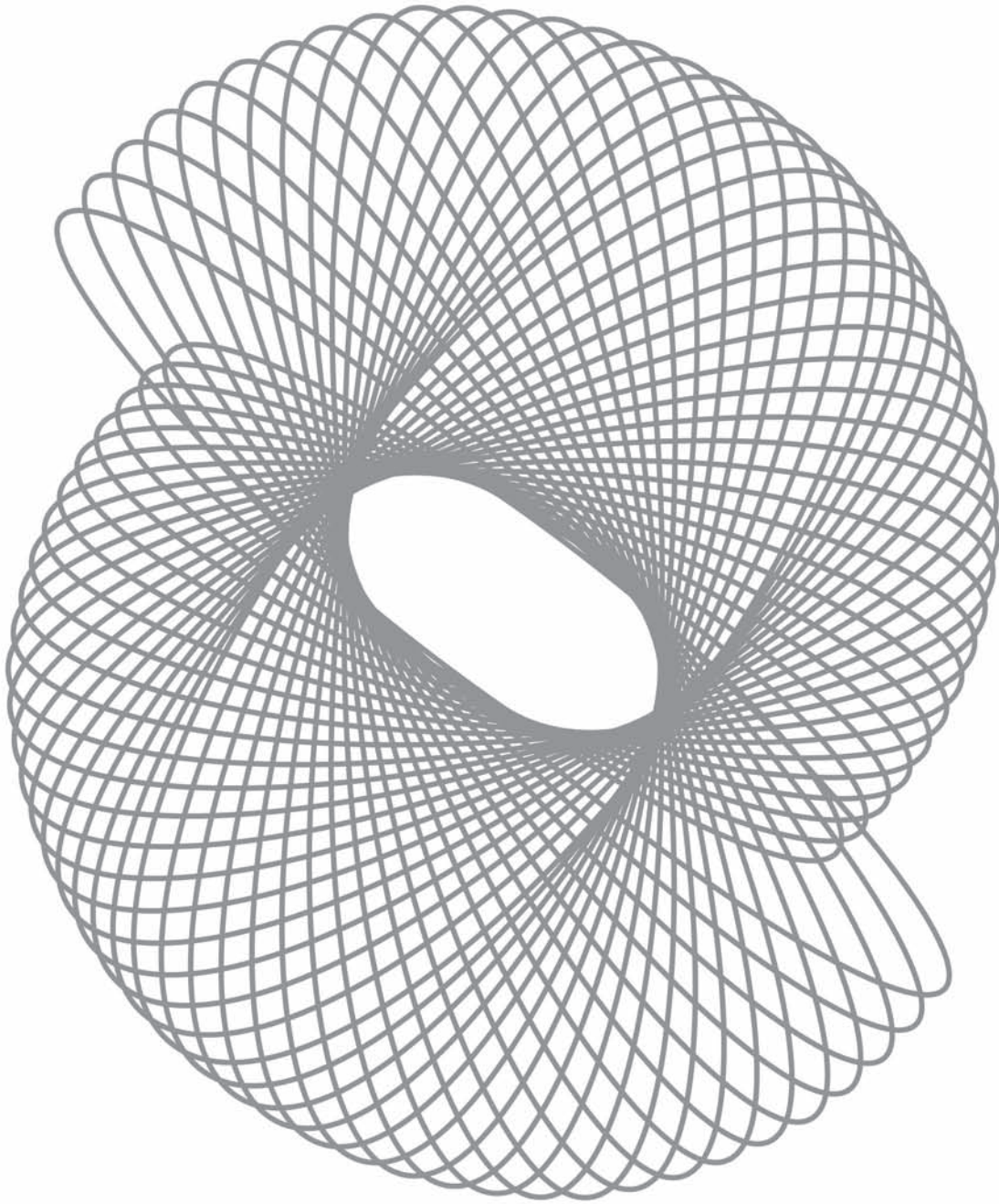


LINKING LEADERS

Community for Change:

Celebrating Ten Years



nasa

science

technology

engineering

mathematics

education

nassmc

LINKING LEADERS HISTORY

The Education Challenge

In the mid 1990's, worrisome gaps were identified in the mathematical, scientific, and technological literacy of the U.S. population. Issues such as the under-representation of women and minorities in technical fields, student performance on international assessment instruments, and student readiness for the workplace emerged as critical weaknesses of the U.S. system. In conjunction, state educational standards for almost every subject became a nationwide trend.

The Perfect Partnership

During this time, the National Aeronautics and Space Administration's (NASA) Educational Office concluded that a monolithic, one-size-fits-all model was inappropriate and ineffective for supporting technical education across America. NASA's education leadership sought to support the source of a coherent voice for the states' improvement agendas.

The National Alliance of State Science and Mathematics Coalitions (NASSMC) provided NASA with the perfect partnership opportunity. Initially formed in 1994, NASSMC grew out of a project sponsored by the Mathematical Sciences Education Board of the National Research Council. The purpose of NASSMC was to bring state coalitions of business, education, and policy leaders under one national umbrella. NASSMC set out to develop strategies to strengthen existing coalitions while at the same time building new ones.

