

ATE CENTERS IMPACT 2006-2007 EXECUTIVE SUMMARY

Winning the global skills race has been identified as a critical recommendation in every recent report on U.S. economic competitiveness. As developing countries increasingly educate their workforce in science and technology, the U.S. must keep pace with the changing nature of the competition. To maintain leadership in the global marketplace, our nation needs a technically savvy science and engineering workforce capable of translating knowledge and skills into new processes, products, and services.

ATE Improves Technicians' and Teachers' Skills

The National Science Foundation's Advanced Technological Education (ATE) program utilizes educators from two-year colleges in leadership roles to develop and implement ideas for improving the skills of technicians and the educators who teach them. Technicians are essential workers. Technicians' skills, learning capacities, and adaptability to changing technologies affect the viability of individual companies and entire industries. In strategic fields – agriculture, environmental technology, biotechnology, engineering technology, manufacturing, information technology, telecommunications, cyber security, and process technology – the education of technicians is of vital importance to the nation. Two-year colleges, primarily public community colleges, are the main sources of postsecondary education for technicians.

ATE Centers Lead Regional and National Efforts

ATE centers lead regional and national efforts to improve technician education in specific fields. The centers have built collaborative relationships with industry and academic partners to launch important reforms with broad impact. Their model programs are developed with industry to meet the challenges of modern workplaces. The centers freely share what they have learned about what works and what does not. They use the expertise gained from their experiences to guide other educators.

ATE Centers Address Workforce and Education Challenges

As this publication documents, ATE centers

- Deliver well-qualified technicians to the workforce, saving employers time and money.
- Influence changes in the hiring practices of key industries.
- Improve the science, technology, engineering, and mathematics curricula at community and technical colleges, and secondary schools.
- Invigorate teaching in many disciplines.
- Save school systems and higher education institutions time and money revising curricula and creating new programs for emerging technologies.
- Refine classroom instruction based on the latest research about how people learn.
- Reach out to middle school and high school students to inform them of technical career opportunities.
- Encourage students to enroll in mathematics and science courses that prepare them for careers in advanced technology fields.
- Work across disciplines to address student recruitment, retention, and other issues.

ATE Initiatives Work

ATE centers have proven records of addressing many of the educational and workforce challenges facing the nation. With their industry and academic partners, they have developed initiatives that work and can be replicated.