



Institutional Portfolio

Virginia Tech

**Virginia Polytechnic Institute and State University ADVANCE IT Project:
AdvanceVT**

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Key Elements of the Overall Change Strategy

The proposal and reports offered an explicit theoretical perspective supporting Virginia Tech's approach to the goal of institutional transformation. The documents articulated why diversity is important, gave reasons that explain the unequal status and opportunities for women in STEM fields, and identified what approach ADVANCE leaders believed would rectify the problem. Overall, ADVANCE leaders offered an explicit theory of change that guided their plan and implementation. Key elements of their theoretical perspective and theory of change included the following:

- Virginia Tech's vision was to "create a shared understanding and commitment to the principle that greater diversity is not antithetical to, but rather a necessary part of the pursuit of excellence."
- This initiative addresses gender disparities in STEM, building on the premise that gender hierarchies are central in maintaining unequal status and opportunities for women in science and engineering (S&E) (after Fox, 1998).
- They explicitly distinguished between strategies that focus on the individual to remediate deficits and strategies that address environmental and organizational determinants of the problems women face.
- The focus of the initiative was to "address institutional barriers that have constrained the advancement of women faculty in the sciences and engineering."
- They also asserted that building a critical mass of women faculty will attract more women students and therefore expand the labor force at Virginia Tech and elsewhere.
- Their efforts will change the values and expectations of the next generation of scholars and leaders and therefore affect broader national change.

Relevant Elements in the Institutional Context

- The team acknowledged and built on a base of prior and ongoing work at Virginia Tech that supported the goals of ADVANCE: information from a 1998 campus-wide survey of all faculty, staff, and students which had highlighted problems around recruitment, climate, and numbers of women; leadership support

from the new provost and graduate dean who brought much commitment to the advancement of women and gender equity; new leadership opportunities for women due to restructuring of colleges begun in 2002 and the creation of a new college of science; and recruitment opportunities due to retirements.

- As a technical institute, Virginia Tech's programs are STEM-dominated; as a consequence, the initial percentages of women on the faculty were low.
- Rural location is a factor in limiting professional opportunities for dual-career couples and availability of high-quality child care.
- Virginia Tech experienced severe budget cuts for two years immediately after winning the grant, and again a few years later. This particularly constrained opportunities to hire women.
- Carnegie classification: Public RU/VH, Doctoral/STEM dominant.

Scope of the ADVANCE Initiative

The ADVANCE initiative focused on the Colleges of Engineering and Science, although some programs reached out to the whole campus. The initiative also explicitly focused on faculty of color as well as women.

Program Elements

The program was organized around four elements.

Institutionalizing change

- Retreats and working groups to build awareness among faculty and department leaders included about 250 participants each year. The team also hosted visits by experts, visits to other ADVANCE sites, and review of institutional policies and programs.
- Focus groups and interviews with S&E women faculty provided data for developing training materials.

Empowering women as leaders and scholars

- The overall strategy was to empower women at various career stages by strengthening their capacities as leaders and scholars, helping them develop a sense of agency for change, and encouraging them to convene to reflect on issues.
- Leadership development: Two women per year served half-time in administrative roles. Women were sent to Harvard and Bryn Mawr leadership training and could attend on-campus leadership training.
- The Faculty Success Program offered traditional and peer mentoring and recognized departments that mentor and provide communities of support.
- A lecture series brought visibility to the work of women, seeking to expand campus thinking and increase community by bringing role models to campus of successful women scholars.
- Funds supported flexible work/life needs in women's lives, including grants at key points in women's personal lives and grants for graduate students with personal needs.

Increasing the representation of women and building a critical mass

- Work with search committees to develop their skills in recruiting women emphasized that searches need to be systematic, personal, and done over the long-term. Thus, the team emphasized incentives (course release, summer pay) for faculty members involved in aggressive searches; conference attendance for

minority-serving doctoral programs; visits to other campuses to attract graduate students early on to Virginia Tech for possible employment; and hosting potential faculty prior to degree completion.

- Web tools and a manual for search committees were developed.

Advancing women into faculty careers

- Programs to prepare the future professoriate were initiated.
- A dissertation year/postdoctoral fellowship program for academic diversity was expanded, as was a research/mentoring program for advanced doctoral students in underrepresented groups. The graduate school provided two assistantships and a tuition waiver for women doctoral students in underrepresented STEM disciplines.
- Visiting Scholars met with graduate student Fellows to discuss careers in STEM.

Outcomes

- Results were mixed as to net impact. Budget cuts meant reductions in faculty overall, but the project saw an increase in the number of tenured or tenure-track women in the College of Engineering from 9.4% in 2005 to 13.7% in 2009. In the College of Science, the percentage of women remained the same. There remains a scarcity of women at the senior ranks in the institution.
- Climate measures did not change much; climate surveys showed little change in faculty perceptions of climate from 2005 to 2008. Women and underrepresented minority faculty continued to rate climate significantly lower than did men on many scales.
- Institutionalization of ADVANCE initiatives was excellent. The provost now gives bridge funding for dual career assistance. Base budgets are in place for initiatives to attract faculty from underrepresented groups. The Colleges of Engineering and Science underwrite funding for a college liaison to support faculty doing searches and mentoring for women. Central funds up to \$10,000 per year per department are available when needed for workload reassignment for modified duties. The provost's office provides funds for a graduate assistant to develop programs for STEM graduate students.

Research Team Observations

- Project efforts were synergistic. There was a reason for everything the team did, and they worked hard to make connections and find synergies with units, people, and programs across campus.
- The AdvanceVT initiative was able to build on explicit institutional efforts already underway to address diversity and equity prior to the ADVANCE grant.
- A stable and supportive institutional leadership team was in place throughout the project.
- Attention was given to institutionalization from the start. By the end of the grant, institutional funding was in place for many initiatives.

Project Team Observations

As of 2014, our work/life policies (tenure clock extension, modified duties, and support for dual career hiring) are fully institutionalized with funding from the central administration and widely used across the university. We continue to track the impact of the policies on the career progress of individuals who use them and to educate leaders, particularly department heads, on how to use the policies most effectively. Our college liaison program has expanded to all eight academic colleges with support from the respective deans. College liaisons meet with all faculty candidates during their onsite interviews to discuss the work/life policies and

other aspects of campus climate. We continue to hold our annual workshop, Advancing Diversity at Virginia Tech, with an expanded scope that addresses many aspects of diversity and inclusive excellence. Other ongoing programmatic activities include seminars for graduate students preparing for academic careers and lunchtime seminars for women faculty to hear from and interact with local and visiting campus leaders. We use data from our participation in the national COACHE survey to continue to bring attention to climate and equity issues on campus.

Reference Cited

Fox, M.F. (1998). Women in science and engineering: Theory, practice, and policy in programs. *Signs: Journal of Women in Culture and Society*, 24(1), 201-223.

For Further Reading

AdvanceVT maintains a website with current activities. The Archives section includes records of work completed under NSF funding. <http://www.advance.vt.edu/>

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