

We Can Raise Standards

HERBERT J. WALBERG



Japanese schools require a rigorous academic curriculum reflected in time standards that far exceed our own.

In 1976, officials of the Department of State asked me to coordinate a worldwide radio series and edit a book about the U.S. education system for the Voice of America (Walberg, 1979). They encouraged me to address the question foreign educators most frequently ask about our system: How can the United States have educational standards without a ministry of education, a national curriculum, and uniform examinations and requirements?

Seven years and much research later, I'm still not sure I have the answer. The easy and traditional response is that the Constitution is silent on education and thus leaves governance and financing of the public schools to the states who, in turn, delegate much of the decision making to locally elected school boards. In addition, various professional, public-interest, and special-interest groups influence decisions at all three levels. An optimist might say this process contributes to flexible, balanced policies that respond to national needs and local preferences. A pessimist might argue that it results in conflicting diagnoses of educational problems and practices at cross-purposes that meet neither national nor local goals.

In any case, educators and citizens are greatly concerned about educational standards and poor student achievement in recent years. By Japanese standards, American students' recent performance appears even worse than feared. Stevenson and others (1983) found that American students fall further behind Asian students in mathematics the longer they are in school; and, by fifth grade, the worst Japanese classes exceeded the best American classes (Walberg, 1983).

Herbert J. Walberg is Research Professor at the University of Illinois at Chicago. This article was delivered as invited testimony before the U.S. House of Representatives Committee on the Budget, June 22, 1983.

Embassy of Japan

U.S. education can be improved the same way Japan's was—by a national commitment to development of human resources.



A number of factors may account for our poor educational productivity. Local, state, and federal policies at cross-purposes have already been mentioned. In addition, the lack of a standard national curriculum in the major subjects—English, mathematics, science, history, civics, foreign languages, art, and music—may be in our American tradition, but it handicaps our students because, unlike students in other countries, they cannot depend on continuing their study in an organized sequence if they change their residence. This may be part of the explanation for our problems of mathematics and science, which must be carefully sequenced. (Algebra, for example, must be learned before calculus.) The problem is be-

coming more acute because of high mobility in the United States; about half the population moved in a recent five-year period (Walberg, 1983).

Moreover, as noted by the bipartisan National Commission on Excellence (1983), U.S. educators have slackened their standards. Minor subjects and nonacademic activities have proliferated and displaced topics of enduring academic significance. Illinois, for example, requires students to take driver education, regardless of what local school boards, educators, and parents may think. By contrast, Japanese schools require a rigorous academic curriculum reflected in time standards—an 11-month school year, regular classes on Saturdays, and daily graded home-

“The growth sectors of the economy will require even greater verbal, numerical, scientific, and social ability in the future if we are to remain internationally competitive.”

work—that far exceed our own.

Colleges and universities have not helped as much as they should. They have too often reduced the number and quality of high school courses in the major subjects required for college admissions; allowed the least able students to enter teacher education programs; and stood aside as schools, particularly in urban areas, deteriorated.

More broadly, efforts to acquire knowledge and skills in homes and society appear to have slackened. Unsupervised children passively watch increased amounts of academically unstimulating, if not violent, television programs. Increased numbers of divorces, more single parents and working mothers, and other changes in families often mean that young children obtain less preparation and parental encouragement for their school work. With increasing numbers of older people in society, we see comparative neglect of youth, fewer advocates of their welfare, and more limited financial and human resources for their upbringing.

Demographic and Economic Trends

A related cause for concern as we look to the future is the sharp drop in national birth rates. In most parts of the country there have been vast numbers of school closings and teacher lay-offs. Education, like the aging smokestack industries, is suffering from declining rates of

output, lower standards of quality, reduced employment, a dispirited workforce, and poor productivity. The more able and ambitious high school and college students increasingly choose occupations and professions other than teaching that have a brighter future and better pay.

The baby bust may also have more far-reaching and possibly devastating effects on our national economy. Seven million fewer young people will be reaching working age in the 1990s than did so in the 1970s. In about 25 years, if present fertility rates continue, only two members of the baby-bust generation will be actively employed in partial support of each retired person of the baby-boom generation—in contrast to the ratio of 16 to 1 in 1950. In assembling these figures for his presidential report to the Carnegie Corporation, Allan Pifer (1983) wrote that "unless there is a spectacular increase in productivity, the next four decades will be a time of unprecedented economic difficulty and intergenerational social tension" (p. 6).

