

Grosse Pointe Rotary
June 14, 1993
Grosse Pointe War Memorial

Introduction

Thank you for that introduction, Jon. I'd like to thank the Grosse Pointe Rotary for the invitation to speak before this group. And I'm pleased to see so many of our U-M alumni in the audience today.

I'd like to speak with you on the subject of educating for the age of knowledge, and focus in on the state of K-12 education in Michigan.

Several months ago I addressed a group of people who provide me with counsel on various issues. This advisory group had expressed a strong interest in some of the same issues I'd like to address tonight, and it stimulated some excellent discussion, so I've had some advance preparation.

Personal Experiences

I'll begin by sharing some examples from personal experiences. In doing so, I'll also don the hat of Chairman of the National Science Board because the National Science Board is not only the principal body for science research, but is also the lead body which oversees most of the research associated with K-12 education in the country. This K-12 research is conducted mainly through the National Science Foundation, with roughly \$500 million worth of activity.

Also, over the last seven years, I've chaired one of the principal standing committees of the National Science Board--on education and human resources--which oversees our K-12 education efforts.

And so it's from this perspective, as well as from the perspective of the President of the University of Michigan, that I'd like to make my comments to you tonight.

The University and K-12 Education

Last year I attended an international conference involving the top scientists, government officials, university leaders, and business leaders from around the world. At this meeting, a senior executive of Nissan pointed out that senior Japanese business leaders who had visited the United States considered America's greatest strength to be its research universities; its greatest weakness, however, was public education at the primary and secondary level. Quite a paradox. Quite a challenge, isn't it?

At a different meeting, the annual meeting of the Business-Higher Education Forum, which is an organization comprised of forty of the nation's leading chief executive officers and forty university presidents, the business leaders stated repeatedly that the quality of public education in America today was the most serious crisis our nation has faced since World War II. And yet, they also expressed their frustration that this was a crisis about which there was very little public awareness and even less public consensus.

Like the Japanese, I believe that K-12 education is clearly our weakest link, our Achilles' heel. By any measure, K-12 education is in serious trouble. We are

indeed a “nation at risk,” or to quote a U.S. Senator’s observation in a meeting I attended a few months ago, “Public education in America is an absolute disaster!”

Ross Perot was quoted as saying, “The hardest thing I ever did was the year I spent trying to improve the Texas public schools. It was the hardest, meanest, bloodiest thing I ever tried to do.” It is not surprising then that we continue to be paralyzed in our efforts to come to grips with school finance reform or the major structural changes necessary to achieve quality in public education.

As you can see, I’m being very frank with you. I am worried--worried about the future of our state, worried about the future that my children will inherit, and worried about both your future and mine--since it is clear that every one of us is at great risk because of our serious under-investment in the quality of our human resources.

Graduation Rates and Literacy

The United States spends more on education than any other nation on earth, over \$328 billion, more than for any other public service. Yet, functional illiteracy in this nation currently runs between 20-30 percent, compared to a high of 5 percent in most other industrialized nations. And fully 25 percent of Americans fail to complete high school. Each year 700,000 students drop out of high school and 700,000 graduate without functional literacy.

Achievement Measures

Our first tendency is to think that K-12 education is merely failing with minorities and at-risk students. But we know now that this is not the case and that the weakness of our educational system extends throughout all of our society. Even if we exclude those who drop out, we are presently only educating 15 percent to 20 percent of our students to an intellectual level capable of functioning well in the everyday world. In recent assessment tests it was found that only 20 percent of high school seniors could take a group of six fractions and put them in order of size. And only 5 percent of high school graduates today enter college ready to begin college level mathematics and science courses, or to approach the reading of technical material.

At every level of education, American children rank near the bottom in their knowledge of science and mathematics when compared to peers in other advanced nations. For example, compared to students in fifteen other nations, U.S. high school seniors scored among the bottom quarter on calculus and algebra achievement tests. Our seniors ranked fourteenth among fourteen nations in science achievement. This dismal performance is present at every level of American primary and secondary education, in essentially every discipline.

We are a sports-oriented society, and we like to frame issues in the sports vernacular, such as “being number one.” But public education is not a game. Rather, it is a deadly serious matter of raising a generation of Americans who will be able to hold their own in an increasingly competitive, increasingly complex, and increasingly science- and technology-oriented world.

