

Running head: MENTORING FOR MINORITIES

Mentoring for Minorities:

A Pathway to Student Retention Focusing on the First Year of College

Shirley Scott-Harris, Jennifer Bell, Glennelle Halpin, and Gerald Halpin

Auburn University

Paper presented at the meeting of the Mid-South Educational Research Association,

Hot Springs, Arkansas, November 2007

Mentoring for Minorities:

A Pathway to Student Retention Focusing on the First Year of College

The Minority Engineering Program at a large southeastern university was initiated in 1996 in response to a longitudinal retention study of engineering students. Evaluated in this retention study were the performance of engineering students and key factors that predict student success or failure in engineering (Halpin, G., Halpin, G., Benefield, L., & Walker, W., 1994). Findings indicated a need for special interventions with minority students to enhance their success. Tinto (2003) indicated that students are more likely to persist and graduate in settings that provide academic, social, and personal support. Some may require academic assistance, while others may need social or personal support.

The Minority Engineering Program is primarily designed to provide students with academic and psychosocial support during their transitioning from high school to college. The Collaborative Learning Groups, Interactive Learning Labs, and the Sunday Evening Tutorial—all key components of the program—provide students with a structured learning environment that consists of supplemental instruction in mathematics, chemistry, physics, computer programming, and critical thinking. In addition, there is a mentoring component in the program.

The mentoring component of the program is structured whereby incoming freshman students are paired with upper-class students who have successfully navigated through the first-year transitional period of college and moved into their major. The purpose of the mentoring component is to help first-year engineering students transition to the university environment and manage their academic schedule as well as to provide proactive mentor support and to monitor the student's progress. Freshman students are preferred to as mentees and upper-level students serve as mentors. The mentors were mentees at one time.

During the first week of school at the Minority Engineering Program student orientation, transitioning students are assigned a mentor. If possible, the mentors are assigned to their mentees based on like majors. This assignment is not always possible because certain majors tend to have more students, thereby making it difficult to match mentor and mentee by major. The mentor makes the initial contact with the mentee. During the initial contact mentors and mentees exchange contact information, e.g., telephone numbers, e-mail addresses, class schedules, and any pertinent information that would be helpful to the mentees. The program mentors then assist new students with managing their academic schedule, developing study strategies, and navigating through the campus milieu.

The mentors meet with the mentees once a week and prepare a written progress report that highlights the mentee successes as well as the areas that require intervention on behalf of the program director. Twice during the semester, both the mentor and the mentee formally meet with the program director to discuss and share strategies for success for the remainder of the semester. The mentees' academic progress is closely monitored through their first year.

In the College of Engineering incoming freshmen are required to matriculate into an engineering major upon completing two semesters of calculus, two semesters of a science course, one introduction to engineering course, one computer programming course, and an engineering orientation course. Additionally, students are required to complete these courses and maintain a 2.2 GPA within four semesters of beginning pre-engineering. Important, then, would be an understanding of the relationship between hours of participation in the mentoring program and cumulative GPA. A more specific research question: What is the relationship between hours of participation and cumulative GPA for the mentee group?

Method

Participants

Participants were 66 African Americans who were mentees in the Minority Engineering Program. Within the mentee group, 48 (72.7%) were male, and 18 (27.3%) were female. They had been mentored by 21 upper-class African Americans in the program. The gender classification for the mentor group was 17 (81.0%) male and 4 (19.0%) female.

Data Analysis

Descriptives were assessed for ACT scores, cumulative GPAs, and hours of participation for the mentee group. After these initial descriptives, a bivariate correlation was conducted to determine the relationship cumulative GPAs and the hours of participation.

Results

For the mentee group, the ACT scores ranged from 15 to 36 with a mean of 21.54 and standard deviation of 4.32. The cumulative GPAs had a mean of 2.69 with a standard deviation of 0.64. They ranged from 1.33 to 4.00. The hours of participation in the mentoring program ranged from 16 to 76 with a mean of 49.90 and standard deviation of 18.04.

The bivariate correlation revealed a direct relationship between the cumulative GPA for the mentees and the number of participatory hours in the mentoring group ($r = .56; p < .001$). This finding is an important one, for the best predictors of engineering persistence has been shown to be the first and second semester college grades and cumulative grade point averages (Eide & Moller-Wong, 1997).

Discussion

There are many barriers that contribute to the success or failure of minority students during the first year of college. These barriers include insufficient academic preparation, lack of

financial assistance, inadequate support services, and deficient role modeling. Additionally, the climate at predominantly White universities reflects the dominant majority which can further create barriers for minority students. Effective mentoring and role modeling are often needed if minorities are to succeed and overcome the factors and barriers which affect enrollment and degree attainment in higher education.

