



TSA Continues Its Lead in STEM Education

In the 2011 State of the Union address President Barack Obama devoted a significant portion of his speech to education. "Maintaining our leadership in research and technology is crucial to America's success," he stated. "But, if we want to win the future -- if we want innovation to produce jobs in America and not overseas -- then we also have to win the race to educate our kids." (<http://www.whitehouse.gov/state-of-the-union-2011>)

The Technology Student Association's transformation from the American Industrial Arts Student Association in 1988 to TSA began the task of offering students, teachers, administrators and parents the opportunity to enhance STEM (science, technology, engineering and mathematics) education through cutting edge competitive events and leadership activities, even before the term "STEM Education" had been coined. Devoted exclusively to the needs of educators and students in these disciplines, TSA provides strategies to meet the goals set by President Obama's "Educate to Innovate" campaign.

As TSA prepares for its 33rd annual national conference to be held in Dallas, Texas, June 21st through June 25th, 2011, its members are deeply committed to the efforts outlined by the Administration's "Educate to Innovate" plan:

- Increase STEM literacy so that all students can learn deeply and think critically in science, math, engineering, and technology.
- Move American students from the middle of the pack to top in the next decade.
- Expand STEM education and career opportunities for underrepresented groups, including women and girls. (<http://www.whitehouse.gov/issues/education/educate-innovate>)

Similarly, at the release of Harvard University's "Pathways to Prosperity" report

http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperty_Feb2011.pdf, U. S.

Secretary of Education, Arne Duncan said he wanted "to suggest two takeaway messages.... First, for too long, career and technical education (CTE) has been the neglected stepchild of education reform. That neglect has to stop. And second, the need to re-imagine and remake CTE is urgent. CTE has an enormous, if often overlooked impact on students, school systems, and our ability to prosper as a nation.... The mission of CTE has to change. It can no longer be about earning a diploma and landing a job after high school. The main goal of CTE 2.0 should be that students earn a postsecondary degree or an industry-recognized certification and land a job that leads to a successful career."

Lawmakers, business and industry look to educators to increase the number and quality of STEM employees in the current and future workforce. Organizations that promote the integration of science, technology, math and

engineering principles in the classroom through hands-on, problem-based activities and competitions provide teachers with a focus and structure for STEM.

TSA offers more than 60 curriculum-integrated competitive events in relevant STEM areas that middle and high school teachers and students find interesting and fun such as: Animatronics, Biotechnology Design, Electronic Gaming, Engineering Design, Flight, Global Manufacturing, Promotional Graphics, System Control Technology, Transportation Modeling and Website Design. Students can also participate in the *Round-Up* robotics competition offered through a partnership between TSA and VEX Robotics. TSA competitions provide a hands-on venue for learning about science, technology, engineering and mathematics. By participating in TSA's competitive events, students gain a broader understanding of specific content areas, and at the same time experience the satisfaction that comes from applying them to real-life problem solving situations. Click here to view the [Middle School Events Overview](#). Click here to view the [High School Events Overview](#).

National Standards Alignment

In addition, TSA competitions align with national standards for science, technology, engineering, and mathematics (STEM).

High School

[TSA HS competitions and the science standards](#)

[TSA HS competitions and the technology standards](#)

[TSA HS competitions and the engineering standards](#)

[TSA HS competitions and the mathematics standards](#)

Middle School

[TSA MS competitions and the science standards](#)

[TSA MS competitions and the technology standards](#)

[TSA MS competitions and the engineering standards](#)

[TSA MS competitions and the mathematics standards](#)

TSA and Career Clusters

Career clusters (categories) are groups of similar occupations and industries. Developed by the U.S. Department of Education to organize career planning and help schools better prepare learners for their futures. The TSA Competitions and Career Clusters grid illustrates the interconnectedness between individual TSA competitions and the 16 career categories.

[TSA and Career Clusters - Middle School](#)

[TSA and Career Clusters - High School](#)

Open to students enrolled in or who have completed technology education courses, TSA's membership includes over 150,000 middle and high school students in 2,000 schools spanning 48 states. TSA is supported by educators, parents and business leaders who believe in the need for a technologically literate society. From engineers to business managers, our alumni credit TSA with a positive influence on their lives. Please visit <http://www.tsaweb.org/Testimonials> to read about what TSA members say about their involvement in the Technology Student Association.

Visit www.tsaweb.org or contact TSA at 703-860-9000 for more information