NSF RESPONSE TO COV REPORT
ADVANCED TECHNOLOGICAL EDUCATION

Division of Undergraduate Education
Division of Research on Learning in Formal and Informal Settings

Committee of Visitors of May 4 - 5, 2009

Part A. Integrity and Efficiency of the ATE Program's Processes and Management

A2.4. Questions concerning the selection of reviewers:

Recommendation: The ATE program continue efforts to broaden its reviewer base with emphasis on increasing gender diversity, industrial participation and community college administrative experience (especially for center grants) in the short term, while developing an understanding of the composition of the potential reviewer population.

Program Response: The ATE program will provide program officers with guidelines for the diversity of reviewers needed for reviewing proposals and review the selection of reviewers to develop appropriate panels. Many of the reviewers from community colleges do have industrial experience and this information will be captured as well.

A3. Questions concerning the resulting portfolio of awards:

A3.5 Appropriate balance of Inter- and Multi-disciplinary projects:

Recommendation: The ATE program encourage more interdisciplinary proposals involving behavioral sciences /human social dynamics around technician/workforce/ cultural issues.

Program Response: The ATE program is well-aware of the importance of 21st century skills, which are part of the set of human and social dynamics issues, in the education of technicians and encourages all projects to emphasize students obtaining these skills. This issue will be emphasized in the upcoming Program Solicitation. The ATE program will discuss these issues with Program Officers in the Social, Behavioral, and Economic Sciences Directorate.

A3.6 Appropriate balance of award size, single and multiple investigator awards and national and regional center awards:

Recommendation: ATE program continue and expand its collaborations with other federal and state agencies, especially those involved with energy, education and workforce.

Program Response: The ATE program has interactions with the Department of Labor on biotechnology, geospatial technologies and manufacturing; with the Department of Energy and EPA on energy; with agricultural technology with the Department of Agriculture; and is beginning an interaction with the Department of Education on Career Pathways. Some of these Federal Agencies participate in the annual ATE PI meeting. The ATE program sponsored a series of regional meetings on sustainable energy and invited the other agencies to participate.

Individual Program Officers in ATE are appointed to be the contact person with other agencies on particular issues.

Recommendation: The ATE program consider innovative ways to engage smaller community colleges, especially those in rural areas.

Program Response: The ATE program has a successful program for community colleges new to the ATE program. Many of the successful projects are proposed by smaller institutions. The American Association of Community Colleges is funded to provide mentoring to smaller colleges that want to establish a new program. At the ATE PI meeting, Principal Investigators from smaller and rural institutions convened to develop ideas to encourage these types of institutions to apply for grants and/or to collaborate with other ATE centers and projects in areas of interest to them.

Recommendation: The ATE program maintain the flexibility of projects to adapt to local, regional and national needs.

Program Response: The ATE program agrees. The development of closer ties between projects and centers in the same field should provide projects information about national trends that can be tailored to local situations.

A3.11 Appropriate participation from underrepresented groups:

Recommendation: The ATE program study the success rate of proposals from PIs from underrepresented groups and make additional effort to identify, recruit, and support proposals from PIs from underrepresented groups.

The ATE program will undertake the study of proposal submission/award/declination rates requested to determine if the pool of underrepresented PIs submitting proposals to ATE is disproportionately small or if they suffer a high declination rate. The same study will be done for proposals from minority-serving institutions. Perhaps the appropriate metric should be the percentage of proposals submitted from minority serving institutions that are successful. In addition, the ATE program will participate in NSF outreach to minority-serving institutions and hold webinars and workshops on the ATE program and on developing proposals for it.

A4. Management of the Program:

A4.1 Management of the Program:

Suggestion: With a funding going to $100 M, the ATE program needs permanent Program Officers whose sole responsibility is the ATE program. More program officers are needed since community colleges require more program officer support per project that other NSF programs

Program Response: The ATE program agrees that the ATE program needs to be a major responsibility of one Program Officer in each Division. The management of DUE and DRL are working together to review workload and program management. The importance of adequate staffing of these programs is acknowledged.

Recommendation: The ATE program initiate a strategic planning process involving all sectors of the ATE ecosystem to develop a vision for advanced technological education for the first half of the 21st century.

