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Service Learning With Student Organizations

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Abstract:

Recently, there has been an increased demand on fiscal accountability in all sectors, but perhaps even more so in the educational arena. Recruitment and retention have become very important in a time of shrinking engineering enrollments. This means that special efforts need to be made to attract new students to our engineering and applied sciences college, especially underrepresented minorities and women. At the same time, extra efforts need to be made to retain the students already recruited. All of this takes time and money.

The College of Engineering and Applied Sciences (CEAS) at Arizona State University (ASU) has a plan that supports both recruitment and retention within the college in a cost effective manner, while at the same time it provides service learning to students. Starting last year, in a pilot project, a student organization and the Associate Dean for Student and Business Affairs contracted a win-win solution. The Engineering Dean’s Office provided money for air fare to an annual national conference in exchange for service hours for recruitment and retention activities of the college. The experiment was very successful and has now been expanded to other student organizations. This paper will describe how the exchange works and the types of services done by the students.

Introduction

An increased demand on fiscal accountability is being made in all sectors, but perhaps even more so in the educational arena. Recruitment and retention have become very important in a time of shrinking engineering enrollments. This means that special efforts need to be made to acquaint and to attract new students to our engineering and applied sciences college. At the same time, extra efforts need to be made to retain the students already recruited. All of this takes time and money.

Shrinking budgets follow shrinking enrollments. Consequently, there is an intense interest in maintaining or, if possible, increasing enrollments. Of particular interest is the enrollment of underrepresented minorities and women students. The overall enrollment in the College of Engineering and the Applied Sciences (CEAS) at Arizona State University (ASU) has held nearly steady during the last five years. There has been an increase in the numbers of women and underrepresented minority students. This is an important trend, since it has been estimated that by the year 2005, 85% of the new engineers will come from women, minorities or immigrants. From 1990 to 1994, the undergraduate underrepresented minority enrollment at ASU increased from 410 to 546, an increase from 9.7% to 13%. The graduate underrepresented minority enrollment increased only from 84 to 85, holding at 4.1%. The undergraduate enrollment of women in CEAS has increased from 709 to 792, an increase from 16.8% to 18.9%. The number of graduate women increased from 298 to 384, an increase from 16.8% to 18.5%[1]. We have made modest enrollment gains, but clearly, women and underrepresented minorities are groups that need to be targeted to increase enrollment in the CEAS.
Retention is also a major issue since funding is usually based on student credit hours. Of the native freshman (student enrolling in ASU with less than 12 hours of transfer credit) that began engineering in 1987, by 1994, only 37% had graduated with an engineering degree. An additional 14% had graduated with an ASU degree from another college. Among the minority groups, Hispanic students had the highest graduation rate at 28% in the CEAS and 17% in ASU areas outside of CEAS [1].

It is instructive to examine when we lose CEAS students. The attrition rates of the Fall 1992 class were examined for the first two years. After one year, 28% of the male native freshman did not enroll in CEAS. An additional 9% did not enroll for the third year. Thirty-seven percent of the female native freshman did not enroll after the first year. An additional 11% did not enroll for the third year. As a group, Hispanic students showed the lowest attrition for native freshman with an attrition rate of only 19% for the first year and an additional 3% for the second year [1]. The high retention rate for Hispanic native freshmen may be due to good local family support. In addition, their participation in the active student organization of SHPE de ASU (the ASU student chapter of the Society of Hispanic Professional Engineers, hereafter referred to as SHPE) may also be a factor.

The CEAS, at ASU, has active student organizations in every department and for the three underrepresented minority groups: SHPE, NSBE (National Society of Black Engineers), and AISES (American Indian Science and Engineering Society). It should follow that, if these student groups are strong, the attrition rates of their students should decrease. To carry out leadership programs and other activities, these student organizations may need some financial assistance. This then was the situation at ASU: a need to increase recruitment and retention, especially among underrepresented minorities, and a need by the minority organizations for some financial support.

The Plan

The student organizations in the departments of the CEAS (usually a chapter society and an honors society in the discipline) are funded through the Dean's Office on a matching basis. The Dean's Office provides up to $1,000 in funding to any student society within a department, based on a proposal for the use of the funds, a demonstration of their own efforts to raise funding, and their department's willingness to match the funding. The three minority organizations and the student chapter of the Society of Women Engineers each receives $1,500 funding annually from the Dean's Office.

SHPE is one of the largest Hispanic organizations on our campus of some 43,000 students. The organization has over 100 paid members and attendance at bi-monthly meetings has reached over 125. They are an enthusiastic, talented group. Each year a national career conference is held by the SHPE national organization. This conference is attended by over 3,000 students, professional engineers, and industry personnel. Although SHPE conducts fund-raising events throughout the year to support students to attend the conference, outside funding is still needed for transportation costs.

In 1994 SHPE sent 34 students and in 1995 they sent 42 students to their national conference! Members are selected to attend based on a point system that records each member's participation in the SHPE organization. Through this point system, volunteer hours on SHPE projects are also recorded. Last year, SHPE and the Associate Dean for Student and Business Affairs entered into a win-win solution: the Dean's Office would help SHPE and SHPE would help the Dean's Office and the college.

Money was provided from the Dean's Office to pay for the airfare for 34 SHPE members. In return the 34 students would each donate 20 hours of service at the rate of $7.50 per hour. Since SHPE was already involved in many volunteer projects, for this first experiment, it was agreed that SHPE could use half of the
volunteer hours for their own projects and half of the volunteer hours would support the Offices of Minority Engineering Programs (OMEP) and the Women in Applied Sciences and Engineering Program (WISE) in recruitment and retention activities.