In this new age, the age of knowledge, it is clear that our future will be in the mastering of science, mathematics, and technology. Yet it is clear that most American students today are simply not developing the knowledge base or the skills necessary to compete in this world.

The students in our classrooms today--students testing at the bottom of the heap in global terms--will be the backbone of our labor force in the century ahead. Indeed, they will be running this country within several decades.

I think you can see why I'm worried--and why you should be worried. We are indeed a nation at risk, and we will become even more so as we grapple with the extraordinary changes underway in our society, our nation, and the world.

What are the Problems?

The Last of the Smokestack Industries

As Albert Shanker has said, a fundamental flaw in our system of public education is our assumption that our teachers are the workers who have the task of delivering knowledge to our children. Such a system would make a lot of sense if we view the student as a passive object, passing down an assembly line, being worked on by others, the teachers.

What we need to do is stop thinking about how to fit teachers, students, and parents into an old-fashioned factory. Teaching should not be one of the last of the smokestack industries. Even modern business is abandoning the factory model.

The Blue-Collarization of the Teaching Profession

It seems clear that teachers are--or at least should be, regarded as--among the most valuable members of our society, since in a very real sense they are creating our future. And yet how do we treat them? We give them low salaries, low status and few rewards. We give them little opportunity for control of the curriculum and drown them in a mire of bureaucracy. We assign them the challenge of dealing with children from families in trouble, impoverished backgrounds, dulled by the impact of television. And then we criticize them for not doing their job.

The Conflicting Missions of our Public Schools

Over the past several decades, we have assigned to our public schools a broader array of social roles for which they were unprepared, thereby undermining their primary purpose of education. We have shifted our schools' attention from the intellectual achievement of their students and more to concerns about social adjustment, individual realization, and group consciousness. Indeed, we have lost any coherent vision of the precise role that our schools should play in our society.

Family Attitudes

Perhaps it is the American family's lack of commitment to the education of children that most distinguishes us from other countries. We seem too busy to help our own children in their studies or to participate in their activities.

The Disintegration of our Social Fabric

Of course, there are many situations in which we cannot blame the family. Because for many children, the family simply doesn't exist.

Roughly one-half of the students enrolled in K-12 education come from what we used to call "broken homes." Except that in today's society this situation has become the norm rather than the exception. To this we must add the full range of social ills, including drugs and crime. Of the Class of 2004 that started kindergarten this past fall, approximately 25 percent are living below the poverty level, 15 percent have physical or mental handicaps, 15 percent have been born to teenage mothers, and 10 percent have illiterate parents. And if you've been following the series "Children in the Shadows" last month in The New York Times, you've had a chance to read about the lives of ten different children across the country, who are struggling with such issues every day.

Public Attitudes

In fact, when it comes right down to it, how many of us are really willing to insist on quality in our schools in the face of the political pressures and costs which such a commitment will trigger? How many of us realize that what is at stake here is not just the future of our children, but the future of our nation and our way of life, not to mention our own personal well-being?

The Failure of our Universities

While I am taking pot shots at various groups, let me also aim a few as well as higher education. Many of the problems faced by public education these days are our own doing. For years in most of our institutions the education of K-12 teachers was ranked among the lowest of our priorities. Indeed, in some institutions--including the University of Michigan--during the period of serious financial pressure in the early 1980s, we have proposed that our schools of education should be eliminated.

Further, we have perpetuated the smokestack, assembly line approach to education, both in our educational programs and in our accreditation activities. We have not insisted on the highest standards and best preparation of those we admit to our teacher education programs. And we certainly have not adhered to the highest standards for our own graduates.

Indeed, we have allowed many of our schools of education to become, in effect, diploma mills, placing far more emphasis on quantity than quality of graduates. For example, the three largest teacher 'factories' in the United States are in Michigan--and five of the ten largest teacher colleges are in this state. Last year, Michigan's schools of education produced over three times as many teachers as there were openings in schools. It seems clear that our universities simply must step up to the challenge of reducing enrollments and increasing quality in our schools of education if we are to serve public education in Michigan.

Possible Solutions

The reform movement launched by the "A Nation at Risk" report ten years ago has weighed in with only modest improvement in the quality of our public

schools. Yes, teacher salaries have increased; academic standards have been raised; and leaders in both the public and the private sector have become strong advocates for education. Yet we still have not made enough progress.

