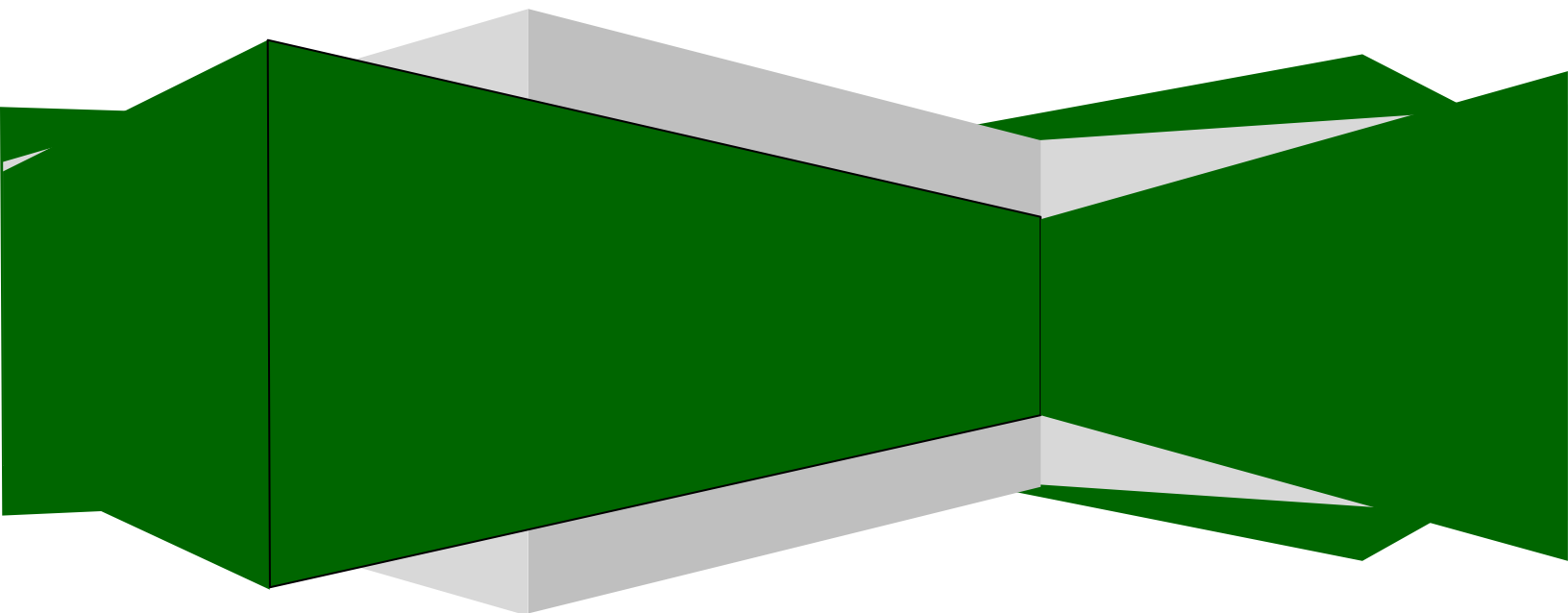


The Research Foundation of SUNY for and on behalf of
the State University of New York, College at Oswego

***Recruiting, Retaining and
Promoting Women in STEM Fields:
Preparing for an Institutional
Transformation Grant***
Analysis of Four Faculty Focus Groups
Executive Summary

Sharon W. Alestalo

November 26, 2012



Introduction

At the State University of New York, College at Oswego (Oswego), women comprised 25.5% of the science, technology, engineering and math (STEM) faculty and the social behavioral and economic sciences (SBE) faculty in 2007. This level of under representation of female faculty within STEM faculty and some SBE fields is not atypical of many colleges; it remains a national and individual campus concern that impacts innovation and institutional competitiveness. The goals of full participation in an inclusive environment, improved departmental climates for women faculty and increased recruitment cannot be achieved without a thorough needs assessment that reveals a deep understanding of the issues at hand. Proactively, a team of faculty wrote and received a 2010 National Science Foundation ADVANCE Catalyst grant titled ***Recruiting, Retaining, and Promoting Women in STEM Fields: Preparing for an Institutional Transformation Grant***. To fulfill the mission of this grant, the team commissioned four initial focus groups as part of the needs assessment; the results are summarized here.

