

## **AC 2009-1547: USING MENTORING AS A CATALYST FOR CHANGE**

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# Using Mentoring as a Catalyst for Change

## Abstract

How do you engage female faculty that are overworked, underpaid, and feeling isolated within their department? Such are the challenges faced by the ADVANCE grant at this four-year institution. With a five-year Institutional Transformation award from the National Science Foundation (NSF), the ADVANCE project is attempting to change the culture of the campus in order to increase the number of women faculty in STEM and to help further the careers of those already on campus. Mentoring Circles have been created to allow networking among a small group of women and reduce the burden on any individual of implementing such a program.

## Introduction

Mentoring programs have been implemented to improve the retention and increase the success of faculty at many universities, especially for women in the male-dominated fields of science and engineering.<sup>1, 2, 3, 4</sup> A number of different models have been used for the mentoring programs including the traditional dyadic relationship of a mentor and protégé, referred to as the *grooming mentoring model*, a less-structured, non-hierarchical *networking mentoring model*, or a combination of some of the elements in both of these models.<sup>5, 6, 7</sup> Some mentoring programs are based on a network of peers that is either formally constructed<sup>8, 9</sup> or that creates itself<sup>10</sup>. The benefits to participants in a mentoring program can be career-enhancing and/or psychosocial.<sup>4</sup>

## Background

California State Polytechnic University, Pomona (Cal Poly Pomona) is primarily an undergraduate institution with masters degrees offered in some programs. Faculty carry a heavy teaching load with engineering faculty often teaching two lectures and three labs every quarter. In addition, they are expected to give service to the university and to be involved in scholarship or other professional activities. As a result of all of these demands on faculty time, it is difficult to get faculty to participate in extra programs, such as mentoring.

In the fall of 2006, Cal Poly Pomona was awarded an NSF ADVANCE Institutional Transformation grant to increase the representation and advancement of women faculty in the science, technology, engineering and mathematics (STEM) fields. Activities at this institution are organized around four key areas: 1) Institutional Development/Sustainability, 2) Recruitment, 3) Career Development, and 4) Leadership Development.

Women make up 25% of the tenure/tenure-track faculty in the science, technology, engineering and mathematics (STEM) disciplines at Cal Poly Pomona, with some departments still having none or only one female faculty member. With state budget cuts, a campus hiring freeze and cancelled departmental faculty searches, it seemed unlikely that ADVANCE could positively impact the recruitment component of its proposal. Data from the ADVANCE STEM faculty climate survey demonstrated how more senior male faculty members felt nothing was wrong, senior female faculty hardly responded and junior female faculty members felt overwhelmed and underappreciated. Focus group meetings revealed that many women felt disenfranchised and

disillusioned at the culture in their STEM departments. Some women even felt there might be negative backlash from their department if they participated in ADVANCE events. Armed with this feedback, research and data, the ADVANCE leadership team designed and implemented a mentoring program to increase the grant's effectiveness, positively impact STEM department cultures, and provide mentoring opportunities and leadership training for more STEM women.

### Design of the Mentoring Program

The ADVANCE mentoring program incorporates elements of both a grooming mentoring model and a networking mentoring model in a new way that forms both pairs and Mentoring Circles. The initial design of the Mentoring Circles Program was based on feedback from other ADVANCE institutions' experiences. Specifically, the mentoring model from the University of Texas, El Paso, presented by Dr. Posey during the ADVANCE PI meeting in 2008 in Virginia, was especially helpful <sup>11</sup>. It became clear that for any mentoring program to be successful, it had to address the following issues.

1. Scheduling – the most common reason for a mentoring relationship to falter is the inability of the mentor and protégé to meet.
2. Reward and recognition – the time commitment by both the mentor and protégé should be recognized and as activities that contribute to professional development and service to the university. Good mentors should also be rewarded.
3. Multiple mentors – faculty members at all levels should be encouraged to seek out multiple mentors. Mentors in research are often different from mentors in university service or family issues.
4. Training – Mentors and protégés do not necessarily know what good mentoring is.
5. Accountability – How can the effectiveness of mentoring be documented?

