MENTORING FEMALE ENGINEERING STUDENTS:
A MODEL PROGRAM AT THE UNIVERSITY OF WASHINGTON

S.G. Brainard and L. Ailes-Sengers
Women in Engineering Initiative, University of Washington,
Seattle, Washington 98195

This article describes a successful intervention program at the University of Washington, which was implemented to increase the retention and self-confidence and to expand the horizons of women in engineering. The intervention, a one-to-one mentoring program, matches female engineering university students with professional engineers. Coupled with its organizational location within a comprehensive, university-level program for women in engineering, the Mentoring Program is unique in its design, size, student management, marketing, matching of mentors and mentees, training, evaluation, and strong corporate participation.

INTRODUCTION

The aim of this article is to describe a University of Washington intervention program whose aim is to increase retention and self-confidence and to expand the horizons of women in engineering. This one-to-one mentoring program, which matches female engineering university students with professional engineers, is one of many programs offered by the Women in Engineering (WIE) Initiative. Coupled with its organizational location within a comprehensive, university-level program for women in engineering, the Mentoring Program is unique in its design, size, student management, marketing, matching of mentors and mentees, training, evaluation, and strong corporate participation (Matyas & Dix, 1992).

Although the literature abounds with articles about the value of mentoring, few of them provide insights on how to design and implement a mentoring program. One of the most comprehensive national mentoring efforts was initiated by the Association for Women in Science (AWIS) in 1990 with its many chapters across the United States (Bird, 1993). The AWIS study loosely defined mentoring to include workshops, laboratory experience, poster sessions, and traditional one-to-one mentoring. AWIS chapters designed mentoring activities that were appropriate to their setting and appointed one member to organize the project, coordinate with the national office, and conduct an ongoing evaluation.

In contrast to the loosely defined mentoring programs of AWIS, The Catalog of Resource Materials (1994), published by the Women in Engineering Program Advocates Network (WEPAN), identifies 10 mentoring programs at the undergraduate level for science and engineering. Here, mentoring programs are defined as those in which students are matched one-to-one in the traditional mentoring model. No programs are listed at the graduate level, although a few WEPAN member in-
stitutions are currently developing graduate mentoring programs. Those institutions with undergraduate mentoring programs include: San Francisco State College, University of California (Davis), University of Colorado (Boulder), Purdue University, Rutgers University, Dartmouth College, Cornell University, Rochester Institute of Technology, Ohio State University (Columbus), and the University of Washington.

A unique feature of the University of Washington's Mentoring Program, worthy of mention since it provides the large number of available mentors, is its location in what is referred to as the Silicon Valley of the Pacific Northwest. According to the Washington State Advanced Technology Directory (1994), approximately 2,000 high technology firms exist in Washington State. Computers, software, and related activities make up the largest single portion in the count of technology companies, but more traditional manufacturing companies and biotechnology companies have also emerged. The largest employers are the Boeing Company and the Microsoft Corporation, but the second tier of companies includes hundreds more. Approximately 75% of the science and engineering (S&E) jobs available in Washington exist in the Puget Sound area, which includes Seattle. Even with the underrepresentation of women in the S&E workforce, the Puget Sound area provides a wealthy pool of potential female engineering mentors for the Women in Engineering Mentoring Program at the University of Washington.

Founded in 1861, the University of Washington is the oldest state-assisted institution of higher education on the Pacific Coast. Enrollment is currently 34,000 students, including almost 10,000 in professional and graduate programs. Today, the College of Engineering, a major unit of the university since the first engineering degrees were authorized in mining and metallurgical engineering in 1898, is the fifteenth largest college of engineering in the nation with 226 faculty, 1,560 undergraduates, and 1,100 graduate students. It is the leading engineering school in the Northwest with 10 engineering disciplines and has strong cooperative ties to many Pacific Rim universities.

This article describes the Mentoring Program, which is part of the Women in Engineering Initiative at the University of Washington. This one-to-one Mentoring Program matches female engineering university students with professional engineers. The next section provides an overview of the Women in Engineering Initiative, its goals, philosophy, and management in order to illustrate the organizational context within which the program operates. The third section describes the goals, objectives, and strategy for implementing the Mentoring Program, and the final section summarizes results of the program evaluations.

