Sustaining the Effort

Report: A Conference on Self-Sustainability

Advanced Technology Education Centers
The National Science Foundation

March 19–20, 2003
Phoenix, AZ

Funded through a grant from the National Science Foundation, Division of Undergraduate Education, Supplement to ATE Grant No. 0202240 to the Maricopa Advanced Technology Education Center, a member of the Academic Affairs Division of Maricopa Community Colleges.

Introduction

Like most good things in life, funding from the National Science Foundation does not last forever. The NSF has deliberately adopted an "in and out" funding strategy that supports innovative research or model activities for short periods, after which time the agency expects projects to find other funding, be absorbed as activities or entities into larger institutions, or—having achieved their objectives—disband.

Centers funded by the NSF's Advanced Technological Education Program convened on March 19–20 in Phoenix to discuss how they can become self-sustaining beyond the period of their initial NSF grant funding. The Maricopa Advanced Technology Education Center (MATEC) hosted the meeting at the Maricopa Community Colleges. Of 17 centers, 15 sent their directors or representatives to Phoenix. Two centers that could not attend the meeting will receive all materials, including this report.

To prepare for the meeting, participants reviewed reports from an ongoing evaluation of the ATE program. The evaluation is being conducted by the Evaluation Center at Western Michigan University. Participants focused on one of the evaluators' issue papers: "Sustainability: Increasing the Likelihood of a Long-Term Impact by the ATE Program." (Lawrenz and Keiser, 2002) Participants also considered research on the ATE program conducted by the Community College Research Center (CCRC), Teachers College, Columbia University. (Bailey and Matsuzuka, 2002) The directors of the Evaluation Center and CCRC participated in the meeting, as did an ATE program officer.

This report collates notes from the meeting's presentations and discussions with pertinent excerpts from the research of the WMU evaluators and CCRC. Section headings reflect the meeting's major topics of discussion. The report also lists resources that may be helpful to ATE centers seeking to sustain their efforts.

Purposes of the Meeting

1) To explore how the NSF understands "sustainability" for ATE centers
2) To discuss the obstacles ATE centers face in sustaining their work
3) To identify effective strategies for sustaining the centers' work

Participants

Maricopa Advanced Technology Center— Mike Lesiecki, Joe Mattoon, Kristine Wilcox	Marine Advanced Technology Education Center— Jim Hall
National Advanced Technology Education Center for Biology— Elaine Johnson, Kristen Herschbell	New Jersey Center for Advanced Technological Education— Robert Sicora
National Center of Excellence for High Performance Computing Technology— Stephen George	SpaceTEC National Aerospace Technical Education Center— Sherry Meaders
Midwest Center for Information Technology— Dennis Kirlin	KIT Center— Darrell Abney, Terry Pasley
National Center for Telecom Technologies— Gordon Snyder	American Chemical Society— Sam Stevenson
Center for Information Technology— David McNeel	Center for the Advancement of Process Technology— Debi Shoots
Advanced Technology Environmental Education Center— Ellen Kabat Lensch	National Workfirce Center for Emerging Technologies— Peter Saflund
National Center for Manufacturing Education— Monica Pfarr	Community College Research Center— Thomas Bailey
National Science Foundation— Duncan McBride	The Evaluation Center, Western Michigan University— Arlen Gullickson
Facilitator: Bev Powell	Organizer: Becky Shingler
ATE Centers unable to attend: National Resource Center for Engineering Technology Center for Information & Manufacturing Technologies	

The centers are in different stages of maturity:

Number of ATE centers	Number of years in existence
5	0–2 years
3	2–5 years
7	5–10 years

"Sustainability"—NSF Expectations

To "sustain" is to keep something in existence by providing it with the resources necessary to survive. As the WMU evaluators have noted, however, in the context of the ATE program that simple definition grows complicated for several reasons:

- At bottom is the centers' uncertainty about NSF expectations. The Foundation has issued few written guidelines on sustainability. WMU's literature search uncovered no official NSF definition of the concept's meaning. The evaluators concluded that:

  > ". . . NSF's interest in sustainability in relation to the ATE program is evolving. There is no single definition of sustainability, and those that do appear are subject to change . . . . what is expected from ATE projects in terms of sustainability is evolving. Additionally, ATE projects funded earlier are learning about the need for sustainability retroactively." (WMU, 132)

This uncertainty opens the door to others:

- ATE projects operate through multiple "drivers," such as materials development and collaborations with industry. Does "sustaining" mean keeping a center alive as an entity? Or is it sufficient to keep the center's activities alive by lodging them within a larger institutional sponsor or through other means?