Part of the problem is that we essentially have taken the system we have in place for granted, assuming that it is correct and that all we need to do is fix it up a bit. We are only now beginning to recognize that we need more than gradual reform. We need a complete overhaul of our public schools.

But doing this will be a great challenge. Major reform will be strongly resisted from many quarters: by teachers and unions, perhaps by some school board members and superintendents, by politicians, and even by parents. All will feel threatened by the significant changes necessary to restore the quality of American public education. And well they should, since we do not even have agreement on the most general nature of the changes which must occur.

Interestingly enough, in cross-national research studies of children's academic achievement conducted from 1980-1990 by Michigan Psychology Professor Harold Stevenson, American parents were not strongly impressed by criticism of U.S. education. As far as these parents were concerned, the relatively poor academic showing of U.S. students when compared to Asian students did not reflect the abilities of their own children or their children's schools. The problems existed only at other schools, and with other children. There was little evidence that American parents were motivated to seek improvements in the quality of their children's education. But the proof is there--even after a decade of heightened emphasis in the U.S. on mathematics and science education,

American elementary school children lagged behind their Chinese and Japanese peers to as great a degree as they did in 1980.

But the U.S. parents interviewed over the course of ten years were pleased with their children's achievement, satisfied with the job their children's schools were doing, and believed that children's innate abilities guide their course of progress through school.

As Professor Stevenson has concluded, "Attitudes and beliefs are difficult to change. But the likelihood of improving the nation's competitive position through better education depends, at least in part, on changing such optimistic but ultimately self-defeating views."

What Can Higher Education Do?

Higher education must awaken to its responsibilities for the quality of public education in America. It is clear that we need to reach out more to school districts--working with them and responding to their needs. We need to work with our public schools to experiment with new techniques, new texts, new methods of instruction, new ways of organizing knowledge, and engaging students in the excitement of experimental problem solving.

An important effort in this respect is the Michigan Partnership for a New Education. This consortium, consisting of the state's three research universities--the University of Michigan, Michigan State University, and Wayne State University--is working closely with state government and the private sector to

develop a model for higher education in America right here in the State of Michigan.

In addition, Cecil Miskel, Dean of our School of Education, and the faculty of the School of Education have been working closely with the governor, members of the state legislature, and business and industry, to assist in designing recommendations for reforming our K-12 system. This is part of a 10-year effort by the National Business Roundtable to reform education in each of the fifty states. And the CEOs of these companies--including Ford, Chrysler, Whirlpool, K Mart, Dow, and Upjohn-- are directly, actively involved.

The University of Michigan is currently involved in more than sixty educational outreach programs. For example, through the Michigan Partnership for a New Education, we participate in two professional development school programs in Washtenaw County; at Carpenter Elementary in Ann Arbor and Edmonson Middle School in Ypsilanti. These are partnerships intended to improve teacher training for U-M School of Education students as well as to improve teaching and learning at the local schools. Our top priorities with these two schools are helping to redesign the mathematics curriculum, and developing more effective science instruction.

We're also active in efforts to increase the number of minorities working in the engineering field, beginning with middle school students. Our Minority Engineering Program's outreach efforts include summer programs for middle and high school students, reaching over 700 students in grades 7-12 during the past two years.

We know that we have to do more. Universities must re-examine our priorities and ask ourselves whether each of us should not put a much higher priority on preparing talented graduates for careers in primary and secondary education. In this regard, we must pay particular attention to our own schools of education. Traditionally, these units have had the lowest status of any of our academic units on our campuses. During the 1970s and 1980s, our education schools were regarded as a haven for mediocre students and mediocre faculty. It is ironic that if one looks at the reform movement over the last few years, there is very little mention made of our schools of education. It is clear that our universities need to mount much more effective programs to train teachers, principals, and superintendents.

Finally, our universities really can set the pace for public education in America by simply insisting on far higher entrance requirements and in communicating these clearly to parents and prospective students. In this way, we may be able to generate the necessary pressures for reforms of our public schools.

School Financing

It is clear that additional support will be needed to affect the major overhaul suggested. We need a system reformed to the point where public support for public education is elevated to a priority--particularly in this decade of change. Since education is the real key to our future, it seems appropriate that we place a higher value on it.

In particular, in Michigan we simply must re-shape our state's priorities to bring a better balance to school finance by viewing education as an investment in the future that deserves a higher priority than our immediate needs.