Program Response: The ATE program agrees and will use intermittent experts with experience in the program and outside contractors to develop and organize an ATE@20 conference suggested by the last COV. The conference planning committee and the conference itself will include stakeholders from all relevant communities.

A.4.3. Program Planning and Prioritization Process that Guides Portfolio Development:

Recommendation: The ATE program undertake an internal program planning and prioritization activity in conjunction with the strategic planning activity. Additional external constraints and/or expectations for the ATE Program and STEM education initiatives may be imminent. The ATE Program should position itself to respond quickly to external stimuli.

Program Response: The ATE program officers hold an annual strategic planning retreat to plan the year and to consider new directions, processes and policies. A new Program solicitation will be developed by the end of the 2009 calendar year. With the anticipated increase in funding, the program will also consider how to adjust the management structure so that ATE continues to be a coherent program while adapting to new opportunities and expectations. One solution is to establish lead Program Officers in the Program who will oversee a particular field such as biotechnology or a particular process such as Problem Based Learning. Other structures will be considered in an effort to become as efficient as possible while still retaining the needed close interaction with the field.

B: RESULTS OF NSF INVESTMENTS:

B.1. Outcome goal for Discovery:

Recommendation: The ATE program continue to develop and implement strategies for increasing the number of projects that focus on a broad range of research topics in technician education.

Program Response: In the last Program solicitation, the ATE program established a track for targeted research into technician education. Because proposals were slow in coming, the Program jump-started the process with an umbrella research proposal. In the 2009 survey of ATE centers and projects, 42 respondents indicated that they were doing research. This is being investigated further. A Program Officer in DRL will be assigned to work part time in the ATE program to encourage more proposals from the educational research community. The ATE program will also promote the Program in the SBE Directorate.

C. OTHER TOPICS:

C.4. Comments on other relevant areas:

Recommendation: The ATE program leverage 15 years of exemplary models, continue to support development and dissemination of best practices, further engage in building community and foster the "Think nationally, mentor locally" paradigm.

Program Response: The ATE Centers are collaborating to develop the HI-TEC technician education conference that attracts industry and colleges outside of the ATE program. The evaluation of the first conference in Scottsdale, AZ in July, 2009 found the conference to be a very successful first start with over 500 people attending. The ATE program is also working with centers to engage them more in mentoring projects in the same field. One grant in particular is working with centers to develop a process to scale up innovations. A project has been funded to develop ATE Central - a portal for linking projects and an electronic repository of products developed by ATE centers and projects. Internally the program is developing an infrastructure in which lead program officers can manage and monitor one field within the program to foster collaboration and avoid unnecessary overlap.

Recommendation: The ATE program clarify its role in technician education, encourage more interdisciplinary proposals, develop an explicit rationale for the ATE portfolio, and continue to promote the research in technician education. This requires additional staff.

Program Response: The ATE program has emphasized technician education over training so that graduates will be positioned to be retrained as the processes and instruments change in the industry. The question of the needed education for technicians is field dependent and will probably require education beyond the community college in some fields. This will be part of the study for ATE@20 conference. As noted above, division leadership will pay close attention to adequacy of staffing for the Program.

Recommendation: The ATE program maintain and enhance its national leadership role in advanced technological education. The ATE leadership should strengthen and expand its collaborations with other federal agencies as well as with state and local agencies, businesses and professional associations.

Program Response: The ATE program officers would like to increase their collaboration with other federal and state agencies, non-governmental organizations such as the National Governors' Association, business organizations, and private foundations with similar aims. This will be considered under the internal program planning process. The interaction would be very fruitful for the program and for technician education. In the past the Council for Adult and Experiential Education (CAEL) was funded to facilitate interactions with private foundations and would continue to do so.

C.5. Comments to Improve the COV Review Process:

Suggestions: The webinar is very helpful and should be held at least two weeks before the meeting with the DVD of information being supplied at the same time. A technical writer is very helpful to the COV and the writer should be invited to the webinar. The COV should last two and one half days. Having the COV meet with relevant Program Officers at the end of the first day, facilitated correction of factual errors and uncovered non-apparent features, collaborations and activities. The COV recommended that this feature continue.