

# Effort To Recruit Math, Science Teachers Urged

By David J. Hoff  
Washington

The nation must launch an all-out effort to recruit and retain talented mathematics and science teachers on the same grand scale it did during the space race a generation ago, a federal panel declared last week.

Governments at all levels should chip in \$5 billion to start the professional-development programs needed to attract new teachers into the profession and keep current ones in it, the panel says. That figure excludes the cost to school districts of pay raises for "scandalously underpaid" teachers and the price of continuing the new programs the commission proposes, says the panel's report, "Before It's Too Late."

The recommendations are the product of a yearlong series of meetings conducted by the panel of educators, researchers,

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16 EDUCATION WEEK • OCTOBER 4, 2000

ACROSS THE NATION

## All-Out Effort Urged To Recruit Math, Science Teachers

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politicians, and business leaders.

"If you note a sense of urgency in that title, then our basic message to you and the American people is already clear," John Glenn, the commission's chairman and the first U.S. astronaut to orbit the Earth, told Secretary of Education Richard W. Riley in releasing the report here last week.

### More of the Same?

The report calls on the nation's schools to build a series of programs and experiences for math and science teachers that will lure them into the profession and encourage them to stay. Among the recommended actions are:

- Each state should assess what it needs to do to offer teachers the professional development necessary for teaching math and science.

- The federal and state governments should finance two-week summer institutes that enable teachers to supplement their knowledge of their subjects.

- Schools ought to create "inquiry groups" that offer continual opportunities for teachers to sharpen their skills.

- Local school boards should offer financial incentives for recent college graduates to choose teaching over jobs in private industry, where math and science

majors typically can earn twice as much as in teaching.

While the report includes an ambitious set of goals, its flaw is that it essentially relies on the system that is already preparing teachers, one critic charged.

The report describes how to bring midcareer professionals into teaching, but that's not enough to fill the demand, said Tom Loveless, the director of the Brown Center on Education Policy at the Brookings Institution, a Washington think tank.

"The rest of it relies on the existing structure... and adds a whole bunch of stuff to it," Mr. Loveless said. "[The authors] didn't even attempt to think outside the box, so [the report] will sink like a stone."

Advocates for science education said that the report included the pieces needed to change the status quo, but they added that they were waiting to see how those pieces would be put in place.

"One of the biggest things that

people want to see is: How are you going to make it happen?" said Ann Korando, the director of development and public relations

because the standards-setting done by professional groups representing science and math scholars and teachers has set the

ommendations because the nation historically has left such decisions to local school boards.

"You can't tell 16,000 school districts what they should be teaching," said Paul L. Kimmelman, the superintendent of the West Northfield district in suburban Chicago. "It would have been a daunting task."

### Supply and Demand

While sidestepping the curriculum debate, the Glenn Commission was not shy about recommending ways to increase the number and quality of teachers.

Math and science professionals can be lured into teaching by one-year paid fellowships enabling them to study what they need for the classroom, the panel says. Moreover, when all new teachers begin their jobs, it says, they need induction programs to help them through the first year.

The proposals will be helpful, according to one chemistry teacher, but schools need to go beyond them to ensure midcareer professionals who switch jobs stick to their second careers in the classroom.

"Many of them—before they even finish teacher training—decide they don't want to do it," said Caryn I. Galatis, the chairwoman of the science department at Thomas A. Edison High School in Alexandria, Va. "It's not as easy as they thought it would be."

Increasing pay is one step in the right direction, the commission says. Teachers earn 29 percent less than other college graduates, the panel writes, citing Department of Education statistics. What's worse, the earnings gap between teachers and other college graduates has "nearly quadrupled" since the early 1990s.

"It is hard to escape the conclusion that without better pay for mathematics and science teachers, the high-quality teaching needed in these fields will be very difficult to sustain," the report says.

**FOLLOW-UP:** The report is free from the Education Publications Center, Department of Education, PO Box 1398, Jessup, MD 20794; or online at [www.ed.gov/americacounts/glenn](http://www.ed.gov/americacounts/glenn)



In the shadow of the capsule in which he orbited the Earth, former Sen. John Glenn unveils recommendations to attract math and science teachers.

for Science Service, a Washington-based group that runs prestigious high school science competitions. "How are you going to pay the teachers, and where's the \$5 billion going to come from?"

nation on the right path.

But the commission's charge to "articulat[e] the steps needed to strengthen the classroom practice of math and science teachers" is broad enough to include curriculum, one mathematician said.

"It's a serious problem, and they could have at least discussed it," said Jerome Dancis, an associate professor of mathematics at the University of Maryland College Park. "You have to make an effort to exclude curriculum."

Mr. Dancis is a critic of the National Council of Teachers of Mathematics' standards, which have been at the center of curriculum changes in recent years. Though revised recently to incorporate more basic skills, those standards emphasize mathematical theories, critical-thinking skills, and problem-solving. Relying on those standards, as Mr. Glenn suggested, will lead to a "major dumbing down of the curriculum," Mr. Dancis argued.

Other commission members said a federal panel would have no place making curriculum rec-

### Urgent Plea

Secretary Riley formed the commission in the summer of last year, on the 30th anniversary of Neil Armstrong's walk on the moon. The images of the space era dominated the panel's work from the start when Mr. Riley tapped Mr. Glenn to lead it. Last week, Mr. Glenn, a former Democratic senator from Ohio, released the commission's report at the National Air and Space Museum, in the shadow of the Mercury Friendship 7—the capsule in which he made his 1962 flight.

But unlike federal initiatives to improve science and math education in the era of the space race, the so-called Glenn Commission skirted discussion of curriculum.

Mr. Glenn said the panel avoided the content to be taught

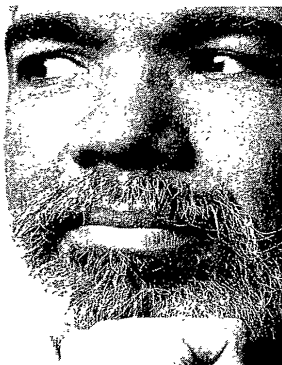
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### Glenn Recommendations' First-Year Cost Estimates (in thousands)

	Action Strategy	Federal	State/Local	Business	Public/Private
<b>Goal 1</b> Improve quality of teaching	Needs assessment <sup>1</sup>	\$15,340	\$7,660		
	Summer institutes	1,214,000	606,060		
	Inquiry groups	1,574,950	786,300		
	Leadership training <sup>2</sup>	112,000			
	Internet portal	50,000			
	Coordinating council			\$500,000	\$4,000
<b>Goal 2</b> Increase number of teachers	Rewards program				
	Scholarships (exemplary models)	18,000			
	Loan forgiveness	36,000			
<b>Goal 3</b> Make teaching profession more attractive	Academics/fellows	120,000			
	Induction/partnerships/incentives/salaries		To be determined locally		
Subtotal		\$3,140,290	\$1,400,020	\$500,000	\$4,000
		Total: \$5,044,310			

<sup>1</sup>First-year, one-time cost <sup>2</sup>First-year, one-time cost for 15,000 leaders

SOURCE: The National Commission on Mathematics and Science Teachers for the 21st Century.