Linking Leaders Emerges

The Linking Leaders program was established by NASA in collaboration with NASSMC. This partnership provided the ideal vehicle to support the separate and diverse reform efforts of individual state coalitions as a strategy for systemic change. NASA's commitment to education is based on the support of each state's education vision. If the sectors of education, state government, and business share a collective vision, then NASA resources can be aligned to support it. On the other hand, if education, policy, and business leaders are all working hard but at cross-purposes to improve education, then the vector sum of their efforts may be zero.

Linking Leaders for Systemic Reform was launched in 1995 and the first Linking Leaders Workshop was held in Cleveland, Ohio in 1996. With the assistance of NASA funding, NASSMC has extended the Linking Leaders program to twenty-three states. In addition to building new coalitions, the program has evolved in recent years to offer specialized support and technical assistance to the older, more well-established coalitions. Now called Linking Leaders for Systemic Improvement, the program has changed the dynamics of NASA's interaction with the states and has led directly to the establishment of coalitions in four states where no organization existed prior to the NASSMC/NASA presence.

From Linking Leaders I in 1996 to Linking Leaders IX in 2004, the program has been conducted in the states of Alabama, Colorado, Florida, Idaho, Illinois, Iowa, Kentucky, Maryland, Minnesota, Mississippi, Nebraska, New Hampshire, New Mexico, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

NASSMC HISTORY

The National Alliance of State Science and Mathematics Coalitions (NASSMC) is an umbrella organization for state coalitions of business, education, and public policy leaders united for the improvement of mathematics, science, and technology education (MSTE) for all students. NASSMC is a network of thirty-seven state coalitions and serves as the national advocate for its member organizations.

Vision and Goals

A non-profit association, NASSMC works state-by-state in pursuit of its vision that all U.S. students will have the necessary knowledge of, understanding of, and skills in mathematics, science, and technology, so they can be productive in their personal, work, and civic lives. The nation will have a competent and competitive workforce that continues to meet the challenges of the global economy. NASSMC's member coalitions work to bring coherence and added value to the separate efforts of many individuals and organizations. Coalitions pursue goals not achievable by any one organization or sector working alone. All Americans need and deserve to receive the best possible education in mathematics, science, and technology for their personal and civic lives.

To this end, NASSMC performs a variety of beneficial activities:

- Helping each coalition develop a state-specific strategy to improve mathematics, science, and technology education;
- Linking state coalition leaders to each other and to major national initiatives;
- Serving as the national ears and voice of its member coalitions;
- Providing a national forum for the discussion of critical issues relevant to continuous and systemic improvement of mathematics, science, and technology education; and
- Supporting timely dissemination of information relevant to the continuous and systemic improvement of mathematics, science, and technology education.

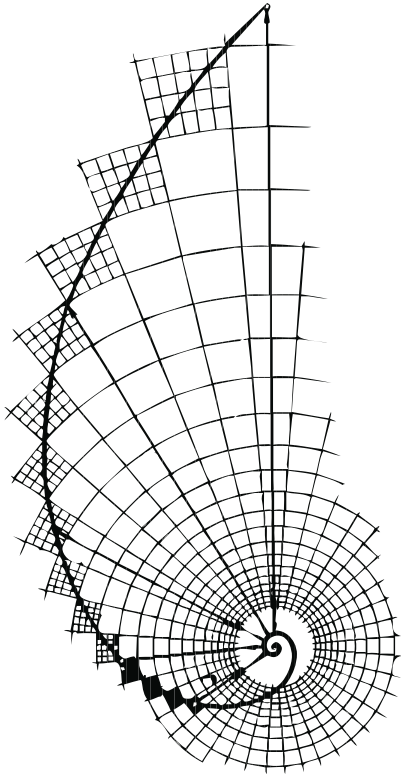
NASSMC's Development

NASSMC evolved from a 1989 project of the Mathematical Sciences Education Board of the National Research Council. For five years, the project focused on developing coalitions of state-level leaders committed to promoting adaptation and implementation of new state standards for school mathematics and later, science based upon national models. In 1994, directors of the state coalitions initiated by the project decided to establish NASSMC as a national nonprofit organization with headquarters in Washington, DC. At the direction of its Board, NASSMC adopted a larger mission of supporting its member coalitions in the promotion of systemic improvement of mathematics, science, and technology education for all students in grades K-16.

In pursuit of its mission, NASSMC has designed and executed projects testing processes and materials for strengthening the structure and programs of its member coalitions. In collaboration with the Education Commission of the States and the NASA, it has developed a state-based model for working with business, education, and policy leaders to address continuous improvement in school mathematics, science, and technology. NASSMC also established the NASSMC Briefing Service, an Internet-based service providing leaders across the nation with concise and timely information about programs, research results, and public opinion relating to mathematics, science, and technology education.

In August of 2002, NASSMC moved its offices to the National Science Teachers Association (NSTA) Building at 1840 Wilson Boulevard, in neighboring Arlington, Virginia. In this new location, NASSMC works in close proximity to the Triangle Coalition for Science and Technology Education and with the programs and operations of NSTA. The organization continues, through the efforts of its member coalitions, to support comprehensive and coordinated change in mathematics, science, and technology education and to promote public awareness and understanding of the need for such change.