In other words, we are raising a generation that is certainly fewer in number and probably less able than previous generations at exactly the wrong time in our national history. The percentage of all U.S. workers in the "knowledge industries"—those that produce, process, and distribute information goods and services—rose from 5 percent in 1860 to about 50 percent in 1980; and the growth sectors of the economy will require even greater verbal, numerical, scientific, and social ability in the future if we are to remain internationally competitive (Walberg, 1983).

What Adam Smith held two centuries ago is more valid than ever; the wealth of nations depends on the abilities and knowledge of people. Japan again provides an outstanding case in point: high educational standards and great efforts to increase human capital resulted in a proportion of superior intelligence in the population that is *five times higher* than in the U.S. and Western Europe, along with unprecedented increases in economic growth and national welfare (Walberg, 1983).

Standards and Educational Productivity

Given the will power, we have the knowledge to increase school learning and raise our national achievement

standards. Hundreds of research studies, synthesized in the last decade, show that increasing both the amount of time for instruction and the quality of teaching can bring about large increases in achievement test scores and continuing student interest in learning. Dozens of studies on specific teaching techniques and innovative programs show which are most effective in comparison to conventional ones (Walberg, 1983, 1984).

Computer-assisted instruction, for example, is accumulating an excellent record of comparative results, and improvements in software programs as well as declining costs of hardware are continuing. The federally sponsored post-Sputnik science and mathematics curricula in the 1960s proved highly effective in modernizing textbooks, laboratory materials, and teaching techniques; and only recently have investigators assembled the many evaluations which collectively show higher achievement by the limited number of schools that employed them. In economically depressed areas, school-coordinated cooperative programs to assist parents to stimulate their children's academic development and to supplement classroom efforts have a remarkable record of consistent results in raising achievement and motivation (Walberg, 1983).

Research on teaching has shown which of a variety of new and old methods prove most effective for various purposes. Cooperative student-team learning; teacher-student agreements on the goals, means, schedule, and evaluation of individual work; and programs that adapt lessons and activities to individual needs—all demonstrate productive results (Walberg, 1982, 1983; Wang and Walberg, 1984). Some older and wrongly abandoned techniques—drill-and-practice, "mastery learning," and "direct instruction"—that ensure firm acquisition of knowledge have also been found to be effective. Homework, which many educators, parents, and students have been neglecting, helps school learning greatly and is doubly effective if it is inspected and graded (Walberg, 1984).

Research also shows that educational productivity may be increased without spending large sums of money. The costs of programs and techniques I have mentioned are no more than those of conventional ones; some cost less. Nor are they disruptive to schools, families,

and other social institutions; indeed they strengthen them.

Some factors that loom large in public debate—expenditures per student, class size, and school governance (public, sectarian, and independent)—have little to do with educational effectiveness as measured by standard tests. The major reasons for Japan's unparalleled increases in both educational and economic productivity are the adaptability, courage, endurance, and intelligence to put aside traditions or procedures that are of little value; to adopt methods that work whatever their age and wherever they were invented; and to pursue the highest standards of reliability and excellence, especially those that make efficient use of the scarce resources of human time and effort. Japan's success in education and economic development can hardly be attributed to its meager physical capital of land, minerals, and location; nor, until recently, was its financial capital substantial. Success came from the judicious and efficient investment in people, or human capital. Can we not strive to do as much? □

References

- National Commission on Excellence in Education. "A Nation at Risk: The Imperative for Educational Reform." Washington, D.C.: U.S. Government Printing Office, 1983.
- Pifer, A. *The Report of the President*. New York: The Carnegie Corporation, 1983.
- Stevenson, H.W.; Stigler, J.; Lee, S.; and Kitamura, S. "Achievement in Mathematics," unpublished paper. Stanford: Center for Advanced Studies in the Behavioral Sciences, 1983.
- Walberg, H.J. *American Education: Research and Diversity*. Washington, D.C.: Office of the President, International Communication Agency, Voice of America, 1979.
- Walberg, H.J. *Improving Educational Standards and Productivity: The Research Basis for Policy*. Berkeley: McCutchan Publishing, 1979.
- Walberg, H.J. "Scientific Literacy and Economic Productivity in International Perspective." *Daedalus* 112 (1983): 1-28.
- Walberg, H.J. "Synthesis of Research on Teaching." In *Handbook of Research on Teaching*. Edited by M.C. Wittrock. Washington, D.C.: American Educational Research Association, 1983.
- Wang, M.C., and Walberg, H.J. "Evaluating Adaptive Education." *Educational Evaluation and Policy Analysis*, 1983, in press.

Copyright © 1983 by the Association for Supervision and Curriculum Development. All rights reserved.