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"Defining the Risks: Diagnoses and Cures" (Albert Shanker ~~Speech~~, Shavano Institute Conference, January 22, 1989, Indianapolis)

Thank you very much. It's a pleasure to be here and to have this opportunity to share some thoughts with you on the question of whether our nation is still at risk, and if it is what might be done about it. I'll answer that question unambiguously in just a minute. But first I would like to touch on a topic that almost every other speaker here today has mentioned, and that is the increase in the amount of money devoted to public elementary and secondary education over various periods of time in the U.S. I don't want to argue about the figures, but I do think that the important issue is not whether there has been an increase. There has been. The real question is, ~~what~~ what are we getting for our money? It's true that we're getting less than what we want and should get, but that's true in other fields too -- cancer research, for example.

I think the important thing to look at here is this: We still have as one of the major problems in the country the inability to attract and educate a sufficient number of talented people ~~to~~ to the field of teaching. As I go across the country I meet people who say, "Hi, Al," and I turn to them to see whether I know them. Usually they say, "Oh, you don't know me, I used to be a teacher." Almost nobody says, "Hi, Al, I used to be a surgeon" ... or a lawyer or accountant. I used to think of starting a new organization; it would be one of the biggest in the country. It would be called The American Federation of Former Teachers.

If you want to know whether a country is a good country or a bad one, or if you want to know whether it's free or not free, you don't have to deal in ideology. Just look to see which way the refugees are going. If Russia would open up its doors and the United States would open up its doors, there's no question which direction people would go. That tells you something about both countries. We do have a free country here, and the fact is that hundreds of thousands of people leave teaching every year. The average length of a teacher's career is only about 11 years in the U.S. Ponder the reasons for that.

In those states that have entry examinations for teachers, the standards are extremely low, yet there are still shortages. For example, the mathematics part of the examination for prospective elementary school teachers in California consists of a number of questions at the sixth-grade arithmetic level. They're not even the tough questions one gives to sixth-graders; they're the ones that you give orally to warm the kids up at the beginning of the hour. The passing mark for prospective teachers is 65%, which means that a teacher who passes might be getting one out of every three sixth-grade questions wrong. Between 30% and 40% of the applicants fail the examination.

So we should frame our finance questions in the proper way. It seems to me that we need to ask ourselves, How do you know when you're attracting enough doctors or enough lawyers or enough engineers or enough business people or enough people in any field that competes with others for talent? We have to consider incentives within each field. One of the important issues that we have not yet come to grips with in teaching is the fact that we are not attracting a sufficient number of people the caliber we need. Money is not the

only incentive, of course, but it is a very important one. And we're not quite there yet.

Now **let** me answer the question this group was assembled to discuss: Is our nation still at risk because of the condition of its school system? The answer is **Yes**. Les Lenkowsky gave a pretty good picture of the results of the National ~~Ass~~essment of Educational Progress this morning. These are very significant results, because they measure some of the things that 17-year-olds know. These are successful 17-year-olds who are about to graduate. Most dropouts **have** gone by then, so you have a sample which is positively skewed. You've ~~not~~ lost the 25% of students who are likely to be the poorest. You have those who **are** about to march down the aisles and get diplomas. As Lenkowsky pointed out, only 20% of those graduating can write an adequate letter either to a principal or to a manager of a supermarket applying for a job. And believe me, when the National Assessment says "adequate," they're not talking about anything that's very complex. You can have some spelling or grammatical errors and they'll still consider it adequate. They want your letter to be something **that** can be read, and it's got to make sense. That is, if you're writing a letter to persuade a manager that you should get a job, it should include at least one reason why you should get the job. For example, it ^{might} ~~must~~ say, "I ~~used~~ to work in this candy store and I know how difficult it is to get help at the last minute, so you can count on me to be there every day." Or "I used to be the treasurer of my Boy Scout troop and I know how easy it is to lose money when you don't count change accurately. I've had that experience and I'll be a good employee." Something like that. Twenty percent of those who graduate **can't** write this kind of letter. Only 12% of them can take six common fractions and arrange them in size order. What percent of graduating

youngsters can look at an Amtrak train schedule and answer this question: "Which train would you take from Philadelphia in order to get to Washington, D.C., just before 6:00 p.m. on a weekday?" Well, the percentage of youngsters able to figure that out is 4.9.

