Development of a Seven Function Mentoring Framework for Use with Minority Summer Research Opportunity Program Participants

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Introduction

Mentoring is a key component of most Summer Research Opportunity Programs (SROPs), especially programs aimed at increasing the presence of women and minority students in, science, technology, engineering, agriculture, and mathematics (STEAM) fields. SROPs provide undergraduate students interested in graduate school a glimpse into the life of a graduate student via the work that they perform with their mentor, and they are better equipped to make the decision in whether to pursue an advanced degree (Foertsch, Alexander, & Penberthy, 2000).

Even with literature emphasizing the importance of undergraduate research under the guidance of a mentor; there is very little information regarding the best practices of mentoring minority students who participate in SROPs, and the functions of a quality mentoring experience for students. Therefore, it is important that a mentoring framework be developed that SROP coordinators can use to enhance the mentoring components of their programs.

Purpose

The purpose of this study was to develop a mentoring framework that SROP coordinators can use to enhance the mentoring components of their programs.

Mentoring Framework

The mentoring framework developed in this study focuses on seven mentoring functions identified in the literature and includes three primary steps. The seven mentoring functions include: 1) clarity of project,2) challenging assignment, 3) training for the intern, 4) contact between mentor and intern, 5) assistance, 6) feedback, and 7) role modeling. The first step of the framework involves the mentors/program coordinators understanding of the seven mentoring functions and how the functions can be incorporated into their programs. The second step involves the mentor being introduced to the seven mentoring functions. The third step is the follow-up by mentors/coordinators to ensure that the functions are being practiced and the extent they are being practiced.

When a program coordinator/mentor decides to incorporates the seven mentoring functions proposed by this study in to practice in their program, there are three key steps that should be involved. The first step is that the mentor/program coordinator must be aware of the seven mentoring functions and the important role that they have in providing a quality mentoring experience. The second step is that the mentor/program coordinator must develop a definition of mentoring that will be used throughout the mentoring relationship. The coordinator of a SROP or a mentor may already have another definition of mentoring they prefer, but it is important that there is some operational definition of mentoring that is being used as a guide. Once a definition of mentoring has been developed it is then easier to understand how the seven mentoring functions can be incorporated into the mentoring program. These three steps are the foundation of the framework developed by the researcher; these steps should not be skipped, and are critical to the successful implementation of the seven mentoring functions in a program.

The second step in the framework is introducing the seven mentoring functions to the mentors that will be working with the interns. The first step in this phase of the implementation

is to conduct a mentoring workshop where this information can be disseminated. The second step is to provide the mentors with the operational definition of mentoring that has been identified by the program coordinators. The third and final step in this phase of the framework is to formally introduce the mentor to the seven mentoring functions that should be practiced with the intern. The mentor should be given the definition of each function along with an example of how the function should be practiced, and an example of how the function should not be practiced. Providing both good and bad examples will help the mentor visualize the importance of the functions, and be better able to recognize when a function may not be in practice.

The third step in the framework is the assessment. This step allows for the mentor/program coordinator to assess if the mentoring functions are being practiced, the extent to which they are being practiced, and allows the coordinators to adjust accordingly. The first step in the assessment is the coordinator conducting an informal interview with the intern. The second step is if the coordinator discovers that the mentor is not practicing the functions, then the coordinator should go and encourage the mentor to practice the mentoring functions, and provide some rationale as to why it should be done.

Future Plans/Implications

A major implication of our framework is that when combined with our mentoring model, the framework could be used by not only minority SROPs, but also traditional undergraduate research programs in order to help mentors understand the importance of practicing the seven mentoring functions. The implementation of this framework will help mentors and program coordinators enhance the mentoring experience of the interns. Future plans include using our framework in faculty mentor training workshops of various UROPs and SROPs to introduce the seven mentoring functions model to mentors. We anticipate that successful implementation of this framework and our mentoring model will provide an enhanced mentoring experience and promote better mentoring practices for both interns and mentors.

Costs/ Resources Needed

- An institutional commitment to undergraduate research
- Program coordinators understanding the seven mentoring functions and the role they will have in their mentoring program
- Salary cost for program coordinators
- Faculty members wanting to serve as mentors and willing to attend a mentoring workshop
- Faculty mentor training workshop
- Cost of printing materials

References

Foertsch, J., Alexander, B. B., & Penberthy, D. (2000). Summer research opportunity programs (SROPs) for minority undergraduates: A longitudinal study of program outcomes, 1986-1996. *Council on Undergraduate Quarterly, XX (3)*, 114-119.