This state's priorities are going through a reorganization right now. Witness the protection given to K-12 and to higher education in state budgets over the past two years...although even that protection has been inadequate. We need additional revenue sources.

(This section will have to be altered to reflect the results of the June 2 vote on Prop A):

Now we have an opportunity to respond to this need with Proposal A. We can cut property taxes; we can generate the necessary school financing revenues. If the voters of this state make the same commitment to education as a public policy priority that our elected state representatives have made, Proposal A will pass.

It is clear that we must move away from an overdependence on property taxes. Unless we do, we will continue to find strong resistance impeding progress in school reform. In addition, we must come to grips with serious equity issues, leading to extremes between rich and poor school districts.

The future of Michigan's economic base must not be ignored, and we must live up to the hard, harsh reality.

In the last two decades, there have been eleven proposals placed on the ballot. Many of us have agreed in the past that the status quo was unfair, ineffective,

and a threat to our future. Yet in each of those eleven trips to the voting booth, because voters looked at their own neighborhoods and not the state of Michigan as a whole, the proposals were defeated. Now, it's time to step up to a statewide perspective and a long-term commitment.

It's true that Proposal A benefits some districts more than it benefits others.

Yet for the first time, there is a proposal which calls for a basic level of funding for all children across the state. In addition, no district is going to fall below their current level of funding.

Higher education has a major stake in this; the K-12 system is weak and we're concerned about the pool from which we can draw. K-12, community colleges, and higher education--we have come to see ourselves as a seamless web because we're all in this together.

And in a vote one week ago, all of the state's public universities were unanimous in their support of Proposal A.

Some might think that as a university President, I am really self-serving in my support of Proposal A. We have heard some speculation that if Proposal A is defeated, there might be further raiding of the state's general fund budget, and this could lead to cuts in the higher education budget. Make no mistake, this scenario worries me.

But more disturbing is the thought that in June voters might not think in terms of what is good for the entire state and the entire public education system.

At Michigan, we are committed to excellence and refuse to sacrifice quality (witness our \$1 billion Campaign), but K-12 and community colleges do not have our capacity to raise private funds. They need adequate assistance to cope with the erosion of their capacity to receive adequate funding.

The same resolve demonstrated by the U-M must be demonstrated by private citizens, and facing the fact that we must substitute sales tax for property tax will be difficult, but it must be done.

A Plan for Michigan

Michigan's system of public education is massive and complex, including:

- 562 districts
- 1.5 million students
- 82,000 teachers
- 7,500 administrators
- 65,000 other staff

It should be apparent from these statistics that top-down efforts will be very ineffective in achieving reform of such a massive system. Rather, the key is to activate bottom-up forces at the school level--both from within and from without--which address educational quality.

As I mentioned a moment ago, I have been part of a small group of leaders from the business and higher education communities who have been working to develop an action plan for major public school reform in Michigan. We began with a very fundamental premise: all children can learn more than our schools--and most parents--currently expect of them. We must develop and implement a

set of challenging, coherent, and concrete set of academic standards; empower local schools to meet these standards; and hold the schools accountable for the achievements of their students. We should focus on these key themes:

- Management by objectives
- Site-based management
- Accountability

More specifically, let me suggest the following set of actions:

1. Development of clear objectives

We must develop clear objectives for our schools. In particular, we should develop an ambitious and challenging core curriculum that focuses on higher order thinking and learning. Fortunately, the Michigan State Legislature has taken action within recent years through Public Act 25 to require this action. Unfortunately, primary responsibility has been assigned to the State Board of Education, and thus far, this body has proposed a core curriculum that is quite weak and conditioned by the status quo. It clearly does not meet the needs of schools for serious and coherent guidance in raising their educational sights.

Here it is important to realize that we cannot be satisfied with local standards, or Michigan standards, or even national standards. We must set true world standards, since our children must be prepared to compete in a knowledge-intensive world society. Further, while educators and parents must be involved in defining these educational objectives, so too must be “consumers” of the products of public education such as business, industry, and higher education.

