

# National Center for Women & Information Technology

## PROMISING PRACTICES

### Attempts to Equalize a Subjective Process (Case Study 1)

Admitting Graduate Women with Broad Criteria



Graduate

#### UC SAN DIEGO AND UC BERKELEY EMPLOY BROAD ADMISSIONS CRITERIA IN DIFFERENT WAYS

■ **University of California, San Diego (UCSD)** has one of the top-ranked computer science graduate programs in the United States. It also awards doctoral degrees to a small but above average proportion of women. One important element in their admission of women is consideration of applicants' life experiences. When reviewing applicants' statements and letters of recommendation, the graduate admission committee pays particular attention to evidence of diligence, drive, and determination.

For example, admission was offered to a woman who had attended a liberal arts college where the computer science department was not highly ranked. Like many women, her interest in computer science developed after starting her bachelors program. She took advantage of all available opportunities for taking classes and conducting undergraduate research, but still had less than most students who were admitted. By looking closely at this applicant's circumstances, the committee surmised that she had untapped potential. Their faith in her was eventually validated when the student was awarded a prestigious National Science Foundation fellowship for graduate study.

This example illustrates the importance of considering more than computing background; other life experiences and conditions provide valuable information that can identify women with the capacity to succeed in graduate level computing. Of course, admission is only one element for including women. Beyond valuing life experiences, UCSD employs ongoing efforts that support the students they admit to help ensure they are healthy, happy, and productive, but the first step is getting qualified women as well as men in the door.

■ **University of California, Berkeley** has one of the very top-ranked and largest computer science doctoral programs in the nation. They are prohibited from using diversity as an admission criterion by Proposition 209, but they may consider life circumstances such as socio-economic hardship.



Women in Computing at Hopper (2006)

The EECS graduate program takes a two-stage approach to admissions that results in women enrolled at a rate slightly better than average for their peer institutions. First, the admission committee identifies applicants who qualify based solely on the conventional admissions criteria: the quality of their undergraduate program including grades, recommendation letters, and evidence of research accomplishment and potential. (Nearly 100% of admitted students previously engaged in undergraduate research.) In the second phase, a faculty member and academic staff member advocate with their colleagues for admission of women who passed the quality threshold but are still under consideration with many other applicants.

In this advocacy process, broad criteria such as life experience can play an important role because women often come to graduate study in computer science under different circumstances than the standard applicant. For example, the new women graduate students in Fall 2007 included a former professional dancer. The admissions process took into account life experiences evident in her prior career accomplishments. It also weighed another woman's unusual initiative in overcoming the challenge of few CS courses offered at her very small undergraduate institution. By looking carefully at women and other diversity applicants, considering their life experiences, and engaging in dialogue with colleagues, more diverse students are admitted than would otherwise be the

NCWIT offers practices for increasing and benefiting from gender diversity in IT at the K-12, undergraduate, graduate, and career levels.

*This case study describes a research-inspired practice that may need further evaluation. Try it, and let us know your results.*

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## PROMISING PRACTICES

### How Do Admissions Criteria Affect Women's Representation in Graduate Computing? with Case Study 1



#### Graduate

Leading practitioners recommend using “broad admission criteria” to increase women’s representation in computer science and computer engineering (CSE) graduate programs. Their experience confirms research findings that show broad criteria like applicants’ life experiences and membership in an underrepresented group result in more women admitted without lowering standards. For example, a nationwide study of CSE graduate programs conducted by NCWIT social scientist, J. McGrath Cohoon, shows that faculty support for these criteria results in more women enrolled regardless of program size or quality.

“Broad” criteria are not always favorable for women’s admission, however. Criteria that emphasize computing work and computing volunteer experience are associated with low representation of women, probably because women are less likely than men to develop an early interest in computing.

What does it mean to consider an applicant’s “life experiences”? One faculty member explains the characteristics that indicate likely success in a doctoral program in this way: “The things that I have learned to look for are both life experiences that indicate that they can act independently and overcome difficulties...and also experiences that indicate that they’re really interested in finding out the reasons for things... and that tells me that they are more likely than an average person to be a good researcher.” In this way, excellent students are admitted by looking beyond computing experience and achievements to other very commonly used but somewhat ambiguous criteria.

Admission decisions are subjective. Faculty members of graduate admission committees routinely describe an imprecise process where committee members disagree about applicant ratings. Disagreements arise because selection criteria typically include hard to quantify or to interpret ingredients, such as student motivation and communication skills, general quality of academic record, and letters of recommendation. The ambiguity of the admissions process can either promote or inhibit diversity as either commitments to broadening participation or unconscious stereotypes come into play. When admission committee members minimize the biasing effects of stereotypes and consider applicants’ membership in an under-represented group as a positive characteristic, they promote diversity.

Active recruitment and admission increases diversity. Admitting the best students relies on attracting, as well as admitting, well-qualified applicants. Eight out of ten computing faculty agree that their department should actively recruit members of underrepresented groups. “Actively” is an essential word here; being gender “blind” does not improve the gender balance of computing. Active recruiting calls for targeted messages that reach women where they are and focus on the appealing features of a graduate program, such as its flexibility. Active admission values the contribution that diversity makes to an educational program by enhancing the quality of students’ intellectual exchange.

#### RESOURCES

For more information, see Lord & Cohoon, 2006, “Recruiting and Retaining Women Graduate Students in Computer Science and Engineering.” Computing Research Association.

#### EIGHT ADMISSION PRACTICES FOR GENDER DIVERSITY

Lord and Cohoon’s new research and literature review of graduate education and diversity resulted in the following recommendations. More information is available in their report from the Computing Research Association:

1. Create leadership and oversight regarding women’s representation in your graduate program.
2. Broaden admissions criteria to consider applicants’ life experiences.
3. Employ diversity as an admission consideration.
4. As a department, articulate clear and common goals for the outcome of the admissions process.
5. Formalize criteria and procedures for admission and make them as explicit as possible.
6. Record and report data on recruitment and admissions outcomes.
7. Beware of gendered effects from letters of recommendation (e.g., use of adjectives that imply positive attributes of men, but which are negative for women, such as “aggressive”).

Train admissions committee members in practices that mitigate gender bias and stereotypes. This training might make use of resources such as Valian’s Gender Tutorials, which are available online at <http://www.hunter.cuny.edu/gendertutorial/tutorials.htm>.

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Visit [www.ncwit.org/practices](http://www.ncwit.org/practices) to find out more.

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