



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 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.