnny hasn't learned it the first way, the second, the third or the fourth, the teachers have time to confer. They can ask, "What can we do that's different? What additional learning experience can we create for that student?"

Because these are not self-contained classrooms, not everybody has to be a teacher in the conventional sense. Indeed, you might have a self-contained, self-directed work team, a group of adults working with a group of kids. At the top of the adult team might be someone chosen according to Carnegie standards as a "lead teacher," someone who has completed a certification process by a national board. This would be similar to the national board that certifies surgeons or other professions. These would be crackerjack

people meeting intellectual, performance and professional standards. There would be categories of certification--advanced certification, certification, license by the state but not yet certified. In fact there might be some people going to college half time and teaching half time. It would be like the hospital situation--interns, residents, etc.

Right now, the teacher cannot use interns because she is busy lecturing all the time. But if a team were working with different students, you could use interns for individualized instruction, coaching, marking papers, or evaluating some of the materials. Paraprofessionals and even volunteers could be part of the team and would not be looked upon as outsiders. Teachers would be liberated under this new system.

I would like to talk for a moment about the controversy that has taken place both in the city and nationally on the role of supervisors and administrators. The teacher-pupil ratio, nationally, is one teacher for 20 to 25 students. In New York City and other large cities it is much higher. Consider the ratio of supervisors to teachers. Nationally, there is one supervisor for every ten teachers. This suggests that the teachers must be more difficult to control than students; they need more help, etc. How silly this whole formula is.

The teaching job basically gets done between teachers

and pupils. The administrators and supervisors are supposed to be trainers and helpers. But we have gotten to the point where the administering and the training ratio is now a totally different one from the teaching ratio.

Think of those excellent industries you read about, the ones that manage to compete with the Japanese. More and more these plants are getting away from the old factory model, with workers who are only a bunch of hired hands. The conventional notion is that we don't want their brains, just their labor. The brains are down the hall or even in another part of the city. They are the ones who decide what workers should do, and workers just carry out orders. But employers are not going to get anybody with self-respect to stay at a job where they are treated as hired hands.

So the new way in which United States industry must compete with Japan is by creating work teams. In a similar way, instead of principals, assistant principals or department heads issuing commands from down the hall, people in leadership roles will be lead teachers. They will head the team, working alongside other adults, including interns and residents. They will all work with kids. They will be an integral part of the educational process instead of being viewed as managers, the brains who have escaped the burden of teaching.

This is the revolution. We have to use the new technology which we now have instead of the obsolete

factory batch processing system...which is failing.

Schools need no longer assume that the only way to learn is through lecture and blackboard. Students can learn through a videotape, audiotape, computer, an older student or a community volunteer. Indeed, there are lots of different roads to the same goals and many more students will benefit. This is a revolutionary approach and it hasn't happened before because we did not have the technology--the videotapes, the computers, and all the other tools to make it work.

I would like to repeat my conviction that public education is at the center of maintaining this great country of ours. If anyone had looked at the people who came to our shores 200 years ago, they would have given us little chance for survival. They would have said that when you get a country of different races and faiths that the people would probably end up killing each other as has happened in other nations. Well, we didn't. We have achieved prosperity and freedom. We have managed to overcome mistakes. Largely because of public education we have learned to live with each other and build a single nation.

What would happen if our public schools were to disappear? What would happen if students went to Catholic, Protestant, Jewish, Klu Klux Klan schools? Before you know it, we would not only have educational problems in this country, but we would have a basic problem with respect to

the future of this country.

The stakes are very great. What we need now is the willingness of everyone to work together. Teachers have to give up the comforts of the classroom, the notion that 2.2 million teachers are equal. They have to move to a structure closer to that of other professions. They even have to give a role to students in terms of learning by themselves and peer tutoring.

People who are supervisors and administrators have to stop fighting for the status quo. They have to realize that there is no way in which they can find out what's going on in 2.2 million classrooms. The only way to get improvement is to involve 2.2 million people in the struggle for improvement of the system. If we make these changes, we'll have a system that is far better for everybody. Schools today are not every happy places for either teachers or kids. The school I've described could be a place that all would enjoy and in which students would learn more effectively.