  - In turn, does it matter if the centers survive as identifiable entities? Do the national/regional perspectives and partnerships achieved by the ATE centers enable them to pursue goals (industry-wide skills standards, for example) that may elude more locally focused community colleges?

According to the WMU researchers, a number of arrangements could ensure that ATE activities survive in the event that a center loses much of its funding or elects to disband:

- A center might maintain its core activities, but limit their scope
- A center might eliminate some activities
- A center's sponsoring college might integrate the center's activities into its own operations and budget

- A center might replace NSF funds by commercializing its products and services, securing other private or government grants, or performing contracted services for pay
- A center might find an institution other than its home college to disseminate its products and services

Recommendations of Participants

NSF Program Officer Duncan McBride emphasized that ATE center perspectives are vital to the agency's evolving understanding of sustainability. He will encourage the Foundation to consider the participants' suggestions that NSF should:

- Clarify "up front," in the language of RFPs for the ATE program, its definition of sustainability
- Define target expectations for center growth and productivity
- Establish broad guidelines by which NSF will measure a center's progress toward sustaining itself
- Encourage new ATE projects to include subawards to national/regional ATE centers
- Consider requiring proposers to specify plans for "institutionalization," just as cost-sharing is now required
- Clarify how many years of NSF funding a center can anticipate
- Define (in pre-award discussion with PI?) what sustainability will mean for each center, based on the rationale and goals outlined in the center's funding proposal
- Establish a "sustainability" page on the ATE Website and profile innovative strategies
- Award supplemental grants for established centers to provide mentoring workshops and on-call support for new centers

Can Centers Run a Business and Reform Education, Too?

As a practical matter, the ATE centers are hybrid organizations. Each is seeking its own balance of "institutionalizing" within a host college and earning revenues through grantseeking and marketing activities. The WMU evaluators state that

> ". . . to be institutionalized, a project must become part of the fabric of the organization in which it is embedded. It must fit with and complement the other institutional initiatives and goals, and it must also meet its needs utilizing existing institutional processes." (WMU, 140)

Centers often receive salary and facilities support from their colleges; on that administrative level, they are indeed "institutionalized." Yet most center directors emphasized that their colleges also expect them to generate external revenue through grants and sales of products and services.

Researchers have expressed unease about how these marketing activities affect the centers' public policy responsibilities and whether the significant effort required to sustain the centers undermines the larger ATE goal of effecting systemic changes in the colleges. This uncertainty may be the root source of confusion about what "self-sustainability" ought to look like in the ATE program.

The WMU evaluators expressed it as follows:

> "A thorny issue is related to marketing materials or professional development in order to provide sustainability. ATE *projects* need to reconcile the fact that they are supposed to be providing the best materials and education available to their fields with the reality that they may have to sell materials or professional development if they are to sustain themselves. Just how entrepreneurial should *projects* be? Should they employ marketing experts? Should they withhold valuable materials or education from colleagues because they can't afford them? One visited site has grappled with this issue by marketing its services at different rates based on ability to pay, but this solution presents difficulties as well." (WMU, 142)

In a dinner presentation during the meeting, director of CCRC Thomas Bailey recognized the important impact of the centers' "outcomes"—products and services created to support technology educators. But he also alluded to concerns whether the centers are sufficiently impacting "process" within their host colleges. If, for example, a center produces remarkable learning materials but does not build capacity within the colleges to create such materials, has the center succeeded?