In case you think this is all a minority problem, note that all minority youngsters added together make up only 5.9% of the sample.

Here is another National Assessment finding: The percentage of high school graduates who are capable of doing beginning-level work in either college mathematics or science is about 2.0.

There are many more of these figures. Newspapers picked up the fact that on geographic knowledge our students rank below students in Mexico. The percentage of youngsters who know which half-century World War ~~II~~ and the Civil War were ^{fought} in is very low. These are significant pieces of information.

Please notice that none of these academic questions that Lenkowsky and I mention has much intellectual content. We're not talking about Dickens or Shakespeare or advanced science. There are no difficult concepts in history or in any other field here. It's just the kind of knowledge a person who has successfully completed high school should have in order to find his or her way successfully in the world.

What the National Assessment shows is, first, that our problems in American education are not just the problems of the disadvantaged or of minorities. Minorities, as Lenkowsky pointed out, are catching up fast. They

still need and deserve special help, but what these studies show is that when minorities reach the same levels of achievement as the white population in this country, our nation will still be at risk. We will still have an educational disaster. These figures show that, depending on how high the standards are set, we're educating about 10%, 15%, or 20% of the students. The higher the figure, the looser the standards. I don't think that anyone in this audience, or any other audience, could examine the results of these National Assessment tests and look me in the eye and say, "Al, I really believe we're educating 40% of the youngsters in this country." I don't think anybody has standards that low.

Let's now look at what this means. Imagine that you are ^{in the} manufacturing business and most of your product is okay but you have to recall 5%; that is, 5% are lemons. You will say, "All right, let's improve our method of production a little. Let's get a better inspection scheme. Let's improve quality control a bit."

On the other hand, if 80% of what you produce ^{is} turns out to be lemons, you will say, "Hey, we've got a lemon factory here. We've got to reconsider the whole process of production. It is not just a matter of doing the same thing a little better, because we're not doing it right most of the time."

When we get results like this I do not agree with those people who say, "Once upon a time we had a great educational system and it worked, and then all of a sudden something happened and it went down hill, maybe because of drugs or unions or John Dewey or a more ^{permissive} society." I'm not saying that these factors do not have an impact on education. I do say that I went to

the schools of the good old days. I went to a public school in New York City and never heard of drugs, never knew of any of my associates talking about them or taking them. There were few broken families in those days unless a parent died. There was an intact family and there was plenty of homework. There was a defined curriculum. You got left back if you didn't pass, or you got moved to a different track within the school. And if you went home and complained to your parents they gave you a beating for criticizing the teacher or the school. I didn't, and neither did my friends. We'd never do that sort of thing.

Was it a good education? Sure it was. Here I am. Right? It was terrific. But when I look back at the figures to see how many other students graduated from high school in 1940, I find that 20% graduated and 80% dropped out. The first year in which a majority of students graduated high school in the United States was 1953. So sure it was a terrific school system -- for those who could handle it. For everybody else, they said, "You're not good enough, so out you go." We encouraged that. Remember that in 1940 the economy wasn't so great; these kids weren't leaving because there were a lot of jobs; the jobs were just beginning. Things picked up when Lend-Lease was adopted. So we should not have a notion in our heads of the good old days when the public schools worked for everybody. As a matter of fact, you could probably make an argument that for most kids school was a handicap in those days. They could learn more if they weren't in school. I personally think we're not doing as well as we used to for the top 20%, however. We were pushed a lot more than the top 20% are pushed today. But for the 80% who used to drop out, we're doing a lot more than we did 30 or 40 years ago.

You can make an interesting analogy between American education and American automobiles today. Our cars are in trouble. People aren't buying them. They're buying Japanese cars instead. But you know the 1989 automobiles we produce are a heck of a lot better than the ones we produced in 1950. In 1950 there was no difficulty in selling our cars even though they were not as good as the ones we make today. Why? Well, there was no Japanese competition in 1950. It's not that the cars we're making today are worse; it's just that they're worse compared to what you can buy elsewhere. It's not that our schools are worse today than they were a generation or so ago. It's just that when people dropped out in 1940 there were no headlines, because there was a very different world for them to drop into. And not only that: ~~When~~ 20% graduated in 1940, that was the highest percentage that had graduated in a long time; it represented a high point.