WOMEN IN ENGINEERING INITIATIVE

In its seventh year of operation, the goal of the WIE Initiative continues to be to increase the enrollments and degrees granted to women in engineering at the undergraduate and graduate levels. Students participating in WIE are culturally and ethnically diverse, and many are community college transfer and returning students. In the last 3 years with the addition of several new programs, female students in selected sciences (such as physics, chemistry, and math) have also been encouraged to participate in the WIE Initiative. Using a multifaceted approach to reach over 1,000 students annually, the objectives of WIE are to:
1. Foster an academic and social climate conducive to women as well as men in engineering by building a collaborative learning community.
2. Deliver programs focused on retention, academics, and study skills.
3. Track female engineering students from the point of entry through their careers.
4. Conduct outreach activities to high schools and community colleges.
5. Conduct research on issues of women in engineering and the sciences.

To accomplish these objectives, a comprehensive and integrated network of academic and retention programs and services is offered to all female students interested in pursuing engineering and selected science degrees. Some of these programs and services include: the Freshman Intervention Program, the Community College Bridge Program, the WIE Graduate Student Program, the Big Sisters Program (student-to-student mentoring), the Mentoring Program (professional engineering-to-student mentoring), an International Exchange Program, Outreach Programs, Tutoring, a Women in Engineering Study Class, Support Group Meetings, academic advising, and personal counseling. The WIE Initiative is located in a 2,000-square-foot Study Center in a lovely wooded area on campus. Having a central site for students to meet and study, and for the staff to work, has improved not only the academic and social climate but has increased participation rates in the WIE Initiative in general.

The number of programs within the WIE Initiative now exceeds well over a dozen; however, the organization began with only four programs, including the Mentoring Program. In the initial planning stages, focus groups were held with both undergraduate and graduate students in order to: (1) identify the barriers women face in the pursuit of an engineering degree, which included isolation, competitive environment, low self-confidence, childrearing and childbearing issues, lack of role models, insufficient financial assistance, and lack of hands-on mechanical experience, and (2) select and design the types of programs that would focus on solutions to the identified barriers.

Students expressed concern with being given preferential treatment by having a separate program, but at the same time they recognized that special programs were needed to increase the retention of women engineering students. In an effort not to further isolate students, a policy of encouraging male students to participate in selected programs was instituted. Through this process, the mission of the WIE Initiative was formulated: "To create an academic and social climate in engineering, equally conducive and encouraging to females as well as males that will foster increased interests and sustained desires to pursue engineering careers." Recognizing that this balance does not yet exist, the WIE Initiative will deliver academic and retention programs until the enrollment and degrees granted to female students in engineering have reached parity with enrollment and degrees granted to male students.

THE MENTORING PROGRAM

Goals and Objectives

The Mentoring Program was established to facilitate the personal and career development of women in engineering through relationships with role models in their
field. Students are paired with female or male professional engineers who act as role models and help with the transition from academic life to professional life. The specific objectives of the Mentoring Program are to: (1) provide students with positive role models, (2) provide access to the professional community, (3) ease the transition from school to work, (4) offer personal and career guidance, and (5) expand the students' horizons. The benefits to the students of having a mentor are: (1) individual recognition and encouragement, (2) increased self-esteem and confidence when dealing with professional engineers, (3) a realistic perspective of the workplace, (4) advice on how to balance work and other responsibilities and set priorities, (5) knowledge of workplace "do's and don'ts", and (6) indoctrination to networking.

The role of mentors is to: (1) encourage students to continue their pursuit of engineering, (2) serve as resources for professional networking, (3) provide counsel on career and professional development, (4) acquaint the student with the values and culture of the work environment, and (5) share college and work experiences as an engineer. The benefits of being a mentor include: (1) satisfaction of helping a student reach her academic goals, (2) recognition at work for participation in a job-related activity, (3) an expanded network of professional colleagues, and (4) increased self-confidence. The mentors in the program represent a diversity in age, ethnicity, educational level, engineering discipline, and marital and parental status. A few mentors are males.

The number of participants in the Mentoring Program has ranged from 50 in the beginning to a high of 125 students and 100 mentors for the last 2 years. Often, mentors choose to work with more than one student: hence the unequal number of mentees and mentors. Although both graduate and undergraduate students participate in this program, undergraduates tend to be the largest proportion of participants. The student participants are characterized by diversity in age, ethnicity, educational level, engineering discipline, and marital and parental status.