At the ninth national ATE principal investigators conference in October 2002, a presentation by Dr. Bailey and Dr. Matsuzuka noted:

> "ATE encourages an outward looking perspective, especially for the centers [as opposed to ATE projects]
>
> - [ATE] encourages material creation (or modification) and sporadic professional development
> - [ATE is] less likely to encourage more thoroughgoing reform within the college"

Dr. Bailey identified several ways in which the ATE program might achieve more systemic reform of college technology programs:

- NSF may "want to take a stronger role in shaping the pedagogical content of ATE centers and programs
- Promote internal [within the college] and external efforts
- Encourage more involvement with academic faculty and departments
- Emphasize transferability of ATE curriculum"

Some participants expressed an alternative view: By holding to the hybrid model of "social entrepreneurship" now widely practiced by organizations in the nonprofit sector—keeping one foot firmly planted in the college institution and the others in revenue-producing business ventures—ATE centers can:

- Generate revenue to supplement faculty salaries and college programs
- Keep ATE focus national rather than local
- Respond to rapidly evolving industries with an agility difficult for large community college systems to match
- Secure revenue, corporate partnerships, grants, and publicity that can help community colleges stay competitive with for-profit technical schools

"Institutionalizing" the ATE Center

Participants discussed factors that influence the centers' success in integrating their activities into college agendas.

Center directors need administrative standing and a direct reporting line to college leadership: WMU evaluators emphasize that a director's status within the college, along with support from other administrators, helps in institutionalizing ATE activities: "It is . . . helpful if the principal investigator . . . is a well-respected faculty member with institutional power . . . . Administrative support is also crucial. [In ATE projects visited] the administrators report viewing the ATE programs as models of what could be done . . . and see the ATE programs as showing other faculty that they could get funding as well." (WMU, 141)

- At Iowa's Advanced Technology Environmental Education Center (ATEEC), for example, Director Ellen Kabat Lensch is Dean of Arts and Sciences at Scott Community College, Eastern Iowa Community College District. She reports directly to the college president. This ensures, she says, that the ATE center commands attention and support.

- The director's reporting line and activism may be just as important as whether he or she is a faculty member. At the Maricopa Advanced Technology Education Center (MATEC), for example, Dr. Michael Lesiecki is not a faculty member but reports directly to the Vice Chancellor for Academic Affairs. He takes an active role in the district's Academic Affairs Division and looks for opportunities to support the colleges. His visible efforts influence the willingness of the Maricopa District to fund three of the center's senior staff positions, including Dr. Lesiecki's.

- Other participants commented that lack of effective communication to the administrative hierarchy can complicate the center's efforts.

College chancellors/presidents need better information about ATE and recognition for supporting it: Participants said they would welcome NSF interventions to:

- Publicly recognize district chancellors and college presidents who support workforce development and the ATE program
- Manage the expectations of chancellors/presidents that an ATE center will be a "cash cow" requiring little support from the college. The WMU evaluators also noted this expectation: Administrators "are supportive only as long as the programs provide incentive or revenue. One

administrator stated that he is supportive as long as there is a continued increase in enrollment." (WMU, 141)
- Make clear to chancellors/presidents that the NSF encourages the colleges to institutionalize (with faculty salaries, a continuing budget line, equipment purchases, and course approval) the ATE activities seeded by the agency
- Ensure that chancellors/presidents recognize the prestige attached to hosting an ATE center
- Ensure college leaders understand that "their" ATE center has a national as well as a local role
- Encourage leaders to allow release time and credit toward merit pay to faculty for participating in ATE activities
- Sponsor an ATE conference for chancellors/presidents to present these issues

Avoid competing for funding with the host college/district: Participants stressed that ATE centers should communicate clearly with college leadership, college foundations, workforce development staffs, and others about grants and industry collaborations.

- At MATEC, to avoid crossing wires with the district's scholarship foundation, a Maricopa skills program functions as a sub-foundation. Funds flow through and are credited to the district's foundation, but the skills program spends them. ATE centers might find this approach useful as well.
- Organizing a center under 501(c)(3) accounting rules is another option. ATEEC in Iowa has elected to do this.