The focus groups were conducted in April of 2012 with small cohorts of faculty. The targeted topics for the focus groups included service, advancement, and impact of gender/race/ability status on assessment of performance. The protocol for the focus groups was designed based on the assessment data derived from the Chronicle of Higher Education survey on job satisfaction and the policy/procedure analysis with the help of a consultant, Sharon Alestalo. The questions and procedures were vetted through Oswego's Office of Research & Sponsored Programs (ORSP) with all confidentiality protocols observed. It was decided that the make-up of three of the groups would be coed and each focused on a different rank (junior faculty senior faculty, and current and former chairs) and one group was dedicated to women-only, mostly junior faculty. Invitations were sent to 31 (out of the 129) STEM and SBE faculty identified as representative of the 13 STEM and SBE academic departments. The 13 STEM and SBE departments included anthropology, biological sciences, chemistry, computer science, earth science, economics, mathematics, physics, political science, psychology, sociology, technology education and vocational teacher preparation. The groups were digitally recorded and transcribed verbatim. All identifiers were removed prior to analysis. The combined gender analysis was conducted in four stages until data was organized sufficiently to allow for the identification of key findings. This analysis method is consistent with Miles and Huberman (1994) methodology. The results are the findings inductively derived from conversations with this select portion of STEM and SBE faculty.

Findings

Fairness and social justice perspectives were strong motivators for both women and men faculty members at Oswego. As one male faculty member said, *I (want to) work in a place that's fair, 'cause if it's unfair to others, it could easily be unfair to all of us in other ways.*" Additional motivators included feeling appreciated, meaningful work that attains results, and supportive relationships with colleagues, chairs and administration. There is consensus that diversity of faculty is what is best for students.

It is critical that senior administrators and senior academic leaders be deeply committed, proactive and visible in addressing needs and facilitating change. The NSF ADVANCE projects are intended to transform a campus culture into one that is inclusive. This is done through developing and amending policies and procedures that create a positive and equitable culture in a higher

education institution and through specific targeted program interventions. The result is full participation and correspondence in outcomes in science and engineering fields by faculty of diverse backgrounds. Administrators will need to weave these goals into the vision and guiding values of the institution such that leadership routinely communicates the importance of the overall project to the campus, provides additional resources, and creates changes in policy and infrastructure. Most importantly, sustainability and retention of programs found to be critical will most likely happen when senior administration and faculty are heavily involved. Letters of Commitment from those identified as senior administrators and academic leaders should detail their financial and other support and accompany the proposal. These leaders need to hold each other responsible and build accountability into routine processes. To pursue this endeavor is to pursue genuine, bone deep change for the campus.

The lack of clearly defined institutional family policies creates difficulty for both faculty and academic leaders. It is a top priority as it is an unnecessary and considerable risk for intended and unintended discriminatory practices and for attrition of faculty. These are policies related to maternity, parental and family leave, tenure clock considerations, and child care. It is important to note that former and current chairs were the most vocal about the need to seriously address family policies issues. Their motivation is driven by the consequences of not having adequate and fair policies and resources available to them. They are motivated by concerns for retention and addressing departmental obligations

Department support and culture are of critical importance to women faculty and new faculty of both genders. Many of the women faculty felt that the department climates were not conducive to their success. Women faculty feel silenced and disadvantaged; and some male faculty agree. It was felt that mentoring and professional development opportunities were highly dependent on the goodwill and skill of colleagues and chairs. There is concern among both women and male faculty that research is under-resourced and the high level of service is burdensome. In some departments there is unequal distribution of responsibilities. Improvement is needed in the areas of communication and transparency in decision making. Awareness training for all faculty is essential to begin the process of understanding and modifying how gender schemas create small incidents of bias that build up to more comprehensive feelings of exclusion.