The Mentoring Program is chaired by two students, who work under the guidance of the assistant director for Undergraduate Programs. The co-chairs plan and organize quarterly events, including the training workshop, recruit mentors and students, match mentors and students, and follow up with evaluation instruments. In addition, each of the co-chairs serves on the WIE Steering Committee as an officer of the WIE Initiative. Further, the students have instituted a "grooming" policy, where the incoming chairs for the Mentoring Program are trained by the incumbents for at least two quarters before assuming the responsibilities of the chair.

**Strategy**

In two articles regarding the "nuts and bolts" of retention programs, Brainard (1989, 1991) discussed a systematic approach to implementing university-level retention programs for women in engineering. Coupled with prerequisite conditions for success, she proposed a generic strategy for implementing intervention programs. The strategic steps included: assessing student needs, determining the appropriate interventions, implementing the programs, marketing the programs, and evaluation. The Mentoring Program's strategy was modeled after this approach and included the following steps:
1. Assess needs
2. Design program
3. Market and advertise program
4. Recruit mentors and mentees
5. Match mentors and mentees
6. Inform mentors and mentees of match
7. Train mentors and mentees
8. Rematch, if needed
9. Hold quarterly events
10. Evaluate program
11. Modify program

A feedback loop from step 11 back to step 1 is built into the strategy to provide the opportunity for on-going evaluation and modification of the program. Further details of the strategy are discussed below.

**Assess needs.** Focus groups were held in the first year to identify student ideas on programs that they would like to help them face the challenges of a non-traditional field of study. The Mentoring Program was the first such program implemented at the WIE Initiative. It has been reassessed and modified annually and has continually expanded in scope and number of participants since its inception.

**Design program.** Manuals, reports, and data bases of information on model programs were used to provide guidelines for successful program design and to avoid reinventing the wheel. Numerous sources of information existed for establishing model programs and effective retention interventions, although very few on how to implement a mentoring program. Other sources of information included publications from the Project on the Education and Status of Women from the American Council on Education and the comprehensive summaries provided by the Commission on Professionals in Science and Engineering.

A critical factor in the design of these programs was student participation. A core group of students was involved in designing and implementing the program, and a synergy occurred. The students were a part of something they created. They wanted to participate and got other students involved. Further, they spread the information through the informal grapevine, and as a result, participation rates increased dramatically.

A large part of the design of the program entailed the creation of application forms, training handbooks, program evaluation, update forms, and database management. Application forms were designed for mentors and mentees. The forms serve both as brochures for marketing and as data-gathering instruments to be used in matching mentors and mentees. The mentoring handbooks provide the mentors and mentees with tips for developing a successful mentoring relationship. The evaluation and update forms provide information for the continued operation and modification of the program. WIE has a comprehensive, structured, current database that is critical to the success of the program. All matching information is stored in the database, allowing for ease of referencing match information and sending match information to participants.

**Market and advertise program.** In addition to mailing invitations and application forms to each person registered in the WIE Initiative, a number of other
marketing techniques are used. The major marketing strategies include: articles published in the campus newspaper, WIE newsletters, professional and company newsletters, posters placed on bulletin boards in engineering buildings, classrooms, dining halls, the WIE Study Center and the student union building, announcements made by faculty and students in classes, email messages and postcards sent to WIE members, quarterly letters sent to mentors and mentees, and phone calls to mentors.

The success in marketing is partly determined by how well the chairs are able to understand, predict, and influence the students' attitudes. To do this, it is critical that the problems facing most female students are continually assessed and understood and that the students are an integral part of the process of marketing and design.

Recruit mentors and mentees. All students registered in the WIE Initiative were mailed invitations to participate in the Mentoring Program. Student recruiting was also done from all professional student societies on campus, such as the Society of Women Engineers (SWE), the Society of Hispanic Engineers (SHPE), the American Indian Student Engineering Society (AISES), and the National Society of Black Engineers (NSBE). Targeted efforts have been made to recruit minority women and have proved successful. These minority women represent 35% of the approximately 1,000 members in the Women in Engineering Initiative; however, they are only 28% of the enrolled female students in the College of Engineering. The University of Washington classifies people of Asian descent as minorities and they are included in these percentages, but the College of Engineering does not since they comprise over 40% of the college's student body. Nonetheless, females of Asian background are underrepresented and therefore major participants in the WIE Initiative.