The Conditions

When SHPE requested assistance with the airfare for students to attend the national career conference, they met several conditions that are important to consider for such support.

First, the purpose of the support was to retain underrepresented minority students. Students who have attended this conference point to their experience with thousands of other enthusiastic Hispanic engineering students as a milestone experience in solidifying their commitment and dedication to becoming an engineer.

Second, the purpose of the support was to encourage professional advancement and personal growth. The conference offers student SHPE members the opportunity to participate in informative workshops and to network with professional members and corporate representatives. Student members are also provided the opportunity to seek employment at a day long career fair.

Third, SHPE had done its homework. They had held their own fund raisers, and also received contributions from the Associated Students at Arizona State University, the ASU Cultural Diversity Office, the Corporate Leader's Program, the SHPE Foundation, the SHPE Greater Phoenix Professional Chapter, the ASU Minority Engineering Program, and two divisions of Motorola. In addition, they had negotiated the very low air fare of $150 for a round-trip ticket from Phoenix to Austin.

Fourth, one of the purposes of SHPE is to be involved in the community through volunteer projects. Their projects included visiting science teachers at local elementary schools, tutoring and mentoring local high school students, tutoring and mentoring for Mothers Against Gangs (MAG), and volunteering to assist at Chicano's Por La Causa (De Colores Shelter). Therefore it was realistic for the members to commit to give at least 20 hours of service. It also seemed consistent to let the SHPE members give half of their service hours to projects that they were already supporting.

Fifth, our college needed student volunteers to assist with recruiting and retention activities. Our OMEP and WISE offices were already organized to easily accept volunteers to help carry out their programs.

The Means

The OMEP and WISE offices were asked to identify activities for which they needed student volunteers for recruitment and retention. Each activity was identified and described on a separate page. The listing stated how many volunteers were needed (with spaces for sign-up), where and when the student needed to report, for how long the activity was scheduled, and the number of volunteer hours that would be credited for the activity. These pages were given to SHPE and were tracked by an officer who helped ensure that the records were accurate.

CEAS activities that were supported by SHPE volunteers include acting as tour guides to young people visiting the ASU campus. On Engineering Day, some 900 students were brought to our campus on three different days. Many of the students who attended were minority students and many of these students were women. Having volunteer SHPE members, many of whom are women, serve as tour guides is excellent role modeling for both minority students and for women. At least 25 of the 45 students involved as
speakers or lab guides were from SHPE. Each student worked for three hours.

As the student volunteers show off their school or talk about their experiences in CEAS, they are solidifying their ownership of CEAS and increasing their public communication skills. Sometimes a free tee-shirt and free lunch are built-in bonuses for helping with an event. The students usually enjoy their time assisting the college.

SHPE members also assisted with MESA Day held in Tucson in 1994. Over 400 MESA students from across the state participated in academic competitions. Many volunteers were needed to assist with the mechanics of the day. Additional volunteer activities included: speaking to high school students with a college representative, speaking at Junior Day on the ASU campus, assisting in a career fair for the junior high schools in a school district, participation in Engineers' Day at a shopping mall, and assisting with handing out papers and grading papers at a TEAMS (Technology and Math and Science) Conference held at ASU.

Some of the students fulfilled their volunteer hours through an "Engineer in Residence" program that has been run for the past five years by the SHPE Greater Phoenix professional chapter. For this program, an engineering student must commit at least one hour classroom contact per week per student/teacher pair for 10 weeks. The engineering student is available at an elementary school to:

1. provide a focus for math and science skills with project applications,
2. assist teachers in fostering a love for math and science,
3. provide exposure to the beauty of math and science, and
4. make resources available to challenge the students.

Conclusion

The process has worked well for the college. SHPE fulfilled its bargain with CEAS. In fact, last year SHPE completed over seven hundred hours toward activities encouraging advanced education for underrepresented minorities. The SHPE students have pride, enthusiasm and a sense of satisfaction from the activities in which they engage. SHPE contracted again this year with the CEAS for airfare assistance in exchange for volunteer hours. This year the amount was approximately $3,600 for 19 of the students. In exchange for the sponsorship, SHPE committed 450 hours of service geared toward increasing minority recruitment and retention for the CEAS. The pay rate is now $8 per hour, but all of the hours were available for college use.

Two other organizations took advantage of this offer that has been made to all the student organizations in the college. The student chapter of NSBE made a contract with the Dean's Office for assistance in airfare for a national conference. The recently installed Delta Gamma Chapter of Theta Tau in CEAS also made a contract to exchange volunteer hours with financial assistance. The timing of this contract was very timely for the college. That Saturday was Junior Day at ASU and student volunteers were needed to serve on a panel to answer questions from potential students and their parents. It is not easy to get students to give up part of their Saturday to help the college, but two of the Theta Tau members volunteered a couple of hours of their time for that day and gave excellent presentations. On that same Saturday numerous SHPE and NSBE students were volunteering their time to make the 1995 MESA DAY a success on the ASU campus. Volunteer students will also make phone calls during the summer to newly enrolled minority CEAS students to offer support, to encourage and to welcome them.
In conclusion, this service learning and role modeling activity has proved to be extremely beneficial to both the students and to our college.

References