Elementary and Secondary Education Act

Reauthorization of the Elementary and Secondary Education Act (ESEA, No Child Left Behind) should be a priority for the 113th Congress.

Congress should consider these suggestions regarding ESEA law that would strengthen STEM education:

1. Support state implementation of upcoming Next Generation Science Standards and the Common Core State Standards in Mathematics.
2. Include science in the new ESEA accountability system.
3. Ensure more and dedicated funding is targeted to STEM teacher training.

Assist States to Implement Next Generation Standards for K–12 Science and Common Core Standards in Mathematics

NSTA believes that common standards in science and mathematics will encourage a seamless system of K–12 STEM education comparable to the STEM systems of high performing international countries.

Common standards will ensure that all students—no matter what school they attend—master the skills and develop the knowledge needed to participate in the global economy.

The voluntary Next Generation Science Standards, scheduled for release in spring 2013, are based on the National Research Council Framework for K–12 Science Education.

Both the Common Core State Standards and the Next Generation Science Standards will set clear, realistic expectations for learning that are consistent from state to state to ensure that high school graduates are prepared for college and the workforce.

States that implement the Common Core State Standards for grades K–12 in Mathematics and, in 2013, adopt the Next Generation Science Standards must also:

- work to make significant changes to align the new standards to state assessments;
- provide professional development for teachers and administrators to use the standards;
- use evaluation systems to hold educators accountable for implementation of the standards;

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- develop new curriculum or instructional practices aligned with the common standards; and
- align teacher preparation programs to new standards.

In this current economic climate, many states and districts will be greatly challenged to fund these initiatives. The current Math and Science Partnership (ESEA Title II Part B) program can be retooled so that funding goes directly to the states for state and district initiatives to implement both Common Core State Standards for Grades K–12 in Mathematics and Next Generation Science Standards.

Include Science in the New ESEA Accountability System

The revised ESEA should contain a provision that would include students’ science scores as a required component of the new ESEA accountability system. Under current ESEA law, student scores in math and reading count toward the school’s AYP. All states must now test in science, and science scores must be reported—but science scores are not part of the school’s accountability measurements. As a result, the Center for Education Progress (CEP) found that almost 44% of districts cut time from elementary science instruction.

Bill language should also encourage states to be flexible when assessing student performance, skill, and knowledge in the sciences by using measures such as written assessments, performance based testing, project-based work, and portfolio projects.

Provide Dedicated Funding for STEM Professional Development

Research tells us that educators need at least 50 to 80 hours of professional development over the course of the year to make any substantive changes in their teaching practice. Ongoing professional learning opportunities for STEM teachers is critical so that these teachers know the content they are teaching and can learn how to use data to modify classroom techniques and use research to inform instruction.

Under current federal education law, states and districts can use Teacher Quality State Grant funds (Title II Part A) for various purposes. The reality is that even though state and local decision makers see the need for intense professional development, they often find themselves pushed to address other priorities, forcing these funds to be spent on efforts other than this congressionally intended investment. The revised federal education law should include language stipulating that districts must spend a designated portion of their Teacher Quality State Grant funds specifically on science and math education teacher professional development.

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