Hiring criteria are broadly determined by the department but are often open to individual interpretation and opinion or limited by benchmarks that do not challenge the status quo. Faculty members frequently fall back on the mantra of “hiring the best candidate.” However without a clear discussion defining “best” based on a mission that embraces inclusion subsequent strategic plans of the department, best becomes who looks like me and allows for bias to influence the decision making process.

Establishing equitable criteria, procedures and training that remove explicit and implicit bias from the recruitment process is important. Recruitment and search committee training is needed to increase understanding of how to reduce bias in the recruitment process and to increase the diversity of the applicant pool.

Dual-career couples are becoming more and more prevalent in the recruitment process and in retention. In 2008 the Clayman institute report documented that 83% of women scientists are partnered with other scientists compared to only 54% of the men scientists. The issues of dual-career hiring will gain momentum as Oswego focuses on increasing the number of women faculty. There needs to be a concerted effort to develop policies, procedures and resources to address this issue. Chairs and search committees would find this effort particularly helpful.

The culture around advancement needs to be carefully considered and addressed as it appears that the system is fostering ambivalence towards professional attainment especially among women faculty. Both male and female faculty felt that there was a lack of clarity and transparency in the standards for advancement. Policies and procedures related to tenure, promotion, salary increments and scholarship (grant writing, research and publishing) are unclear and difficult to find. The benefits are also unclear. This cloudy and potentially risky environment for advancement will contribute to poor retention of faculty as it already has.

Promotion criteria modeled after R1 standards may be inappropriate for a teaching college. It may be beneficial as a college to explore what promotion criteria are most critical in a teaching college versus a research university. If teaching and services are the primary, highly-valued job duties and there are no consistent supports for research (resources, facilities, start-up packages, grant support, workload reduction) it is challenging to meet research expectations and a R1 level publishing record standards.

Male faculty have a critical role to play and need to be a vital part of planning and transformation processes. Male faculty who attended the focus groups were motivated to participate in this and future initiatives to promote inclusion by a sense of fair play, discipline acknowledgement of the problem of underrepresentation, experiences as academic leaders that brought them face-to-face with the limits of existing Oswego family policies and the desire to enhance their students educational experience. However, many of the male faculty lack depth in their understanding of the experiences and needs of women faculty. In order to affect wide spread and lasting transformation, it is essential that male faculty become more aware of the issues to be addressed, the strategies that are most effective in creating inclusive environments and the benefits to the faculty as a whole and the student body for engaging in transformation efforts.

More extensive faculty development program focused on new faculty needs, advancement and leadership training was seen as important need. Many women faculty expressed discomfort with the DSI and promotion systems because they are uncomfortable with self-promotion. In this case women faculty in particular may benefit from training on assertive communication, negotiation and self-promotion.

Equality and inclusion need to be addressed based on both gender and race. Faculty commented that they are aware that some students evaluate faculty of color or faculty with accents more harshly than other faculty. Most indicated a need to address this critical issue on a campus wide basis. A second set of focus groups with faculty of color and international faculty were implemented in November and should shed further light.

The roles of adjuncts, part-time faculty, instructors and lecturers are heavily populated by women and would benefit from being included as a part of the project. Regarding these positions, some faculty felt that women are being relegated to lower status positions and/or because of family responsibilities they “choose” these types of positions. However, maybe these positions, especially given the lack of family policies, are their only choice. Also, a pertinent question in this regard would be: is there a way for qualified women to move into the tenure track or are they forever stuck in the “ghetto,” as some would say?

