

Exaggerating the Crisis in Education

Few would disagree with Albert Shanker's concern [Free for All, Dec. 14] that we should work for the continued improvement of science and mathematics education. Therefore, does it matter if the public rhetoric exaggerates the problem? It does matter, particularly when the criticism is so unfocused and broad based.

First, the rhetoric is not supported by the facts. The evidence shows that our students' educational accomplishments equal and in many cases surpass those of students in previous years. Scores on the National Assessment of Educational Progress have remained constant or increased in almost all subject areas. The 90th percentile mathematics score on the SAT was 628 in 1977; in 1986 it had risen to 642. U.S. students excel in competitions that reward excellence in independent research, such as the Westinghouse Science Talent Search. GRE mathematics scores are up; verbal scores have remained constant. College attendance and graduation rates are up. Bachelor's degrees in engineering awarded to U.S. citizens and permanent residents rose from approximately 46,000 in 1977 to 85,000 in 1987. U.S. publications in science and engineering accounted for more than a third of the world's

technical publications in 1986, a figure that has remained approximately the same since 1973. Yes, Einstein and Fermi and a host of other gifted immigrants have contributed to our scientific productivity, but does Shanker really believe, as he suggests, that the U.S. education system stopped producing gifted scientists and engineers after the early '60s?

The decline in scores on the SAT since the '60s resulted from the fact that more students took the SAT and attended college and not from a decline in the quality of the educational experience. Indeed, one way to increase the average SAT score would be to discourage students from applying to colleges that require the test.

It is true that in recent years a smaller proportion of U.S. students has chosen to major in physics or mathematics. But that has nothing to do with any lack of proficiency in these fields. These students are aware that other fields—engineering, business and law—are more financially rewarding.

If we exaggerate deficiencies, inevitably the rhetoric leads to "solutions" that are counterproductive. Raising course and graduation requirements—without doing anything about the vast differences in educational resources

between poor and rich school districts—does more harm than good. The result will be increased dropout rates.

Our preoccupation with comparative test scores is likely to have a deleterious effect on the quality of science teaching. These tests, which generally deal with rote learning, are inconsistent with curriculum changes that would increase students' knowledge of key scientific concepts and their ability to conduct independent research. Teaching to the test is not the way to produce more qualified scientists.

We already know the unfortunate responses to rhetoric about the purported deficiencies of our schools and teachers: "Why throw good money after bad? Why support bond issues? Why not abandon the current system of public education altogether?" That is what comes from indiscriminate criticism of our education system. It also deflects attention from the pressing problems of our most troubled schools.

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