Mentoring is an attractive approach to meeting the needs of students who are most at risk of leaving the university before graduation. For minority students, mentoring programs can mean the difference between isolation and integration; failure and success (Dickey, 1996). Mentoring, then, becomes a key factor in providing a pathway for retention and academic success for minority students.

Part of the impetus for including a mentoring component in the minority engineering program from the program's inception was the results of a qualitative study in which engineering students recommended the need for networking with upper-class mentors to ease the transition of freshman students into the university environment (Good, J., Halpin, G., & Halpin, G. (1998). Students in the program today continue to voice this need. As one student stated, "My mentor really helped me when I first got to college. I didn't even know how to get to any of my classes. Now that I'm a mentor, I know how I can help the new students."

Because of a lack of understanding of the engineering culture, many minorities hold unrealistic attitudes and expectations about how to study engineering. Mentors are vital because they not only inspire, but also assist students in setting and reaching realistic goals. They broaden students' horizons, assist students in locating university resources and combat student isolation. The presence and guidance of peer or faculty mentors have also been shown to positively affect retention (National Science Foundation, 1996).

Not only does mentoring have an impact on the mentee, as was shown in this study, but also mentoring has a tremendous impact on the mentor. At the outset, minority mentors in the newly established minority mentoring program completed weekly journal entries on their experiences. One primary pattern that emerged from the journals was the reinforcement and improvement of the mentors' already existing academic skills that occurred as a result of their tutoring experience in the interactive learning laboratories and involvement in problem-solving workshops (Good, Halpin, & Halpin, 2000).

Institutions that are successful in building settings that educate their students are successful in retaining their students. The mentoring program is a factor key in providing a pathway for retention and academic success for minority students. The mentoring program, in addition to the other programs, has proven that a supportive, nurturing environment provides transitioning students with success strategies not only to move into their major but also to graduate. The students who have graduated are paving the way for career opportunities for the students who have not yet graduated.

An expansion, then, of the mentoring program for undergraduates is another component, Mentorship Beyond the Classroom. This program was initiated because alumni had a desire to give back to the program that was such a benefit to them. Many students in the program begin internships and cooperative work during their junior year. When students are in the preparation stage of their intern or cooperative work assignment, an alumnus that lives and works in the city where the student will be located is notified. A match is made with this person who graduated from the university, was a participant in the program, and works at the company where the student will be employed. The alumnus become a mentor and helps the student acclimate to the city. The mentor initiates a reception to make sure the student has an opportunity to meet other

alumni who graduated from the university and were participants in the Minority Engineering Program. The purpose of Mentorship Beyond the Classroom is to lessen the feeling of isolation a young person feels being in a large, unfamiliar city for the first time. As Stromei (2000) noted, providing students with a mentor at both school and work increases the likelihood of success at both locations and contribute to a smooth transition to the postsecondary environment and eventually to the workplace.

References

- Dickey, C. A. (1997). Mentoring women of color at the University of Minnesota: Challenges for organizational transformation. *Journal of Vocational Special Needs Education, 19*(2), 73-77.
- Eide, A., & Moller-Wong, C., (1997). An engineering student retention study. *Journal of Engineering Education, 86*(1), 7-9.
- Good, J. M., Halpin, G., & Halpin, G. (1998, November). *The affective and academic benefits for mentors in a minority engineering program*. Paper presented at the Meeting of the Mid-South Educational Research Association, New Orleans.
- Good, J. M., Halpin, G., & Halpin, G. (2000, April). *Retaining minorities in engineering: Monitoring longitudinal trends in program status*. Paper presented at the meeting of the American Educational Research Association, New Orleans.
- Halpin, G., Halpin, G., Benefield, L., & Walker, W. (1994, October). *Factors related to success in college: Preliminary results from a longitudinal study of student retention*. Paper presented at the meeting of the Southern Association for Institutional Research/Southern Region of the Society for College and University Planning, San Antonio, TX.
- National Science Foundation. (1996). *What works! Encouraging diversity in science, mathematics, engineering, and technology through effective mentoring: A 5-year overview of the research careers for minority scholars program*. Arlington, VA: Author. (ERIC Document Reproduction Service No. ED 399 171)
- Stromei, L. K. (2000). Increasing retention and success through mentoring. *New Directions for Community Colleges, 112*, 55-61.

Tinto, V. (2003, November). *Promoting student retention through classroom practice*. Paper presented at Enhancing Student Retention: Using International Policy and Practice for the European Access Network and the Institute for Access Studies, Staffordshire University, Amsterdam.