Mar 31st, 4:00 PM - 5:00 PM

The Impact of Near – Peer Mentoring in an Introductory Course

Tanya Kunberger
Florida Gulf Coast University, tkunberg@fgcu.edu

Follow this and additional works at: https://digitalcommons.georgiasouthern.edu/sotlcommons

Recommended Citation
https://digitalcommons.georgiasouthern.edu/sotlcommons/SoTL/2016/10

This presentation (open access) is brought to you for free and open access by the Conferences & Events at Digital Commons@Georgia Southern. It has been accepted for inclusion in SoTL Commons Conference by an authorized administrator of Digital Commons@Georgia Southern. For more information, please contact digitalcommons@georgiasouthern.edu.
The Impact of Near-Peer Mentoring in an Introductory Course (MS#2063)

Dr. Tanya Kunberger, U. A. Whitaker College of Engineering, Florida Gulf Coast University
Dr. Chris Geiger, U. A. Whitaker College of Engineering, Florida Gulf Coast University
Dr. Jackie Greene, College of Education, Lucas Center for Faculty Development, Florida Gulf Coast University

ABSTRACT

One methodology researchers have used to reduce or reverse poor retention rates is near-peer mentoring. Studies have shown that acting as a near-peer mentor aided in the mentor’s academic growth and was suggested to be a promising prospect for student retention. Kuh et al. have also demonstrated that the educationally purposeful activities described in the National Survey of Student Engagement, produced a statistically significant increase in first year grades, and second year persistence (1). A recent review of mentoring programs (2) suggests that more rigorous research should be completed, particularly with respect to the assessment of the social validity of the programs.

The revised introductory course at Florida Gulf Coast University (FGCU) integrates upper level students as near-peer mentors. The addition of these mentors to the class is designed to allow freshmen to more easily find their fit within the college and increase retention. The social validity of the program is evaluated through a mixed method approach including the use of pre and post surveys of the students enrolled in the course and focus group discussions with the students serving as near-peer mentors. The impact of these relationships on student self-efficacy and the future direction of the program will also be included.

BACKGROUND

While engineering job growth continues to remain steady or increase, the lack of qualified individuals to fill these positions, particularly under-represented populations, remains a concern. Although under-represented minority (URM) groups represent 28.5% of our nation’s overall population (2006), they comprise only 9.1% of college-educated students in engineering and science occupations (3). This underrepresentation is not due to a lack of interest amongst URM groups, but is due to poor degree completion rates (4). One methodology researchers have examined to reduce or reverse poor retention rates is the use of near-peer or like-peer mentoring. It has been shown that amongst African-American engineering students at Auburn University, acting as a near-peer mentor aided in the mentor’s academic growth and was suggested to be a promising prospect for student retention (5). Similarly in a bridge program (programs designed for high school students transitioning into college engineering programs) at Tennessee Tech, African-American mentees demonstrated similar gains (6). Researchers have shown similar results in populations of women engineers (7,8) as well as research focused on first-year graduate students (9). Kuh et al. have also demonstrated through a regression analysis of multiple engineering programs that the educationally purposeful activities described in the National Survey of Student Engagement, including tutoring, discussing ideas from readings or classes outside of the classroom, and having serious discussions with students of different racial, ethnic, or ideological backgrounds produced a statistically significant increase in first year grades, and second year persistence (2).

OBJECTIVES

The specific objectives of this program are to:

1. Increase self-efficacy of engineering students engaged in near-peer mentoring.
2. Evaluate the impact of mentor (TA) training on effectiveness and self-efficacy.
3. Evaluate the impact of near-peer mentoring on first-year retention in engineering.

ASSESSMENT

Formative and Summative Evaluation Utilizing a Mixed Methods Approach.

• Pre and Post Course Surveys
• Mentor / TA Interviews
• Instructor Surveys / Feedback / Observations

PROJECT SIGNIFICANCE

A recent review of mentoring programs (2) suggests that more rigorous research should be completed, particularly with respect to the assessment of the social validity (participants perceived value) of the programs. This program will build upon the foundational research described in the background section, and specifically examine the impact near-peer mentors have on cultivating a sense of belonging within engineering, and whether or not this contributes to the retention of first-year students, particularly under-represented minorities. Furthermore, this study will also examine whether or not these relationships improve the efficacy of either the mentors and/or the mentees.

RESULTS TO DATE

The quality of the feedback on assignments from the TAs

The quality of the interactions with the TAs

TA’s ability to create an ongoing relationship

TA’s ability to answer your questions about the course / course assignments

Graph 1: Student Perception of Mentors / Teaching Assistants (TAs). Percentage of students who were either satisfied or very satisfied with various TA qualities. Data is from the fall 2015 semester of the Introduction to Engineering course (n = 88, class size = 107).

Graph 2: Comparison of Pre and Post Survey Results for four questions related to self-efficacy. Percentage of students who agreed with various statements regarding engineering community and success. Data is from the fall 2015 semester of the Introduction to Engineering course (n = 95 for pre data, n = 88 for post data, class size = 107).

FUTURE WORK

• Integration of Pre and Post Survey Feedback from Spring 2016 with Fall 2015 data.
• Evaluation of AV 2015 – 2016 Introduction to Engineering student enrollment in subsequent engineering courses.
• Second iteration of near-peer mentor integration into all sections of the Introduction to Engineering course with continued evaluation.

REFERENCES

3. Expanding underrepresented minority participation: America’s science and technology talent at the crossroads (National Academies Press, 2010).

COURSE DESCRIPTION

Teamwork

Introduction to Engineering

Various Majors

Advising and SMART Plans

Meet the Organizations

Communication

Career Development

Engineering Internship Fair

Career Services Speaker Alumni Panel

Current Innovation Team Research Paper Individual Final Presentation Semester Research Project Ties to University Quality Enhancement Plan