Strive for clarity in accounting: Some participants reported that a center's cost/revenue flow can be so obscured that directors cannot say if the center is making or losing money—a major drawback when arguing the case for institutionalization to college leadership.

Make clear that some "backbone" items, such as national industry-validated skills standards, can only be achieved with major government or industry funding: This is another example of the need to manage leadership expectations.

Work with college leadership to surmount institutional barriers: Academic salary schedules can weaken recruitment of marketing and industry-experienced personnel. College accounting systems can complicate financial management.

- Participants stressed the importance of addressing infrastructure issues early in the project design process
- One participant described a "shadow college" structure that permits more flexibility in procedures

As an institution, connect with other institutions: WMU evaluators emphasize that "wide participation and clear, shared purpose" help ATE centers to sustain their work.

- Connections with businesses and industry and with professional organizations "provide additional venues for future funding." (WMU, 135–36)
- Participants praised ATEEC's linkage with MIT's Laboratory for Energy and the Environment as a model partnership between a four-year research institution and the ATE program. One objective of the partners is to enable researchers, educators, and practitioners to easily exchange information about emerging issues in environmental technology
    - Example activity: In April 2001 ATEEC and MIT hosted the Critical Issues in Environmental Technology forum at Endicott House in Dedham, Massachusetts. Research scientists, community college environmental technology instructors and administrators, environmental practitioners, and business leaders convened to find better ways of exchanging information. Participants identified the needs of each group and suggested strategies for streamlining connections between research laboratories and the classroom

Institutionalize rewards for participating in ATE efforts: WMU evaluators reported "there appears to be very little acknowledgement of effort for community college faculty to improve themselves through the ATE program. The work on the ATE program often seems over and above regular job responsibilities . . . work on the ATE program rarely fits into the usual reward structure . . . one community college visited doesn't allow release time for its faculty members, and another doesn't offer ATE professional development for credit, which means it doesn't count on the merit pay schedule." (WMU, 137)

- Persuading college leaders to institutionalize rewards for ATE participation can leverage recruitment and retention of faculty
- Some participants make major efforts to reward faculty through the center. MATEC, for example, includes stipends and summer contracts for faculty in all grant budgets. Industry collaboration is another option: MATEC just launched a new partnership with Micron Technologies to sponsor two community college faculty members for a three-week fellowship practicum in creating multimedia instructional design. MATEC hopes eight to ten companies will sponsor such fellowships each summer in future.

Create a written plan for institutionalizing the ATE center: WMU evaluators recommend developing a strategy and timetable for securing letters of commitment from college leaders to incorporate the center in the college structure and budget. (WMU, 145)

Make evidence of institutionalization a requirement for continuation grants: The NSF might add language to future RFPs for dissemination grants requiring centers to explain how their activities are being integrated into college infrastructures, activities, and budgets.

Enterprise Solutions: Marketing Products/Services; Winning Grants

The participants discussed the challenges of marketing an ATE center's products and services and winning grants. Given the budget constraints of state governments, securing internal funding through colleges will remain difficult for the foreseeable future. The participants assume that they must find enterprise solutions that produce external revenue to help sustain their ATE activities. The model for this approach is "social entrepreneurship," or "nonprofit enterprise," in which public sector organizations adapt the tools of for-profit businesses to generate some portion of the revenues they need to accomplish their goals.

Information on social entrepreneurship is widely available:

- Dees, J. Gregory. "The Meaning of Social Entrepreneurship," The Center for Social Innovation, Stanford Business School. Available at www.gsb.stanford.edu/csi/SEDefinition
- Austin, James E. (2000) The Collaboration Challenge: How Nonprofits and Businesses Succeed Through Strategic Alliances. New York: Jossey-Bass.
- Dees, J. Gregory (2001) Enterprising Nonprofits: A Toolkit for Social Entrepreneurs. New York: Wiley.
- McNamara, Carter. "Social Entrepreneurship," in the Free Management Library, available at www.managementhelp.org/soc_entr/soc_entr

Plan the business: In 2001 WMU researchers found that two of the ATE centers had produced written business plans. Center directors whose work experience is entirely in academia expressed a need for more support.

