

through the ADVANCE program alone toward funding gender-equity change initiatives. Private foundations, such as Sloan and Elsevier, provided partnerships and incentives to leaders undertaking institutional transformation. The European Commission takes institutional transformation around gender equity so seriously that its Horizon 2020 program has an expert group on gender to help promote research and innovation. Universities, however, must feel an intrinsic desire to transform, and many changes should be made even without funding. Ultimately, universities must make their own investments to ensure that activities lead to sustained institutional change.

Focus at the department level. Many barriers to cultural change are embedded in institutional practices [e.g., recruiting and promotion and tenure (P&T)] and manifested at the academic-unit level. Thus, efforts to address departmental climate and social interactions are critical (13). A helpful, fair, inclusive department where faculty speak daily with colleagues about research prospects and interests increases their likelihood of having clear perceptions of P&T

“Changes that bring about inclusion for one group...can have far-reaching benefits for everyone.”

evaluation (7). Departmental interventions to promote inclusive decision-making and effective communication improve key aspects of climate critical to women’s success (13). Intervening with department-level faculty search committees in ways that meet their basic psychological needs of competence, relatedness, and autonomy resulted in changes to search processes and outcomes (6). There are many other inputs into department-level climate to target, including teaching and committee assignments, conflict management, mentoring and networking activities, and so on (see www.colorado.edu/eer/research/strategic.html).

Collect and publicly share data. As institutional changes occur, development of a new narrative about the success of institutional change engages people to attempt more change. Construct and maintain “change narratives” as a way to initiate and sustain the change momentum and focus on gender equity (14).

Public discussions of where an institution is, where it wants to be, and how to get there means taking a hard look at data. Systematically collecting and actively sharing data about the change process creates necessary

visibility for assessing short- and long-term impacts of initiatives (15) that can bring the university community on board. Beyond the Integrated Postsecondary Education Data System (IPEDS) data sets available through the U.S. National Center for Education Statistics, many NSF ADVANCE institutions have developed publicly available data sets on faculty diversity that are lacking at other universities. Dedicated institutional research staff can be accountable for collecting, analyzing, exhibiting, and engaging stakeholders with equity data.

When funders require data as an award condition, universities usually comply. Funding agencies could require data on gender and racial equity as part of proposal submissions. Some professional associations work successfully with the university community to collect data on diversity, like the Computing Research Association and the Collaborative on Academic Careers in Higher Education (COACHE) at Harvard. Partnerships help to promote visibility and institutional change. What it takes is devoting resources—time, effort, and accountability—to oversee data collection and public sharing.

Policy change is critical. A move toward all-inclusive multiculturalism requires using inclusive language in all communication and work policies (16) and is associated with positive changes in the work climate. One area in which policy change has occurred is work-life support. For example, changing the stop-the-tenure-clock policy to be “opt-out” instead of “opt-in” increases use of the tenure extension and reduces the burden and stigma of having to ask for an accommodation (10).

Work-life policies are essential in recruiting, retaining, and advancing high-quality faculty (10) so long as there is not a “flexibility stigma” in which people are subtly or blatantly penalized for using work-life friendly policies (16). Such policies provide flexibility to balance work and life obligations and to ensure career progress for all faculty, regardless of sex, marital status, sexual orientation, race and/or ethnicity, or academic discipline (10). After showing success with simpler policy changes—such as work-life support—change agents must turn to policies that target a system filled with gender-biased and racialized barriers to inclusion.

Status quo P&T policies might be the single greatest hurdle to change. Although the professoriate has changed dramatically over the past 20 years, many embedded values and expectations for what counts and the timeline for when things count toward advancement have remained fairly static. P&T policies are often inflexible and largely reduced to an exercise of counting publications, external funding, and impact factors. This reductionist evaluation can hurt women faculty, who

are often drawn to collaborative teams and interdisciplinary research (17). Although such team-based science is increasingly necessary for innovative success, the P&T process is more likely to reward sole authorships published in mainstream journals funded by primary investigator-led grants. Women’s contributions to team science are disproportionately discounted (18), and team science projects may take longer and be published in less traditional outlets. What is good for science is for faculty and professional societies to work together to consider how P&T policies could be changed to acknowledge and reward various pathways to success.

Innovation and global competitiveness are compromised by excluding women and minorities from the professoriate (19). True transformational change means changing what it means to be an academic and who belongs in the academy. The barriers and those cultures, practices, and structures that require transformation are well researched as are remedies. Now it’s time to act.

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