2. Accurate assessment methods

Second, we must develop accurate methods for assessing student achievement, and these methods should be closely aligned with the objectives set by the core curriculum. Here we already have one tool: The Michigan Educational Assessment Program. However, this program is currently underfunded and controversial. I know that many teachers and school districts are resisting it quite strongly. In the face of this resistance, it may be necessary to create truly independent assessment agencies outside of government, such as nonprofit corporations governed by boards representative of wide constituencies. However we approach assessment, it is clear that one key to the reform effort will be our capacity to tell schools, parents, and students, colleges and employers, and the public at large just how our schools are doing in meeting the high standards we must set for them.

3. Moving to site-based management

This part of the plan will undoubtedly raise a few eyebrows with this audience. We must allow our schools to determine their own strategy for achieving objectives. We could shift authority and resources to the school level to provide principals and teachers new flexibility to try new approaches, reallocate resources, adjust staffing, and make their schools work better. Of course, such a shift in authority to the local schools will take some control away from state legislators, state officials, local schools boards, and central district offices. All of these groups must agree to eliminate existing policies that can constrain school activities.

Our schools will need strong support if they are to move toward ambitious curricular objectives. To this end, we must clearly improve the preparation of professional staff. Our present system for preparing teachers and administrators, largely based on the “teachers college” tradition of years past, must be overhauled. We must also give more attention to curriculum and materials preparation. Administrators must be trained in modern management methods. And we need to establish models of outstanding schools through efforts such as the Michigan Partnership for a New Education and the Kalamazoo Area Math and Science Center.

Further, we must recognize that different areas will need to adopt different strategies to achieve the quality of education our state and nation requires. For example, for some areas, parental choice will be an important feature to create the free market necessary to drive change. In others, the use of alternative teacher certification will be useful in attracting the very best talent into the classroom. Eventually it seems clear that we must move to longer school years, perhaps along the lines of Europe and Asia. And, as I have noted earlier, we must take strong action to make teaching a true profession once again, including clear rewards for high merit.

Of particular importance will be addressing the needs of schools serving concentrations of disadvantaged children. We should set as a goal the challenge of bringing all children into the primary school years with solid skills in reading and mathematics. For example, it seems clear that important programs such as Head Start should be fully funded. Further, extended-day kindergarten will prove

useful in impoverished neighborhoods. Schools facing the heavy burdens of poverty will require additional public support.

4. Accountability

Finally, after setting clear objectives, implementing accurate assessment measures, and providing schools with the flexibility and support to achieve these objectives, we must insist on accountability. To this end, statewide outcome-based accreditation will prove useful. But perhaps the most important accountability will be provided by employers and higher education.

Business and industry must make student achievement a key component of hiring and advancement decisions. If employers begin to weigh student achievement in K-12 heavily in their hiring practices, then the message will rapidly permeate public education that there are strong rewards for school performance.

So too, higher education must set clear and high standards for admission to their institutions. Here I should note that the Michigan Presidents' Council, comprised of the presidents and chancellors of Michigan's fifteen public campuses, has reached agreement on a set of minimum standards which will go into effect in 1995. To be eligible for normal admission to any of Michigan's public universities, Michigan high school graduates must have met these requirements. To accommodate those students who have not had the opportunity to achieve these academic objectives, universities will have the flexibility for provisional admission--with the requirements being met through remedial, non-credit instruction on campus.

Finally, it will be necessary to have authority to address those situations--which we hope will be rare--in which schools simply are unable to make progress. For example, there should probably be state authority to take over failing schools. Other actions such as district consolidation, alternative management, and appropriation levels may be necessary to motivate the reform movement in some schools.

Concluding Remarks

Our education system is complex and decentralized, with the primary responsibility located at the state and local levels. There is no simple solution for improvement. We must weave a strategy of many strands, a strategy that places existing programs in a larger context that establishes a clear sense of direction, develops leadership for the task, and assures continuity of effort. Above all, we must be consistent and persevere.

It is clear that the challenge of public education should not be only the worry of local communities, or state government, or universities. It is everybody's concern. Each of us must step forward and unite to face the challenge of the future. We must work together to build new coalitions, including both the public and private sectors, state government, education, business, and labor, to develop an agenda appropriate to secure the future of our children, our state, and our nation.

Michigan, indeed America, continues to be blessed with abundant natural resources and people of great strength. But the handwriting is on the wall. If we

are to prosper in an age of knowledge that is almost certainly our future, we must join together now to restore both our public and our personal investments in education, in our people and their ideas, in our children, and in our future.

May 11, 1993