We should keep those comparisons in mind, but we certainly do have very serious problems. When you look at the figures that I shared with you, it seems to me you must draw one of two conclusions. One conclusion is that God only makes 4.9% of us smart enough to read a railroad time-table and there's little we can do about it. Maybe if we work very hard we can get up to 5.5% or 6% -- we might even be able to double that percent. But I don't think anybody here believes that is the best answer. We must ask ourselves whether the schools as organized, permits^{only} a small percentage to succeed. Obviously, we are not trying to hurt students or prevent them from learning. But isn't there a better structure for learning in school than the one we have been using for so long?

Are the schools still doing the kind of thing doctors of medicine did for 2,000 years? There was a time, you know, when instead of getting help from a doctor you stood a good chance of being very much harmed. Because for 2,000 years doctors didn't wash their hands or sterilize their instruments. They therefore unknowingly actually harmed their patients. Is there the educational equivalent of not sterilizing our instruments and washing our hands?

I think that Mortimer Adler was absolutely right in his talk at this conference. What is fundamentally wrong with schools is that the analogy on which they're based is wrong. The analogy is that we teachers are pouring knowledge into kids. Every day I hear an expression that goes something like this: "I taught them, but they didn't learn." What does that mean? Imagine a building contractor saying "I built it but it's not there. I can't see it"

"I taught them but they didn't learn." Just think about that. I agree completely with Adler that education is the result of work that an individual does. No one can educate you. You must talk, you must read, you must imagine, you must build, you must listen. All of these things that you do -- your education, your learning -- is a result of your activity in all these ways. Merely being present as someone else tries to pour something into you does not result in learning unless you are somehow actively engaged.

The student, therefore, is a worker. And the job of the educator is to figure out how to keep the student working. In that respect he or she is much like the manager of a factory or a business. His job is to get the workers to want to come every day and to do their work even when he's not watching them. He can't watch them all the time any more than we can watch the students all

the time. How do you get workers (or students) to monitor the quality of their own work and be concerned with it?

These are the issues we need to be concerned with, but we're not. We organize schools in a way that contradicts these purposes. If we say that students are workers who must be engaged in their own work if they are to learn, what is the classroom most like in the outside world? It's not like a coal mine, and it's not like an auto factory, and it's not like a steel mill. A classroom is most like an office, because in an office people read reports and they write reports and they give verbal reports. Largely, they are manipulating symbols of various types.

Who would think of organizing an office in the following way: Let's say I'm hired as an office worker and I'm told, "All right, Al, this is your desk right here. Sit down. Now there are 25 other people in this room that are going to be doing exactly the same work that you're doing, but we never want you to talk to them or them to talk to you. You do the work all by yourself. And see that person? She's your manager; she's going to tell you what work to do. In 40 minutes the bell will ring. Then we want you to get up from this desk and go to Room 409, where you will have a totally different type of work given to you and you'll have 25 other workers around you, all doing the new type of work too. Don't talk to them either. You'll have a new manager to tell you what work to do, and every 40 minutes you'll move to a different room, be with a different group of co-workers that you're not to talk to, have a different manager, and have totally different work to do."

Now, if you organized an office that way you'd be fired in no time at all. You'd be told first of all, "Why allow anybody to do the job wrong?" It is really intelligent for a person to lean over to the person next to him and say, "Hey, am I getting this right?" In a real world that's called practical smarts. In school it's called cheating.

Second, you would be told that you can't have people doing different work every 40 to 45 minutes. It's too confusing. It takes people time to get into the work. And the third thing you'd hear in an office is that you can't give a person seven or eight different managers in one day, because it takes time to relate to different people's expectations and personalities and so on.

So our current school structure makes no sense if you think of students as workers. It makes an awful lot of sense if you think of students as inanimate objects moving along an assembly line. Because for the first 40 minutes the English teacher hammers English into the kids. Then they move on the next stage of the assembly line where the math teacher screws mathematics into them. In other words, it makes sense if you don't view the student as being active in the learning process -- if it's the teachers who are teaching them and the students just sit there as vessels into which something is poured.

