Students tap experience to find right formula

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If a local nonprofit has anything to say about it, the road to successful careers in math, science, and technology might be paved with good role models. And thanks to the Internet, these role models — or more accurately “mentors” — are only an e-mail away.

Founded in 1997 in San Jose, MentorNet pairs undergraduates and graduate students, or “protégé” as the program calls them, with mentors in science fields for eight-month periods of correspondence. During this time, a protégé can seek advice from a professional of their choice selected from a list that fits their personality and goals provided by MentorNet, at no cost. Mentors, profiled by MentorNet to meet certain requirements for joining the program, offer their time for free.

Most often, a protégé will seek answers to questions running the gamut from work-life balance to career coaching and self-confidence issues, according to MentorNet founder Carol Muller. Some desperately need a role model. The majority of MentorNet subscribers are women or minorities trying to navigate their way into fields currently dominated by white males.

MentorNet grew out of a pilot study conducted at Dartmouth College in 1995 to understand and alleviate this uneven representation in math, science, and engineering.

“I was immediately struck by how few women and underrepresented minorities were in these engineering fields compared to other fields,” says Muller, an associate dean at Dartmouth during the study and a 50-year veteran of higher education. Muller determined in the study that one of the largest factors contributing to the tiny percentage of minorities in science was lack of mentoring. In particular, women in sciences doubt their capabilities more than men do, Muller says.

“They felt disconnected, isolated,” Muller reported of students transitioning from academia to the professional world. “Sometimes the paths of learning are discouraging. MentorNet can help offset some of that.”

A 2006 report by the National Science Foundation counted minorities earning a mere 5.4 percent of total doctoral degrees in science and engineering. The report did not specify if the low figure was due to poor preparation for programs, lack of interest, or limited access to resources and support. A previous report by the Government Accounting Office, however, showed that between 1994 and 2003, the percentage of women in science fields grew by only 1 percent, indicating that hindrances still exist in the face of increasing resources.

MentorNet believes those limitations, whether real or perceived by individual students, can be dissolved by having someone to reach out to in the form of a mentor.

For Geri Lamble, a computer engineering Ph.D. candidate at Santa Clara University, MentorNet helped boost her confidence and continue on with her program during times of doubt.

“If it were not for MentorNet and my mentor, I probably would not still be involved in my Ph.D. program,” says Lamble, who last weekend completed her eight-month mentor-protégé relationship.

A serious car accident in 2005 interfered with her studies mid-way through her program and left Lamble questioning the path she’d chosen. An e-mail flyer from the university about MentorNet caught her attention and she got involved, eventually choosing Dr. Don Jewett, research director at Abratech Corporation in Sausalito, as her mentor.

“When a mentor, I could express my inadequacies and fears. I didn’t feel I could do that within my department. A mentor allowed me a forum to do that,” says Lamble.

As with most MentorNet pairs, correspondence between Lamble and Dr. Jewett was not kept to a strict schedule but took place sporadically as needed. Lamble relied on the correspondence relationship especially when questions arose during research and class material.

“I always knew in the back of my mind that I could send him an e-mail. That was very comforting,” she says.

From a mentor’s perspective, the relationship not only helps a student in need but it also improves science fields by guiding talent into the ranks. Very few Ph.D. graduates go on to find jobs in academia due to the small fraction of professor positions open at any time, which means most must learn how to find careers in their fields. This fact has motivated Liesl Folks of Hitachi Global Storage Technologies to volunteer as a mentor for the past seven years. In fact, she has remained in touch with all five of the students she helped long after the standard eight-month period for MentorNet.

“I remember being reluctant at first,” says time-crunched Folks of a past employer’s urging her to join MentorNet’s service. But now she recognizes the value of grooming young professionals for placement in the sciences. She has assisted with résumés, answered questions about work-life balance, and steered in when she thought a student’s academic adviser was not pushing him or her enough.

To date, MentorNet has successfully paired mentors with over 19,000 protégé, 80 percent of which are female or ethnic minorities. Its service is offered in 125 partnering academic institutions. MentorNet is financially backed by roughly a dozen government labs and a host of corporate sponsors like 3M, Texas Instruments, Cisco Systems, and IBM.

On her organization’s 10th anniversary this year, Muller is thrilled that mentors and corporations recognize with their donations of time and money the value of mentoring young minds in the sciences. She muses from her office on Winchester Boulevard that it was easy to ride the heady days of Internet startups in 1997, but to have stood the test of time is another accomplishment entirely.

Trusting Muller’s hypothesis that students in math, science, and engineering needed mentors, Intel Foundation and AT&T came forward with original startup funds 10 years ago.

“We’ve been going ever since, sometimes by the skin of our teeth,” says Muller.

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