Mentors were recruited from professional societies, corporations, and graduated students, and by the WIE Corporate Board members, current mentors, and personal contacts. In particular, advertisements were placed in professional organizations' newsletters, such as the Society of Women Engineers (SWE) and the Institute of Electrical and Electronic Engineers (IEEE) local chapter newsletters, and company newsletters, such as the Boeing News. A number of mentors were recruited by visiting companies and giving talks to their women engineers about the Mentoring Program. A large source of mentors is through referrals from current mentors, which is strongly encouraged by including a question on the update form. WIE alumni also provide a source for potential mentors. Members of the WIE Corporate Advisory Board have played an instrumental role in recruiting mentors by disseminating information to their various companies and encouraging their employees to become involved. In fact, competition among several of the companies represented on the Corporate Board resulted in an increased number of mentors.

Match mentors and mentees. The mentors and mentees are matched on the basis of the information provided in the application forms, which includes demographic data, mutual interests, and similar areas of specialization. An attempt is also made to consider geographical location and other special concerns. As examples, several of the minority students specify their desire for a mentor of the same ethnicity, and several younger, newly employed mentors request freshman or sophomore mentees.

Inform mentors and mentees of match. When the matching process is complete, the mentors and mentees are sent letters notifying them of the names and phone numbers of their mentors or mentees. The match commitment is for 1 year.
At the end of the year, the mentors and mentees may request the same match or a new one. Enclosed with the match letter is a mentoring handbook, which provides suggestions for developing a successful mentoring relationship, and an academic calendar, which provides dates for the quarterly mentoring events for that school year and gives mentors the dates of student finals and breaks.

**Train mentors and mentees.** As the Mentoring Program grew to over 200 participants, the chairs had fewer personal contacts with the participants, and it became apparent through feedback from the participants that some form of training was needed both for the mentors and the mentees. Prior to 1991, most of the training was in the form of guidelines sent to mentors and mentees in the mail. The annual evaluations indicated that merely providing written suggestions for mentors and mentees was not sufficient.

In 1991, a Mentoring Training Workshop was designed and implemented and is now conducted annually as the first mentoring event each year held during autumn quarter. The objectives of the workshop and the handbooks are to provide the participants with the goals of the programs, ideas about how to best establish and develop mentor-mentee relationships, and suggestions on specific activities that may be shared. The handbooks and workshop also address potential obstacles to successful mentoring relationships, including feelings of intimidation by the mentees, which may prevent them from contacting their mentor, and belief by the mentors that they are not doing enough for their mentees.

The workshop begins with the chairs describing the goals and benefits of the Mentoring Program, with testimonials from a mentee and a mentor, who describe their past experiences. Following this introduction, the audience is divided into two groups, one made up of mentors and one of mentees, to discuss issues related to their roles. Mentees discuss ways to overcome intimidation feelings, topics of conversation with a mentor, and responsibilities in the relationship. Mentors address ways to be effective, actions to take if mentees appear uninterested, and discussion topics and possible activities. The mentees and mentors reconvene in a joint meeting to summarize the important points. This includes a discussion of the first contact. The chairs emphasize the importance of discussing the mentor’s and mentee’s expectations and of planning how, when, and who will make the next contact. A successful hint has been to have the mentors and mentees alternate phoning each other and write the date of the next contact on their calendars. The workshop concludes with a light meal and time for socializing. Updated annually, the training workshop, coupled with the mentoring handbooks, have been well received by mentees and mentors alike.

**Rematch, if needed.** Recognizing that the matching process is by no means foolproof and that a sensitivity to individual differences is needed, mentees and mentors are encouraged to call the chairs of the Mentoring Program if for any reason they wish to be rematched. Although the application form asks for a 1-year commitment to the mentor-mentee match, it also indicates that rematching is available. Each year, a few requests for rematching have been made for reasons such as a mentor relocating to another town, or a student changing majors and preferring a mentor in her new discipline. Occasionally, mentors and students become too busy to participate in the program. In this case, the mentor or student is placed on an inactive list and contacted quarterly too see if she or he would like to become an active participant again.
Hold quarterly events. The Mentoring Program sponsors one event each quarter to provide opportunities for mentors and mentees to meet and interact. Feedback from the evaluations noted that many preferred formal gatherings where guest speakers were invited to present on topics of interest, followed by a discussion time. Topics have included a Career Development Workshop, Safety Workshop, and technical presentations by graduate students and mentors.

