



January 16, 2015

The Honorable Lamar Alexander
Chair
Committee on Health, Education, Labor, and
Pensions
U.S. Senate

The Honorable Patty Murray
Ranking Member
Committee on Health, Education, Labor, and
Pensions
U.S. Senate

The Honorable John Kline
Chair
Education and the Workforce Committee
U.S. House of Representatives

The Honorable Robert C. Scott
Ranking Member
Education and the Workforce Committee
U.S. House of Representatives

Dear Chairman Alexander, Ranking Member Murray, Chairman Kline, and Ranking Member Scott:

As Congress begins the process to reauthorize the Elementary and Secondary Education Act (ESEA), the STEM Education Coalition welcomes the opportunity to offer our recommendations. As an alliance of more than 600 education, business, and professional organizations, we are strongly committed to the goal of elevating the education of all students in the science, technology, engineering, and mathematic (STEM) subjects as a national priority as reflected through education reforms, policies to drive innovation, and federal and state spending priorities.

In today's economy every student needs to have a strong foundation in the STEM subjects in order to land and succeed in virtually any job – from the shop floor to the research lab to the board room. Further, the best, most highly paying jobs are nearly all in the STEM fields. As you revise ESEA, we hope you will set a high bar for our nation's schools in preparing students for the challenges of today's increasingly competitive world.

We urge you to incorporate two fundamental concepts into your reauthorization proposals:

First, the accountability framework of ESEA should include a requirement that states continue to assess student performance in mathematics and science and that states be required to adopt rigorous standards in these subjects that are aligned to college and career readiness. While we recognize that one of the goals of a reauthorization will be to provide states with greater flexibility on many levels, we also consider it a fundamental federal responsibility to ensure that we are accurately measuring and monitoring student learning for all students in the subjects that are essential to their success.

Second, STEM education-related activities should be given high priority in major education programs at the U.S. Department of Education (DoEd), especially those focused on teacher quality and professional development. We have long supported the DoEd Math and Science Partnership Program (Title II.B), which provides a substantial portion of professional development activities for STEM educators in many states and has shown excellent results in independent evaluations. Our Coalition also supports a balanced approach to the use of both formula-based and competitive funding mechanisms to promote STEM-related activities.

In addition to these two critical elements, our Coalition has compiled a much more detailed set of recommendations on STEM-related issues that should be embodied in federal education policies, which is included as an Appendix to this letter.

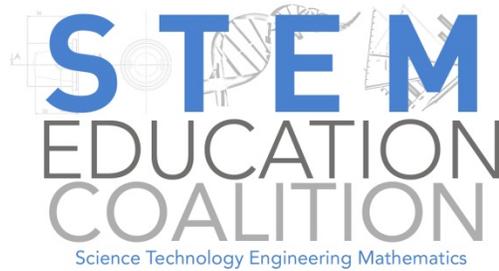
If we are going to enable our students to compete in the global economy we must maintain a strong federal commitment to improve teaching and learning in the critical STEM fields. We look forward to working with you and your colleagues to ensure that STEM education is a national priority – as Congress has repeatedly agreed it should be.

Respectfully,

A handwritten signature in black ink that reads "James F. Brown III". The signature is written in a cursive style with a horizontal line underlining the name.

James F. Brown
Executive Director

Appendix



Statement of Core Policy Principles

2014

The central mission of the STEM Education Coalition is to inform federal and state policymakers on the critical role that STEM education plays in U.S. competitiveness and future economic prosperity and to advocate for policies that will improve STEM education at every level. This document details a range of “Core Policy Principles” that the Coalition embodies and seeks to implement.

General Principles

- STEM education must be elevated as a national priority as reflected through education reforms, policies to drive innovation, and federal and state spending priorities.
- STEM education is closely linked with our nation’s economic prosperity in the modern global economy; strong STEM skills are a central element of a well-rounded education and essential to effective citizenship.
- Our nation must expand the capacity and diversity of the STEM workforce pipeline to prepare more students for the best jobs of the future that will keep the U.S. innovative, secure and competitive.
- Policymakers at every level must be informed about policy issues related to STEM education and their implications for the economy, national security, and continued American leadership in science and technology.
- Effective policies to promote STEM education as a national priority should be bipartisan and evidence-based and must be backed up by a strong and united community of stakeholders and advocates in the business, professional, research, and education communities.

Core Policy Recommendations

The Coalition supports:

- Inclusion of student performance in science alongside math and reading as a required element of K-12 educational accountability systems.
- Comprehensive efforts to expand the capacity and diversity of the STEM workforce pipeline, including targeted initiatives to promote the inclusion of underrepresented minorities, women, and other high-need populations in STEM fields.
- State-based efforts to implement Common Core Math and Next Generation Science Standards and other high-quality college- and career-ready standards in STEM fields.
- Robust dedicated support for effective in-depth professional development for STEM educators, including informal educators.
- Robust and sustained investments in preparing and retaining new teachers, at both the elementary and secondary levels, to be skilled in STEM pedagogical content knowledge so that they can generate strong student learning and excite students about pursuing STEM careers, including targeted efforts to promote STEM subject master teachers and teacher specialists.
- Comprehensive and strategic efforts to coordinate, evaluate, and review all federal STEM programs on a regular basis to ensure that effective programs are scaled up and that underperforming programs are improved or eliminated.
- Creation of a robust mechanism to solicit and include STEM education community input in decisions made by federal agencies on prioritization or reorganization of STEM education programs.
- Establishing a greater focus on STEM education activities in major education programs at the Department of Education, such as Race to the Top and Investing in Innovation, that support broad-based teaching and learning activities as well as and out-of-school experiences.
- A balanced approach to the use of both formula-based and competitive funding mechanisms to promote STEM-related educational activities.
- An inclusive definition and use of the term “STEM education” by federal and state K-12 programs that is not limited to only math and science, but also embraces engineering and technology, and broadly encompasses related STEM fields and their unique needs.

- Inclusion of informal education as a core strategy for enhancing and improving STEM education so that informal educators and programs are considered as valuable partners for STEM education improvement efforts.
- Robust and sustained investments in STEM-related educational research and innovation programs, including full funding of the National Science Foundation's Education and Human Resources Directorate and other agency efforts to develop a rigorous education research base to inform innovations in teaching, learning, and educational materials development.
- A strong emphasis on hands-on, inquiry-based learning activities, such as learning about the engineering design process, working directly with STEM professionals through internships, and participating in field experiences and STEM-related competitions.
- Public-private partnerships and incentives that promote business and industry engagement in STEM education activities and integration and alignment of federal educational and training programs at every level with workforce needs.
- Expansion of the capacity of community colleges to prepare students for further STEM education and for the STEM workforce.
- Targeted initiatives to facilitate the transition of veterans with specialized STEM skills into higher-education programs and into careers in STEM fields.
- Using visa fees paid by U.S. employers seeking to hire foreign workers to support improvements in U.S. education programs.