

June 22, 2009

## Alan Leshner and Jo Ellen Roseman: U.S. students need shared science standards, too

*By Alan I. Leshner and Jo Ellen Roseman*

We agree with Jim Rex, the state superintendent of education, who wrote in a June 4 commentary that improving South Carolina's on-time graduation rate is essential. We commend Rex for his candor in reporting that one in four students fail to earn a high-school diploma, and also for embracing effective, research-based programs to help students at risk.

Given all the positive efforts to improve the state's high-school graduation rate, it is particularly disappointing that South Carolina is one of only a few states — -along with Texas, Missouri and Alaska — that have declined to support national education standards.

The broader education community is virtually united in the belief that adopting national standards would help education greatly, both nationally and locally. Officials in 46 other states and the District of Columbia, including Rex but sadly not Gov. Mark Sanford, agreed June 1 to move toward standardizing K-12 education. Those who signed onto the plan were reminded that the federal economic-stimulus package includes a \$4.35 billion "Race to the Top" fund.

South Carolina should be a part of the effort, spearheaded by the National Governors Association and the Council of Chief State School Officers. The initiative also needs to be expanded to include science as well as math and reading.

As we think about national standards, we must not overlook the central role that science plays in all aspects of modern American life, particularly the U.S. economy. From pre-school through high school, we need to teach science more effectively so that all students are prepared for the science- and technology-based 21st century economy. Virtually all future jobs will require at least some familiarity and comfort with science and technology.

In a 2007 report, U.S. 15-year-olds ranked 21st among students in 30 developed nations in science — behind Iceland and ahead of the Slovak Republic, on the Programme for International Student Assessment. On the U.S. Department of Education's most recent national report card, some 34 percent of all U.S. 4th graders, and 43 percent of 8th graders, scored below basic achievement levels in science. Even among college freshmen, nearly 30 percent need remedial science and math classes.

Top-performing U.S. science students are still among the world's elite. But many other young people are lagging. That's bad for the U.S. economy: McKinsey & Co. consulting firm say that closing the science gap between U.S. and international students could have increased America's gross domestic product by \$1.3 trillion to \$2.3 trillion in 2008. Closing the racial gap in science scores among U.S. students might have added another half-trillion dollars, the firm reported.

A clear roadmap for improving science-learning standards has already been set forth. Sen. Chris Dodd, D-Connecticut, and Rep. Vernon Ehlers, R-Michigan, just re-introduced their SPEAK Act ("Standards to

Provide Educational Achievement for All Kids”). This bill would provide incentives for states to adopt robust, well-tested national science standards developed by the National Assessment Governing Board.

Preparing a math- and science-literate workforce will of course require more than uniform standards. Adequate funding will also be essential. America further must improve teacher pay and classroom support, provide consistently high-quality textbooks, and make science “cool” again. President Barack Obama, his education secretary and bipartisan leaders in Congress are showing leadership, but they need encouragement and support to persist.

Voluntary, nationwide education standards in science, along with reading and math, are the next logical step, promising dividends for tomorrow’s workforce and for our economy. South Carolina should get on board.

Alan I. Leshner is the chief executive officer of the American Association for the Advancement of Science (AAAS) and executive publisher of the journal Science. Jo Ellen Roseman is director of Project 2061, the AAAS science-literacy initiative.

---