



Building a Science, Technology, Engineering and Math Agenda pp. 12 - 17

RECOMMENDATION #2: Examine and increase the state's capacity to implement a rigorous aligned STEM education system statewide to improve teaching and learning.

While improving the rigor, relevance, and alignment of STEM education, states should also examine and increase the capacity of their education systems to graduate all students from high school with STEM competencies. Key challenges in capacity include a lack of statewide data systems to show strengths and weaknesses; a lack of public and political consensus on the urgency of improving the system; the capability of the teaching force to effectively deliver a high-quality STEM education; a disconnect between in school and out-of-school STEM education; and a lack of high-quality, state-level support entities to support the local work in specific STEM areas. To address these capacity challenges, governors should consider the seven policy strategies discussed below.

STRATEGY #1:

Evaluate the current capacity in the state for effective STEM teaching and learning at the K–12 level that is preparing all students for post-secondary pathways.

STRATEGY #2:

Support the continued development of statewide K–16 data systems to track the STEM preparation of K–12 students for post-secondary pathways and to give educators data tools to improve instruction.

STRATEGY #3:

Support promising new models of recruiting and preparing STEM teachers.

STRATEGY #4:

Support accountability measures tied to funding for all providers of STEM teacher preparation and training.

STRATEGY #5:

Support market- and performance based, differentiated compensation for STEM teachers, particularly in under-served schools.

STRATEGY #6:

Create STEM centers to support improved teaching and learning across the state and between states through work on alignment, policy, and implementation.

STRATEGY #7:

Support STEM education outside the classroom via expanded learning opportunities that develop and maintain student interest

States have also focused on increasing students' access to real world experiences in STEM through support for design and innovation competitions such as the Intel International Science and Engineering Fair, Science Olympiad, and the FIRST Robotics series. These competitions provide students with real world STEM challenges and allow students to build, tinker, design, and problem solve while learning deep content understanding of the problem at hand.

Governors can look to these rigorous real world experiences to gain knowledge into alternate evaluation methods, guidance in creating relevant, interesting STEM programs, and incentives to encourage districts to participate in these activities.