- **WMU evaluators recommend that every center develop a six-year plan** (reflecting two NSF funding cycles). The plan should culminate in an "exit strategy" for supporting the center after NSF funding expires. Seven plan items are key:

    1. Vision and goals
    2. Plan for collecting data and using it effectively to assess the quality of products/services/procedures
    3. Strategies for securing external funding
    4. Chart of partnerships and collaborations with written commitments for concrete contributions such as in-kind services and funds
    5. Depth chart detailing how the center would respond to contingencies such as loss of a PI, key industry partner, or college support

6. Strategies for institutionalizing the ATE activities within the host college
7. Promotion and marketing plan for winning awareness of the center and sales/adoption of its products and services (WMU, 145)

- **Affordable support for business planning is a barrier.**
  - WMU evaluators suggested that the NSF might encourage centers to include funding for business consulting services in their grant proposals (WMU, 144)
  - Business and industry members of a center's advisory board can assist with business planning. MATEC's board formed a committee to support the center's planning effort
  - Participants suggested that the NSF fund a consultant-facilitated workshop in which center directors would develop a first-draft business plan
  - Participants pointed out that MBA students from local universities can provide affordable help, and university colleges of business often offer pro bono consulting services. Other resources are also readily available:
    - Stanford Graduate School of Business supports the Alumni Consulting Team (ACT) project. Volunteers, all of whom are Stanford MBA alumni, offer free consulting to Bay Area nonprofits (www.gsb.stanford.edu)
    - The Yale School of Management-Goldman Sachs Foundation Partnership on Nonprofit Ventures offers a deep Website, business planning assistance, and access to investors. Its National Business Plan Competition, started in May 2002, invites nonprofit groups to compete for up to $100,000 in venture funding and hundreds of hours of expert guidance. (www.ventures.yale.edu) To be eligible for the competition, organizations must have established 501(c)(3) status
    - Duke University's Fuqua School of Business sponsors the Center for the Advancement of Social Entrepreneurship (CASE). Launched in 2002, CASE offers an expanding menu of resources and services (www.fuqua.duke.edu/case)
    - Harvard University sponsors the Hauser Center for Nonprofit Organizations (www.ksg.harvard.edu/hauser), offering research and resources on the nonprofit sector. Harvard Business School houses the Initiative on Social Enterprise (www.hbs.edu/socialenterprise)
    - Knowledge@Wharton is a deep, wide-ranging site with access to information on every aspect of business planning and execution (www.knowledge.wharton.upenn.edu)

- Community Wealth Ventures, Inc. (CWV), is a consulting firm that helps nonprofits generate revenues through business ventures and corporate partnerships (www.communitywealth.com) CWV was founded in 1997 as a for-profit subsidiary of Share Our Strength, one of the nation's leading anti-hunger and anti-poverty organizations. Since its founding in 1984, Share Our Strength has raised more than $100 million through publications, community wealth enterprises, licensing, sponsorship agreements and cause-related partnerships with corporations such as American Express, Barnes & Noble, Calphalon Cookware, Tyson Foods, and Evian
- The Leader to Leader Institute (formerly the Drucker Foundation) is an invaluable source of resources for innovative nonprofit organizations (www.pfdf.org)
- Independent Sector is an association of the nation's major nonprofit organizations and foundations. See the "Mission and Marketing" page for a primer on win-win partnerships with business and industry (www.independentsector.org/mission_market)

- Participants encouraged centers to share their business plans

Consider pooling resources to hire a business consultant with public sector specialty: Any single ATE center would find it difficult to afford the services of a premier business consulting firm. One participant suggested that the centers explore jointly hiring a consultant to strategize an effective market position for the centers. The central challenges of the centers are similar enough to be addressed through a common strategy, with tactics detailed for each center's particular goals.