ALABAMA MATHEMATICS, SCIENCE, AND TECHNOLOGY EDUCATION COALITION



The Alabama Mathematics, Science, and Technology Education Coalition (AMSTEC) was formed to serve as Alabama's K-20 advocacy group for mathematics, science, and technology education.

The coalition formed at a meeting hosted by Mercedes-Benz in Tuscaloosa to which the founding participants were invited. The participants originally met through their participation in the Linking Leaders program.

MISSION STATEMENT

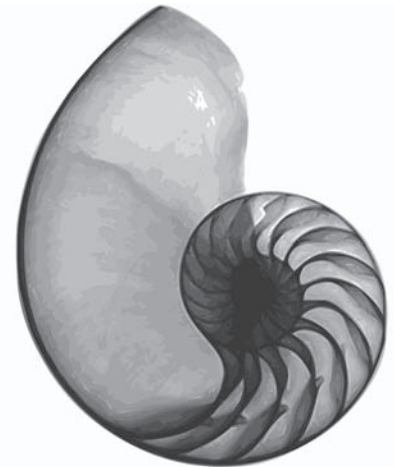
The mission of AMSTEC is to improve mathematics, science, and technology education in the State of Alabama through the facilitation of communication among education, business, and public policy organizations.

VITAL STATISTICS

Linking Leaders Class
1998

Coalition Milestones
Founded - 1998

Website URL
www.amstec.org



FEATURE STORY: *SUMMER INSTITUTES OF LEARNING*

The Alabama Math, Science, and Technology Initiative, commonly referred to as AMSTI, is the Alabama Department of Education's initiative to improve math and science teaching statewide. AMSTI was designed by a Blue-Ribbon committee comprised of K-12 educators, higher education representatives, and business leaders. The panel conducted an eighteen month study of effective national reform programs and reported its findings to the State Board of Education. AMSTI is research-based and incorporates best practices for math and science teaching.

AMSTI calls for the establishment of eleven regional Math, Science, and Technology Education Resource sites across the state - called MASTER sites - to implement AMSTI within the local regions. Through a competitive process, each site selects schools to become "AMSTI Schools." These AMSTI Schools agree to send their entire mathematics, science, and technology teaching staff, as well as their administrators, to a two-week

AMSTI Summer Institute for two consecutive summers. Training involves essentially the entire faculty in schools where classes are self-contained.

At the Summer Institutes teachers receive grade and subject specific professional development that is highly applicable to their own classrooms. Instruction is delivered at the Summer Institutes by "master" teachers who have been certified as AMSTI trainers after successfully completing AMSTI trainer workshops. AMSTI sites provide teachers at AMSTI Schools with essentially all of the equipment, supplies, and resources needed to effectively engage students with hands-on, inquiry-based learning.

The AMSTI initiative provides three basic services: professional development, equipment and materials, and on-site support for mathematics and science teachers in Alabama.

COALITION RESULTS



Representatives of AMSTEC sit on the current Science Course of Study Review Team (2004) and the Science Textbook Review Team (2005). The standards review process occurs every five years.



Seventeen AMSTEC members were included in the blue ribbon committee of thirty-five who performed the initial task of developing what a state-wide STEM education initiative would look like. Their findings were provided to the state Department of Education. The Alabama Mathematics Science and Technology Initiative (AMSTI) was created based on the recommendation of this report.



“State of STEM Education in Alabama” 2004 publication with supporting data on the status of STEM education in the State of Alabama.



In the 2005 legislative session, AMSTEC has a bill filed providing legislative authority to the organization to work in support of systemic STEM education reform as well as an advocacy campaign in support of the State Department of Education’s budget. This includes a \$15M AMSTI line item with the intent of growing the program to \$40M by 2011 so as to offer AMSTI to all Alabama schools and teachers.

FUTURE GOALS

AMSTEC has identified several key goals for the years ahead:

- 1) Increase business/industry membership.
- 2) Increase AMSTEC’s role and relationships with policy makers.
- 3) Secure state legislative funding for the Alabama Mathematics, Science, and Technology Initiative (AMSTI).
- 4) Complete forum activities throughout the state, resulting in a state-wide summit.

MEMBER AFFILIATIONS

Executive Committee

Dr. Charles R. Nash
AMSTEC Chairman
The University of Alabama System

Dr. Robin L. Denson
AMSTEC Exec. Director
The University of Alabama in Huntsville, National Space and Science Center

Paula Cannon
State Mathematics Coordinator (Retired)

Gregory N. Cox
The University of Alabama in Huntsville, National Space and Science Center

Thad Mauldin
Qualis Corporation

Dr. Robert Meintzer
Geological Survey of Alabama

LESSONS LEARNED

Other states have provided examples of what to do and what not to do as AMSTEC has developed and grown.

From these conversations, AMSTEC has determined that good communication with stakeholders is required and is a very demanding task. In addition, STEM improvements should be connected to workforce development as much as appropriate in order to achieve business/industry support.

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