Obviously, the fundamental analogy on which our schools are based is wrong. What else is wrong? Most people can't sit still for five or six hours a day. Most adults can't do it either, so of course kids can't. Most people cannot retain things by listening to someone talk for four or five hours a day either. Does that mean that they can't retain things at all? No. They might

retain them if you gave them other ways of doing it, perhaps by getting the same material on video tape, on audio tape, through some simulation, through some discussion, by constructing something. There are many different ways of reaching the same objective and learning the same thing. But in school we say, "That's too bad, you're going to learn it this way or you're not going to learn it at all."

Let's say you go to a doctor and he gives you some medicine. You come back a few days later and say, "Doctor, I'm not only not cured, but look, I broke out from your medicine." If that doctor were an educator he'd take you by the back of the neck and shake you and say, "You've got a hell of a nerve not responding to my medicine. Here, take twice as much." But the doctor doesn't say that. The doctor doesn't blame you. He says, "I'm sorry. I gave you what most doctors would give you, and it works on most people. But it doesn't work on everybody. Here try this." The doctor has a second way of reaching you, a third way, a fourth way, even for the same disease.

Where do we in our school system say that if the student doesn't learn something the one way in which it's given, there's a second, a third, a fourth way? It's not necessarily the fault of the student for not responding to the one particular method you have used.

Then of course we ask kids questions in public, in front of all their peers. Some kids love school and they know all the answers. They'd come on Christmas day if you'd let them. But there are others whose hands are never raised. They sit there engaged in an unconstitutional act; they're praying that you won't call on them. Oh, there's plenty of prayer in schools! It

happens when I call on a kid and he doesn't know the answer. Then I call on the same kid in the afternoon, because I've got to keep trying with him. I've got to get him to listen and to participate. But what am I really doing to a student who does not know the answer when I call on him over and over again and show him up in front of all his peers? Well, I'm humiliating him. What does humiliation do to people? How many of us like to take driving lessons from our husbands or wives? We don't like people that we care for to see the crises that we go through in the sloppy process of learning, when we make a lot of silly mistakes. People are humiliated; they say, "This is not my game. I quit."

Then there's the curriculum question. One part of the bad news I bring you is that 80% of the kids aren't learning; the other part is that the 20% who are learning can't use what they learn for anything later on in life -- unless they become teachers or college professors. I don't see anybody going from school with a big batch of notebooks saying, "Now I will apply what I learned in school with my work here." Basically, we learn what we do on the job. What we teach at school is too narrow. It does not encompass everything that can reasonably be considered important to the individual or to the economy or to the country. We teach the manipulation of abstract symbols free from any context. We don't do very much with imagination, with the development of hypotheses, or with creativity. It is not an accident that the Edisons and the Einsteins and the Churchills had trouble in school. If you ask questions for which there are no factual answers, or which won't be on the final exam, you're a troublemaker, or you're wasting time.

In any large group of people who have accomplished a great deal in the world, you will be shocked to find how few graduated in the top third of their high school classes. Why so little correlation between high school grades and accomplishment in life? Well, successful people have the ability to create, to develop new hypotheses. They also have something called practical intelligence. They know how to use the rules of the game. The kid who knows how to play hookey for a whole week without getting caught is very bright. I don't want to give him credit for that, but I do want to have a part of the curriculum in which he feels he's intelligent -- because he is. So our whole concept of intelligence is too narrow.

We all know from our own experience, or we have read it in John Dewey or William James, that each of us learns at his or her own rate. Given any task, we all complete it at slightly different rates -- sometimes not so slightly different. But as we organize schools, 85% of the time is spent in the teacher talking to kids, and when teachers do the talking, you'd better not learn at your own rate; you'd better learn at the rate that the teacher is talking. Because the teacher can't talk to each student individually. This means that the teacher usually talks to the middle of the group. The one-third of the kids who are ahead are bored to death, and the one-third who are behind can't understand what is said. Half of those who could understand aren't listening anyway. They've got some ball game or girl friend or boy friend or something else on their mind. So we have a system of instruction in which, at most, five or six kids in a class of 30 will be engaged at any given time. It's amazing that our results are as good as they are!