- A leading candidate for the consultancy would be McKinsey & Company's Nonprofit Practice. In 2002 the firm advised more than 200 public sector, nonprofit, and philanthropic organizations (www.mckinsey.com/practices/Nonprofit)

Collect data and use it persuasively: WMU evaluators found that while more than 80 percent of centers employ an external evaluator, "only modest data collection for evaluative and accountability purposes is undertaken." (WMU, 137) It is difficult to track students as they drop in and out of community colleges and even more difficult to track their performance in the workplace. Showing that an ATE program results in better-prepared employees is the most difficult task of all.

Showing results is critical for the ATE centers to satisfy industry partners and for the NSF to justify the ATE program to Congress. Under the Government

Performance and Results Act, federal agencies will be required in future years to show that the programs they administer achieve long-term effects.

- Participants did not discuss this issue in detail. It may be worthwhile for NSF to convene a meeting that helps center directors make rapid improvements in assessment, evaluation, and use of data—perhaps as a supplemental activity of the WMU evaluation grant

Consider coordinating legislative and industry outreach: Participants suggested that the centers might coordinate an approach to Congressional representatives to discuss legislation authorizing tax credits for corporations that contribute funds/in-kind support to ATE centers.

- Participants also suggested the NSF help the centers raise their profiles with industry. One participant recommended that NSF sponsor a Washington, D.C, conference of industry workforce development experts and ATE center directors to exchange information and develop strategies

Examples of ATE center enterprise ventures: Each participant described a "best practice" revenue-generating project. (See Appendix.) The projects fell into several categories:

- **Professional development:** The centers' proficiency in developing and delivering workshops and seminars for faculty can be leveraged:
    - The National Center for Telecom Technologies (NCTT) sponsors a faculty workshop in league with the University of Massachusetts (UMASS) Boston School of Education and the Massachusetts Telecommunication Council
        —High school, community college, and four-year faculty
        —Option of three UMASS graduate credit hours
        —NCTT provides content and multimedia derived from existing NCTT materials
        —NCTT realizes workshop fee and opportunity to direct-market other products to attendees
        —UMASS Boston realizes tuition fee
    - The Kentucky Information Technology Center (KIT) worked with Kentucky's Department of Education and Department for Technical Education to provide Cisco network training for teachers in 50 new Cisco centers
        —KIT receives funding for workshops
        —KIT established a collaboration with state agencies that promises future grant opportunities
        —KIT gained a marketing opportunity with client teachers for the center's professional development services

- MATEC offers a one-day workshop to introduce faculty to instructional design principles and multimedia skills needed to develop modular instruction
    - —Leverages MATEC's existing development instruments (templates, guidelines, etc.) and systems
    - —With minor customization, the materials and workshop format can be reused, minimizing the cost of delivery
    - —Participant fees cover personnel and materials costs and yield a margin on each workshop

- **Products:** Centers can leverage their experience in instructional design and development to create new products:

    - Tennessee's Center for Information Technology (CITE) developed Corporate Scholars Solutions, a program that incorporates problem-based case studies into IT courses. Business partners propose the case studies. CITE develops the studies into complex projects facilitated by instructors and worked by student teams
        - —Project adds value to CITE's business membership proposition, because prospective employees gain valuable problem-solving skill and contextual learning

    - ChemTechLinks of the American Chemical Society (ACS) developed a 48-page self-study guide for new and part-time college faculty. *A Guide to Classroom Instruction for Adjunct Faculty* supports instructors who may be subject matter experts but have little teaching experience
        - —In nine months ACS has sold 2,500 copies for $25,000

    - The Marine Advanced Technology Education Center (MATE) is publishing the textbook *Introduction to Underwater Technology and Vehicle Design*
        - —No text was available for the center's signature course
        - —Working through commercial publisher and freelance authors, relying for subject matter expertise on faculty encountered in MATE workshops
        - —Cost of writing and printing covered in NSF initial funding
        - —Cover price is $69.95