The location and timing of events have proved to be critical factors. Events held on campus often pose problems for students who have no transportation. As a result, all of the Mentoring Program events are held on campus. Further, the events must be scheduled when both mentors and mentees can or will attend. The optimal time to hold the events appears to be in the early evening around 5:30 p.m., at the beginning of the quarter, rather than at midterms, finals, or vacation periods. Also, the day of the week is varied to permit people with commitments on certain nights of the week to attend at least one event a year. Many employers allow mentors to leave work early to attend WIE mentoring events, which is one way that local companies support the program. Since the event time coincides with most people's dinner time, WIE provides a light meal at each event. A free meal has proved to be another way to draw students to events.

Marketing of the event is very important. Participants prefer repeated reminders of the event, beginning with the academic calendar sent to all mentors and mentees with their match letters. The events are also publicized in the WIE newsletter, campus newspaper, posters on campus, email announcements, phone calls to mentors, in quarterly letters to Mentoring Program participants, and in postcards to all WIE members. Another way to increase student participation has been to have the WIE Initiative jointly sponsor an event with another organization such as the student chapter of SWE. Joint sponsorships have a number of benefits: more students are involved, each organization markets to its own membership, each organization has a vested interest in a successful event, and in general, cooperation and team building are fostered.

Evaluate program. The Mentoring Program is evaluated annually. Evaluation questionnaires are mailed during the spring quarter to mentors and mentees requesting information regarding their assessment of the program's value to them personally, their satisfaction with their match, the value of the program in general, its impact on self-confidence and expanded horizons, and a request for suggestions to improve the program. The participants also receive forms requesting current information on address, career, and engineering major changes, and new mentor/mentee requests for the following year. Additionally every other year, the chairs phone all mentors to solicit their comments and suggestions. As the program grows, the personal contact is important for accountability.

As part of the continual program modification, the evaluation/update forms are also modified annually. This year evaluations will be handed out at each event. Additional questions will be added on the annual evaluation form including a question asking mentors about their increased self-confidence from being a mentor, and a question asking the mentees how the mentor changed the student's commitment to pursuing a degree in engineering.

Evaluating the program annually has provided an opportunity to measure the program's effectiveness and to modify program components. It has provided a mecha-
Satisfaction with the Mentoring Program

![Bar chart showing satisfaction levels.](#)

**Figure 1.** The amount the mentors and mentees are satisfied with the WIE Mentoring Program.

anism for accountability and for funding. Further, some of the anecdotal stories of successful mentor and mentee relationships are not only interesting documentation, but very useful when discussing the program with new students and when recruiting mentors.

**Modify program.** The annual evaluations have provided the primary information needed for many modifications to the Mentoring Program. In addition, throughout the year suggestions, which are helpful in making on-going changes, are made by both mentors and mentees.

The previous 11 strategy steps describe how to design and run the Mentoring Program; however, the program's success also depends greatly on how much the participants take advantage of it. In the past, mentors and mentees have toured the mentors' workplace, met for lunch or dinner, toured a museum or the zoo, attended professional meetings, and have offered each other support through numerous phone conversations. Mentors have utilized the mentor phone list, which lists the names, companies, and phone numbers of the other mentors, to organize joint meetings with their mentees, since meeting in groups often helps to facilitate discussions. The mentors' companies support the Mentoring Program by recognizing the mentor's service to the program by allowing mentees to tour workplaces, and by allowing mentors to leave work early to attend mentoring events. The Mentoring Program gives each mentor a certificate thanking them for their service, which many mentors place in their personnel files at work.

**EVALUATION RESULTS**

The evaluation questionnaire, mailed to all mentees and mentors at the end of the academic year, includes 16 structured questions. The questionnaires are designed to assess the value and impact of the program on the individuals. the types and frequency of activities mentors and mentees do together, the types and frequency of topics of conversation between the mentors and mentees, the satisfaction mentors and mentees individually have in their relationships, the impact of the relationship
on self-confidence, and the expansion of their horizons. A brief synopsis follows of some of the results of the evaluation.

When mentors were asked how satisfied they were with the WIE Mentoring Program, 53% were very satisfied, 38% were satisfied, and the remaining 9% were either somewhat satisfied, not satisfied, or did not respond. When mentees were asked the same question 59% were very satisfied, 31% were satisfied, and 10% were only somewhat satisfied or not satisfied. Figure 1 shows the results with 91% of the mentors satisfied and 90% of the mentees satisfied with the WIE Mentoring Program.