Other Campus Strategies and Recommended Activities

Team Development: Champions and Change Agents: The individuals chosen to be among the leaders of this project must be informed about the factors responsible for the underrepresentation of women, have steadfast commitment to change, be embedded in multiple levels of the campus, and be passionate about the project. They must be champions. These key representatives must also have the dual qualities of being leaders and managers. They must inspire people across campus and make sure the work gets done. They must also be willing to spend their social capital or influence or favors to recruit and equip allies and change agents across campus; women and men. At least one of these leaders must be placed sufficiently high in the organization to be able to enact change at the campus level. Practically, the project team also needs to be coed and interdisciplinary for greater buy in. The team would also benefit immensely from the inclusion of social scientists or organizational change specialists who can bring to the table research-based knowledge and evidence-based best practices. NSF now requires that a research project specific to your proposal. Per the current RFP “IT projects must include a supplementary 5-page research study designed to investigate theory-driven models and innovations related to the participation and advancement of women in the academic STEM disciplines. It is expected that the research study will contribute to the knowledge base informing academic institutional transformation or other relevant areas of academic investigation. Research that investigates novel aspects of the proposal is especially encouraged.”

Tracking and Analysis of Key Indicators: Not only is it required to track and analyze key indicators it is essential for helping the campus to understand and take responsibility for changing the factors contributing to the underrepresentation of women, women of color and women with disabilities. A taskforce should be formed to address this aspect of the work. The taskforce should be well versed in statistical analysis and should be both women and men faculty who are highly creditable and known for their objectivity and analytical skills. It also needs to have representatives from human resources and institutional research departments as they often hold the data sets required to complete the key indicator analysis required by NSF. This group needs staff support to gather and work the data. In addition, this taskforce needs to have as its goal the strengthening of the infrastructure for continuous monitoring of transformation outcomes for years to come. Finally, as information becomes available there should be a dissemination plan for the campus to help increase understanding of the issues and improve transparency of data on diversity, equity and inclusion.

Progression through the Ranks/Professional Attainment and Agility: Based on the focus group particular attention needs to be paid to understanding why faculty, male and female, fail to progress through the ranks. What is the anticipated pace for moving from start to tenure to rank of associate professor to rank of professor? Are women being stalled at a particular rank as the focus group information seems to suggest? What are the benefits for moving in rank? As one faculty member put it, *“What inequality we do have, which I think about corresponds to the whole school, is... the rank distribution... is not very equitable. Because it’s not just the tenure criteria, but also promotion criteria.”*

Benchmarking: If you look at broad data, some of Oswego’s STEM and SBE departments are doing quite well in terms of the number of women. Some departments, due to accreditation, are more conscious of racial diversity than others. What benchmarks will be used to determine need is a critical question for Oswego – is it correspondence to the pipeline of women graduating with doctorates or correspondence to New York State demographics? What comparison institutions will you look at – in-state public colleges or a mix of public colleges from across the nation based on size or other characteristics. Are the recent economic downturns affecting the campus the cause for women clustering in the junior ranks or are there other reasons that interfere with retention?

Improved Transparency and Access to Policies, Practices and Informal Knowledge about Position Responsibilities, Advancement and Resources: A part of any proposal to make changes Oswego needs to address the issue of access to knowledge essential for success of individual faculty. Clarity of policies and standards must be a key focus in this effort. With each department operating independently, it may be helpful to establish what the overall campus standards are and detail a checklist of what to include in by-laws addressing tenure and promotion, evaluation and service expectations at the department level. A neutral, confidential and centralized online resource directory for new faculty and faculty seeking promotion may also be helpful.

Central Unifying Concept: It is critical that the team formulate a central conceptual framework for the project that unifies the outcomes and programs. NSF reviewers look for this in evaluating the proposal. In addition, this central framework will help identify and focus the social science research aspect of the proposal. A review of past NSF awardees may be helpful in formulating a conceptual framework for Oswego. The NSF RFP states: “Proposals should demonstrate the connection between the conceptual framework, the issues identified through analysis of institutional data, and the proposed plan (including the allocation of resources) so that reviewers will be able to understand what specific issues will be addressed over the course of the project, the assumptions about why those issues exist, and the ways in which the proposed interventions will address those issues.”

Some Strategies and Program Activities

A. Institution and Departments

1. Development of or improvement in existing family policies following a benchmark study of family policies within the SUNY system
2. Improved policies and procedures around recruitment and advancement.
3. Improved transparency, communication and access to policies and resources regarding recruitment and advancement.
4. Clear vocal and written commitment to equity and inclusion with corresponding fiscal and structural commitment.

