

U.S. Youngsters Score Low in Science, Math, But Testing Methods Questioned

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WASHINGTON—Children nine and 13 years old in the U.S. perform at near-bottom levels in mathematics and science achievement, according to a study of youngsters from around the world.

Though American nine-year-olds did manage to rank third in science skills measured against students in nine other countries, they were next to last in math. American 13-year-olds hovered near the bottom in both science and math compared with students in 14 other countries.

However, officials from the Educational Testing Service of Princeton, N.J., which conducted the survey, played down the inevitable comparisons of American schoolchildren to their foreign counterparts.

"These results help us see what is possible for nine or 13-year-olds to do no matter what country they're from," ETS President Gregory R. Anrig said. "If a Korean 13-year-old can do something there's no reason for an American not to be able to. But we've got to figure out how to do that. It's more important to use it that way [in order to set national goals] than the traditional American horse race approach."

South Korean children scored the highest in all categories. Children from Taiwan, Switzerland, Hungary and the former Soviet Union were consistently in the top five.

A 1988 ETS comparison of math and science skills in the U.S., South Korea, the United Kingdom, Ireland and four Canadian provinces showed U.S. 13-year-olds at the bottom and South Koreans at the top. However, a ETS spokesman said neither the methodologies nor the results of the two studies are comparable.

Results of the latest study, funded by the National Science Foundation, the U.S. Department of Education and the Carnegie Foundation, concluded that the top students from all countries in the study performed at the same achievement levels.

The amount of student homework in mathematics and science was greater among three of the four highest-ranked countries than in the U.S. And the number of American students watching television five hours or more a day was more than twice that of the highest ranking countries.

Also, the study reports, throwing money at education is no cure-all. The U.S. spends 7.5% of its gross national product on education, compared with South Korea's 4.5%.

"There's not a lot of news," said Diane

S. Ravitch, assistant secretary for educational research and improvement. "Our best kids are doing well. Our problem is with the other 90%, which is well below where it should be."

Ms. Ravitch endorsed greater standardization of educational goals in elementary and secondary schools, urging Congress to appropriate more funding for training of elementary and secondary school math and science teachers.

The survey acknowledged that findings from 12 of the 20 surveyed countries are not of representative population samples. For example, in the former Soviet Union, only those in Russian-speaking schools were included in the study, excluding 40% of the population from the sample. And in Italy, only students in schools in northern Emilia-Romagna province were tested, eliminating as many as 96% of the student population.

"They're often skewing testing in at least some of the countries to the more elite schools," said Iris Rotberg, a senior social scientist at the Rand Corp. in Washington currently on leave from the National Science Foundation.

"This is very visible research, and people are attempting to base public policy on its results. But for the most part, it's irrelevant for public policy purposes. . . These are blips. These are artifacts. They don't mean anything," Ms. Rotberg said.