    - MATEC has developed a game engine called Questor™
        - —Leverages work done in module development under originating NSF grant
        - —Popular appeal to large potential market of instructors (preK–20 education) and industry trainers
        - —Offered free to MATEC community college partners

—For others, one-time fee of $49.99 buys unlimited use of the game engine

- **Services:** Centers can develop a variety of services for colleges and industry:

    - Bio-Link has established an online equipment registry for laboratory and process equipment that companies donate for college use
        —Industry partner Genentech donated $50,000 to create the registry
        —Donated equipment can be listed as "match" in grant proposals

    - The New Jersey Center for Advanced Technological Education (NJCATE) has established a mentoring service for colleges that implement the center's curriculum
        —College of DuPage and San Diego City College are adopters. Both colleges receive funding from industry and other non-NSF sources

    - The National Resource Center for Engineering Technology (SCATE) has created a scholarship consortium funded by industry.
        —A $500 fee gains entry for a business to the consortium
        —Member industries also provide paid internships for the scholarship students
        —College advertises the industry scholarships and intern positions to recruit students
        —Program is industry-financed and almost self-supporting
        —Program has strengthened SCATE's connections with industry

An example of strategic grantwriting: Although the participants did not discuss grantseeking strategies at length, the Midwest Center for Information Technology described an energetic grants program that has produced 13 proposals, with eight pending and four funded to date. The center has secured nearly $5 million through the following non-NSF grant programs:

- Educational Opportunity Center (U. S. Department of Education): Center won $200,000 per year for five years
    - One of eight TRIO programs administered by the Office of Postsecondary Education. Provides for outreach to adult students seeking postsecondary schooling
    - RFPs issued every four years. Next competition: Summer or Fall 2005 for FY2006 award

- Community Technology Center (U. S. Department of Education): One-time award of $300,000
    - Administered by Office of Vocational and Adult Education
    - Creates or expand community technology centers. Targets disadvantaged populations; labs provide access to information technology and related training. The FY 2003 focus is on providing high school students with supplemental academic instruction in math and reading
    - Next competition: Summer 2003

- Midwest Training and Employment Coalition (U. S. Department of Labor): $3 million over two years

- Technology Opportunities Program (U. S. Department of Commerce): $675,000 over three years
    - The program funds projects that bring IT services to underserved populations
    - Next competition: April 23, 2003

An example of broad strategy realignment: ATEEC restructured as an independent 501(c)(3)

- Allows for tax-deductible donations from corporations and individuals plus tax credits for industry donations of in-kind services, including loaned executives
- Makes for a more powerful funding appeal that highlights the recipients of services, rather than the center itself
- Allows for estate gifts to legacy fund
- Allows ATEEC to receive donations through the Supplemental Environmental Program (polluter fees go to environmental organizations)

An example of facility rental: The Space Technology Education Center (SpaceTEC) permits use of underused classroom space at Brevard Community College by an industry partner in return for $20,000 donation

- Funds are unrestricted
- Strengthens rationale for full facility use
- Maintains the industry partnership

Barriers to Sustaining ATE Centers

Participants identified a variety of specific barriers they face in sustaining their efforts and suggested possible solutions.

Barriers	*Solutions*
Distance	
• Geographic distance between key players (centers, businesses, colleges)	• Online, teleconference, and in-person meetings
Customers	
• Need pool of clients/applicants from colleges, students, business • We have trouble reading our target audience	• Conduct surveys or do needs assessments • Use focus groups to try out ideas and get feedback from specific sectors
Scope	
• Fragmentation • Perceived value of ATE centers as a model • Determining focus—how broad, how large, realistic limits	
Alignment	
• Need college cooperation • Survey of business and industry • Cooperate, not compete with college in providing training • Center goals are not aligned with institution's strategic focus • Competing priorities and initiatives (noise in the system)	• This is a professional challenge, not an extrinsic issue • Partner in conferences and workshops
Time	
• Overcommitted staff	• Build teams based on strengths