B. Leadership and Chair Training

1. Inclusive leadership
2. Mission based planning and recruitment
3. Effective and inclusive recruitment
4. Diversity planning
5. Effective departmental cultures and climates
6. Tenure and promotion guidance/Mentoring and Support Groups
7. Improved knowledge of campus policies, practices and resources especially related to research, grants and family policies.

C. General Faculty Development

1. Awareness training around implicit bias and the challenges that women faculty face at Oswego and in the academy in general.
2. First three years faculty development program for junior faculty
3. Mid- year faculty orientation program in addition to the annual fall program
4. Rationale and strategies for teaching excellence
5. Helping students to value equity, diversity and inclusion and diminish intolerance

D. Equipping Male Faculty as allies and advocates

1. Increase awareness about the issues faced by women colleagues
2. Increase understanding of implicit bias (institutional, departmental and individual) and methods for making change
3. Tools to counter discrimination and intolerance
4. Establish funding for these initiatives (if still excluded from NSF budgets for Institutional Transformation)

E. Equipping Women Faculty

1. Tenure and promotion guidance and support
2. Planning for key career evaluation points
3. Strategies for grants and other research resources and publishing

4. Research and Publishing— supervising a research group or lab, how to determine incremental steps and priorities in your research, avoiding pitfalls, interdisciplinary teams, networking and development of research/publication collaborations, etc.
5. Negotiation strategies especially in terms of workload, resources and salary increments.
6. Self-promotion and advocacy
7. How to find and use mentors and developing a developmental network of mentors
8. Building your reputation outside the department and college
9. Targeted individual or small group support for developing review portfolios and tenure/promotion dossiers.

References:

- Block, C.J., Koch, S.M., Liberman, B.E., Merriweather, T.J and Roberson, L. (2011). Contending with stereotype threat at work: A model of long-term responses. *The Counseling Psychologist* 39(4): 570–600.
- Castilla, E.J. and Benard, S. (2010). The paradox of meritocracy in organizations. *Administrative Science Quarterly*, 55:543-576.
- Goulden, M., Frasch, K. and Mason, M., “Staying Competitive: Patching America’s Leaky Pipeline in the Sciences.” (Berkeley, CA: The University of California, Berkeley, Berkeley Center on Health, Economics & Family Security and the Center for American Progress, November 2009).
- Miles, M.B. and M. Huberman. 1994. *Qualitative data analysis: An expanded sourcebook* (2nd Edition). Thousand Oaks, CA: Sage Publications, Inc.
- Moss-Racusin, C.A., Dovidio, J.F., Brescoll, V.L., Graham, M.J. and Handelsman, J. (2012). Science faculty’s subtle gender biases favor male students. *Proceedings of the National Academy of Science. PNAS 2012 ; published ahead of print September 17, 2012, doi:10.1073/pnas.1211286109* . Retrieved September 19, 2012.
- National Research Council, “Gender Differences at Critical Transitions in the Careers of Science, Engineering, and Mathematics Faculty” (Washington, D.C.: National Academies Press, 2009).
- Prime, J. & C. A., Moss-Racusin. 2009. *Engaging men in gender initiatives: What change agents need to know*. New York, NY: Catalyst.
- Prime, J., C.A. Moss-Racusin & H. Foust-Cummings. 2009. *Engaging men in gender initiatives: Stacking the deck for success*. New York, NY: Catalyst.
- Schiebinger, L., Henderson, H.D, and Gilmartin, S.K. (2008). *Dual-Career academic couples: What universities need to know*. Stanford, CA:The Michelle R. Clayman Institute for Gender Research/Stanford University Retrieved on August 8, 2012 from <http://www.stanford.edu/group/gender/Publications/index.html>.
- Valian, V. 1998. *Why so slow? The advancement of women*. Cambridge, MA: M.I.T. Press.