What might a school look like if it were organized on a more rational basis? I'm going to talk about a school that is in existence and where the results are quite different. I'm not recommending it as the ideal model; I just want to show that there is a school -- and it has been operating for 13 years -- where by making a few changes educators have achieved a structure that is radically different. They have altered the teacher-student relationship and have thereby altered the type of learning that takes place. The school^{is} in Cologne, Germany, and it has 2,000 students. It is a secondary school. Students begin in the fifth grade and they graduate at age 19. In Germany all students take a national examination at grade four. Basically, students in this school were told at age 10 that they were not smart enough to go to college and would have to follow one of the two other tracks. This is a comprehensive school, not a gymnasium. Don't think of it as a school full of typical obedient German kids. There are a lot of Turkish, Moroccan, and Greek youngsters -- whom they call ? children. So there are cultural, multilingual, and other problems. It's an urban school and in many ways similar to our own urban schools.

What's different about this school? Well, first they've taken a very large school and broken it up so that the kids and teachers are not part of an anonymous bureaucracy with everybody pushing everybody else around. Every teacher is a member of a team with six other teachers. If I were being hired, they'd say, "Al, go down ~~to~~ that room: There are six other teachers there. Together, the seven of you have this group of 140 youngsters. These are your kids. They're entering this school in the fifth grade just three days from now. It is your job -- not the bureaucracy's job, not the computer's job, not the principal's job -- it is your job, the seven of you collectively, to

decide how to divide these youngsters up into groups and classrooms. Anytime you feel there's a problem you can make modifications.

"Second, no bell rings in this school. If you'd like to spend a whole day on German, you can do it. Would you like to spend a half day on German and a half day on mathematics? You can do it. The question of how long a period of time you need for each subject is up to you, not the bureaucracy. The decision will depend on your kids and your sense of how far you can take them. It will depend on what time it takes to present an idea or develop an experience or get the kids active and learning.

"My third point is this: You seven teachers are going to be with these kids from grade five until the day they graduate at age 19. You are not going to say you inherited them from some teacher who ruined them last year and you can't wait to get rid of them next June. This is not an assembly line where you just put one part on and move a youngster on. You're going to get to know these children and ^{their} ~~they're~~ mothers and their fathers and their sisters and their brothers, and when you look at yourself in the mirror five years from now you're going to have to say to yourself, "I am responsible for what happened to these students."

"Furthermore, if there's a teacher on your team who's doing a lousy job, guess who's going to want to get rid of him? The other six, because you have to live with the other members of your team for the same length of time that you have to live with those students." Finally, it's not going to take you eight weeks at the beginning of each year to learn the names of all these kids, as it does in most of our schools. And you're not going to pack up three

weeks early in June because you'll have different students in September. You're actually going to add about two months of instructional time with those kids."

In this German school with 2,000 kids there are only two administrators, a principal and an assistant principal. Under German law every principal in the system has to be in the classroom teaching at least six hours a week. There's no absolute separation of bureaucracy in the classroom.

Finally, some observations about what goes on in the classrooms. The kids sit five at a table, with no lecturing by teachers. The important thing is that these kids are given problems to work out together. Just as we do in our baseball or basketball teams, one kid helps another. If there's ^a kid ^{who} is not so good at hitting, he is going to practice hitting, because the student teams compete with each other but cooperate inside each team. Essentially, the teams use relationships to advantage. It's not the kids versus the teacher. It's this team of kids playing a game with that team of kids, and they're shaping each other up.

That's a brief picture of the kind of thing that we might do in restructuring our schools. Please don't say, "We're going to do this in my school." I offer this description to illustrate a way of thinking about how to get away from a school system that is traditional for all of us. Unfortunately, we educators all did well in school. Therefore, we think the system works okay. We're not thinking of all those who fail and fall by the wayside. What we need to do is rethink how we may fundamentally restructure

our schools so that we don't have teachers lecturing all of the time to kids who are not engaged in the learnign process.

I would like to conclude with a variation of a story that I read in The Wall Street Journal some months ago when I returned from Poland after working with Solidarity. A Polish economist was asked whether he believed it possible to elevate the Polish economy from its terrible current state into a state of prosperity. He replied that there are basically two ways in which we can improve the Polish economy. One is a national way and the other is the miraculous. The national way, he said, would be for a host of angels to descend on Poland and to lift it into prosperity. The miraculous way would be for the Poles to do it themselves. I suggest that we educators need to perform the same type of miracle.