	• Issue is how to manage time better

Lack of Support

• Lack of faculty support • Institution's management does not understand the value of center's outcomes • Difficult to maintain high quality services for a market sector (colleges, educators, and students) that is resource poor • College infrastructure—financial processes, salary structures—can be barrier (e.g., setting up accounts to receive funds or collect sales tax)	

Staffing and Hiring

• Lack of marketing expertise on staff • Lack of business experience on staff • Inability to identify appropriate consultant • Hiring through civil service is limiting • All key players have more than one job (or focus or agenda)	• Bring centers together more often for exchange of best practices

Lack of Long-Term Strategic Commitment

• Strategic discipline difficult to maintain—easily pulled into money-chase game • Unlike companies, centers have multiple goals • Effort of meeting grant commitments makes it difficult to engage in long-term planning, marketing and fundraising • Lack of consistent long-term vision (opportunism vs. enterprising) • Lack of long-term commitment on the part of the college • Business/industry emphasis on short-term ROI	• Establish a "shadow" college department to ease impact of college policies • Clarify the college's ROI from ATE • Address infrastructure issues early in the project center design • Work closer with industry groups, Rotary, Chamber of Commerce, TV—get story out, raise value proposition

Product Life Cycle

• Keeping up with technological changes and demands (short product/project life cycles) • Changing and emerging technology • Economy cycle—peaks and valleys	• Think of short cycles as a business opportunity—create your product to be quick response • Leverage the collective strength of ATE centers, don't try to do it on your own or be everything to everybody

Lack of Business-Specific Model

• Lack of a model or prototype for success in own type of business	• View this as opportunity to define success • Use tools—business plan, strategic plan, marketing plan, etc.

Incentives

• Needs reasons for continuing involvement of faculty—incentives, rewards	• Reward participation with salary scale increases or inclusion of involvement in grant activities within tenure review

Lack of Industry Support

• Lack of large businesses in geographic proximity to center • Lack of key contacts at businesses, employers, in other regions • Engage industry partners that will devote funds, resources, etc. • Industry faculty/student internships	• Programs that solve business needs • Invite professionals to teach in programs • Improve value of internships to businesses by developing business skills earlier in educational experience • Develop more levels of contact and involvement between business and education • Bring industry into the project at the very beginning • NSF should fund an ATE awareness campaign: "Do you know where your employee is coming from?"

Money

• Need more money—at a time when funds are decreasing, expectations are increasing • Uncertain economy • Mechanism and ability to accept and spend donations and memberships • Mechanism to collect sales tax on products	

Image

• Lack of perceived need of ATE centers to lead in specifying marriage between education and training • Business/industry perception of community colleges • Industry recognition of community college training programs • HR departments Convincing those who are naïve about high performance computing that there will soon be a major role for the HPC techs who have two-year degrees	• Link well-established research and industry training models to ATE practices and outcomes • Commit to quickly deliver excellent training and programs • Respond immediately to industry needs • Work with industry to provide internships and scholarships through college—start with one and build up • Independent research to assess industry for the two-year degree niche. If positive, disseminate to HR departments and other two-year colleges

Next Steps

Participants agreed to actions as follows.

NSF and Evaluator Support

Respond to recommendations from centers to NSF (see page 6)	Duncan McBride
Are there ways to tie the evaluation effort to the gaps directors identified in this meeting? Consider posting case studies on the ATE evaluation Website.	Arlen Gullicksen

Further Meetings to Discuss Sustainability

All attendees agreed to commit to joint conferences and exhibits, with meetings occurring as add-ons to larger events. Additionally the NSF ATE website could be better leveraged as it describes center activities and projects. www.ATEcenters.org or www.NSF.gov/ATE	Monica Pfarr, Gordon Snyder, Darrell Abney
Online forum could be facilitated through MATEC's existing Website	Mike Lesiecki

ATE Overview for College Chancellors/Presidents

Meeting to be arranged via NSF and coordinated with AACC annual meeting	Jim Hall

Business Planning

Investigate resources available to centers, including possible workshop.	Mike Lesiecki, Kristine Wilcox, Ellen Kabat Lensch, David McNeel