

Archived Information

MESA

Improving Mathematics and Science Education Public Engagement through MESA

Purpose: MESA (Mathematics, Engineering, Science, Achievement) was founded 32 years ago on the very premise that “not enough young high school graduates were entering engineering and graduating with math based degrees.” Since that first day, MESA’s mission has focused on engaging all of its public/private partners in understanding the value of improving math/science education. The goal has been a comprehensive MESA partnership with public education, industry, postsecondary education, students, families, and communities.

Summary: Over the past 5 years, many states have adopted ambitious academic standards for their K-12 students. States have also increased emphasis on increased production of better-qualified teachers. However, the reforms that are planned do not specifically address the knowledge and interest level students need to enter college, particularly in the fields of mathematics and science. The lack of knowledge of how students, especially educationally under served students, should prepare to attend college and the persistence of a poor image for science and mathematics among K-12 students is an on-going challenge. MESA USA has a nationally applicable model that meets this challenge.

Results & Goal areas:

Through its emphasis on rigorous academic preparation and hands-on experience, MESA USA engages K-12 students in mathematics and science using strategies such as the following:

1. Academic Excellence Workshops enhance the student’s exposure to material currently being studied within the specific math or science class.
2. Hands-on Competitions increase the student’s knowledge of math and science and provide “show what you know” working experiences with industry and science mentors involving engineering designs and science experiments
3. Counseling via an Individual Academic Plan enables MESA staff, teachers, students and families to plan, and monitor the student’s successful pathway to college.

MESA USA engages families in ways such as the following: Family Saturday Academies engage parents in the math and science work with their children.

2. Family math nights create an environment in which math and science become a participatory event for the whole family.
3. Family Conferences help families understand how to become knowledgeable advocates in the educational system to make it work for them rather than continue to be a barrier to opportunity for their children

MESA USA engages private industry and gives them the competitive edge in ways such as the following:

1. Training students on how to become the technology professionals that industry needs.
2. Providing a pool of new professionals who reflect the diversity of contemporary society
3. Offering industry a “solid return on investment” as a significant source of the technology workforce industry needs.

12 month Plans

1. Forge a partnership with the California Council on Science and Technology to create a statewide Public Media Campaign to improve the image of science and technology related careers among K-12 students (why they should pursue science and math based careers) and replicate it in other MESA USA states.
2. Improve family and community understanding of what it takes to achieve academic success and how to succeed in earning science and mathematics related degrees.
3. Continue to provide an effective national K-16 model for the development of a diverse community of technology professionals and enhancing the college entry and success of educationally disadvantaged students.