The next step in designing the Mentoring Circles Program was to customize the program for Cal Poly Pomona. This process of development involved many resources and relied heavily on the feedback of key senior female STEM faculty members. Previous campus efforts at mentoring programs had been only sporadically successful. They either placed the onus on the mentoring pair to get along and develop a relationship or they structured the program so much that people quickly lost interest. ADVANCE interviewed eight senior female STEM faculty members who have had multiple experiences in both formal and informal mentoring at Cal Poly Pomona. Their feedback and reflections on the above five programmatic issues were collected. This process accomplished three things. The first is a better understanding of the climate for mentoring at Cal Poly Pomona. (Are faculty members seeking mentoring and are they currently receiving mentoring in their departments and colleges?) The second benefit of the interviews was a summary of previous mentoring programs' successes and pitfalls. The third benefit was the buy-in of these senior women; without their full participation the 'Mentoring Circles' could not be successful.

The Mentoring Circles Program created networks across ranks, departments, and colleges. The Mentoring Circle structure would provide support to each individual by pairing them with another faculty member and then two pairs would be joined to make a circle. Each pair would consist of a STEM senior female faculty mentor and a STEM junior female faculty protégé. Then

two pairs, not necessarily from the same college, are grouped together to form the mentoring circle so as to create a circle of support for each other. By creating a circle, the more senior faculty members also have the opportunity to mentor each other. A total of eight circles were created, with three of the circles having a fifth woman participating in the circle; a total of 35 STEM women in the mentoring program. The guidelines of the ADVANCE Mentoring Circle program are that each circle should meet a minimum of once per quarter with ADVANCE hosting the event and, in addition, the ADVANCE leadership team will provide training on mentoring and identify additional opportunities to support the mentoring circles. The Mentoring Pairs can meet as often as the mentor and protégé wish. Participants can mix and match with whom they wish to meet from their circle. The Mentoring Pairs are also strongly encouraged to attend at least one ADVANCE sponsored event. The five programmatic issues were addressed through the following.

1. **Scheduling.** All participants were polled for their weekly availability for mentoring meetings. The primary criterion used for grouping faculty members into pairs and circles was overlapping availability. This was in recognition that at an Undergraduate Institution, teaching schedules, department meetings, and committee meetings often precluded faculty members from finding a common time to meet. Although ADVANCE encouraged email and phone contact, face-to-face meetings were still the most effective in fostering a sense of community and camaraderie.
2. **Reward and recognition.** All participants were awarded a \$250 stipend for travel that furthered their professional career. Other “perks” included a book and quarterly paid lunch meetings for the mentoring circles. ADVANCE is also working with the broader campus community to formally recognize good mentors and to educate individual departments in recognizing mentoring as a form of service to the university.
3. **Multiple mentors.** The mentoring circles and the quarterly all-participant meetings were designed to provide both the mentors and the protégés a chance to connect with other STEM female faculty members.
4. **Training.** During the Kick-Off meeting for the Mentoring Circle program, faculty members were introduced to roles of the mentor and the protégé, phases of mentoring, and qualities that make a good mentor or protégé. An excerpt from the University of Wisconsin’s mentoring handbook<sup>12</sup> was given to all faculty participants.
5. **Accountability.** ADVANCE is tracking the number of times mentoring circles and pairs meet as well as conducting quarterly surveys. A short report from each participant will also be collected at the end of the academic year.

### Summary

The Mentoring Circles, in conjunction with various other ADVANCE initiatives, are set to serve as a catalyst for change on the campus. The Mentoring Circle program, with the opportunity for networking with peers and with multiple mentors, has been better received by the STEM female

faculty than previous attempts at faculty mentoring. The following goals of the Mentoring Circles are straightforward and serve the purpose of advancing STEM women faculty:

- Enhance the professional development of women faculty in STEM fields.
- Assist junior faculty in becoming familiar with university/college culture.
- Retain faculty by enhancing work-life balance.
- Reduce feelings of isolation for women faculty in STEM fields.
- Raise the profile of women faculty in STEM fields.

With the above over-arching goals and a structure design created by the senior STEM female faculty, it is envisioned that the Mentoring Circles is a successful initiative that will help lead the campus in a positive direction towards achieving institutional transformation.

## References

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<sup>11</sup> "Faculty Mentoring Program for Women," University of Texas at El Paso, <<http://dmc.utep.edu/mentoring>>

<sup>12</sup> "ACES Mentoring Network", UW Oshkosh, <<http://www.uwosh.edu/mentoring>>