Figure 2 shows the results when mentors were asked how valuable it had been to have a mentee: 40% found the experience very valuable, 44% found it was a valuable experience, and the remaining 16% found it somewhat valuable, not valuable, or did not respond. Figure 2 compares this to the results when mentees were asked how valuable it had been to have a mentor. 50% found the experience very valuable, 36% found it was a valuable experience, and the remaining 14% found it somewhat valuable, not valuable, or did not respond. The results show that 88% of the mentors found the experience of having a mentee valuable, and 86% of the mentees felt that having a mentor was valuable. Anecdotal stories support these findings since many mentors find that discussing their career accomplishments with their mentee increases their own confidence as well as the mentees.

Figure 3 gives the results when mentors and mentees were asked how much the mentor helped expand the mentee's horizons. The mentees overwhelmingly replied that the mentors expanded their horizons, whereas the mentors did not feel like they had contributed much to expanding the mentees' horizons. The results of a t-test showed a significant difference in the mean response of the mentors and mentees (p = .004). This finding can be interpreted in numerous ways, e.g., one interpretation is that it reflects the continuing decline in or lack of self-confidence of female engineers even after they graduate and become members of the workforce. Another possible interpretation is that they underestimate the effect that an "older and wiser" mentor or role model can have on a student.
Figure 3. The amount the mentor and mentee felt that the Mentoring Program expanded the mentee's horizons.

When comparing the responses to a question asking mentors how much they felt they had helped their mentees to be more self-confident, to asking mentees how much the mentor helped them to be more self-confident, it is interesting to note that 80% of the mentors felt they had helped the mentee very much or much, whereas 71% of the mentees felt the mentors had helped their self-confidence very much or much. Figure 4 illustrates this positive relationship.

An interesting result from the evaluation appeared when participants were asked how much time they spent discussing certain topics with their match. From Figure 5, the mentors and mentees spent approximately one-fourth of the time discussing personal issues. This result is not surprising since many female students feel more comfortable and less intimidated when the relationship reaches a friendly level.

Figure 4. The amount the mentor and mentee felt that the mentee's self-confidence increased by participating in the Mentoring Program.
**CONCLUSIONS**

Numerous benefits are to be gained by both the mentors and mentees. For the mentee, benefits include: individual recognition and encouragement, honest criticism and informal feedback, advice on how to balance work, family, and other responsibilities and set professional priorities, knowledge of the formal and informal rules for advancement, information on how to behave in a variety of settings, learning to network, gaining a realistic perspective of the world of work, and learning presentation and speaking skills.

Benefits to the mentor include: satisfaction of helping in the development of another person who may carry on her or his own work, increased self-confidence and awareness of her or his own accomplishments, ideas for feedback about her or his own projects, a network of mentors and former mentees at other organizations who can collaborate on projects and help place students, and an expanded network of colleagues. All of these benefits have the potential of increasing the mentor's power and visibility. Mentoring provides an opportunity for those who have fulfilled their own career expectations to benefit from the personal rewards that come from tutoring someone else and passing on their own knowledge, insights, and political acumen.

There are several reasons for the success of the Mentoring Program:

1. Students play a critical role in the design, implementation, and evaluation of the programs, and hence have a vested interest in the program’s success.
2. The program is custom-designed to fit the goals of the institution.
3. The program started small and expanded, when resources were available, to meet the needs of students.
4. Evaluation was built in from the initial planning stages, and thus provided the opportunity to receive feedback and to make appropriate programmatic modifications.
5. Professionals were willing to commit their personal time.
6. Corporate commitment to the success of the program has been sustaining.
7. Mentees and mentors were trained in establishing effective mentoring relationships.
8. Commitment from the deans and associate deans manifested in allocation of space for the WIE Study Center.
9. Faculty commitment and involvement was ongoing.
10. Effective fund-raising made it possible to continue and expand the programs.

ACKNOWLEDGMENTS

Jamie Kelley Perreault, WIE assistant director of Graduate Programs and Research, analyzed the statistical data from the evaluation forms. Karen Smith, co-chair, WIE Mentoring Program, 1992–94, provided editorial suggestions. Adrienne Karpov, WIE assistant director for Undergraduate and Community College Programs, supervised the student co-chairs in the management of the Mentoring Program.

REFERENCES


