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The Role of High-Quality Relationship in Peer Mentoring

Fola Michael Ayokanmbi

College of Engineering, Technology, & Physical Sciences, Alabama A&M University, Normal, Alabama

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Abstract

Student mentoring is a key element in providing direction to first-year students and enabling their transition and acclimatization to higher education and a new identity as students, thus, enhancing their potential for success. A mentoring program provides a supportive environment to enhance the experience of both the mentor and the mentee and improve student retention, persistence, and success. The success of a peer mentoring relationship will depend on the quality of the interaction between the mentor and the mentee. The interactions, relationships, and connections must provide an opportunity for the mentor and the mentee to learn from each other and led to high-quality outcomes for both parties. This paper proposes a conceptual high-quality mentoring framework to ensure that students are well-positioned to successfully pursue disciplines and careers. The proposed peer mentoring approach involves a relationship between a more experienced higher-level student and a lower-level student, whereby the mentor provides the mentee with information about academics, co-curricular activities, student organizations and involvement, and other support programs. Hence, this approach is expected to enhance the experience of both the mentor and the mentee and motivate STEM students to be persistent and successful as STEM students and professionals.

Keywords: *Mentoring, Student Success, Academic Engagement, College Completion, Retention*

Introduction

The greatest barrier to student persistence and completion in STEM occurs between the freshman and sophomore years, and the decisions to stay or leave STEM programs are most often made in the first year.

Persistence in a discipline is associated with motivation, confidence, a sense of belonging, social connectedness, academic engagement, and advising [1]. Mentoring has been identified as an effective approach for meeting diversity, improving retention and persistence in STEM majors, and increasing American performance in STEM [2][3]. The contagion literature focuses on the influence of an individual over another, and the social contagion theory suggests that one individual in a social group with a high interest in a discipline has the potential to spark interest in the rest of the group [4]. Hence, structured peer interaction can have a huge positive impact on peer mentoring relationships to improve the retention of the mentee and enhance the learning and transferrable skills of the mentor [5] in a STEM discipline. This paper proposes a theoretical mentoring framework for developing the personal and academic potentials of students and improving student achievement and success in STEM through high-quality peer mentoring relationships.

*Corresponding author's ORCID ID: 0000-0002-0675-2073
Mail: michael.ayokanmbi@aamu.edu,
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We explore the characteristics of an effective mentoring relationship and how mutually beneficial outcomes can be achieved.

Student mentoring is an effective relational process in which a higher-level student who has more experience with campus activities and familiarity with an institution's support resources guides a lower-level student in their personal and academic development. This alliance facilitates the transfer of wisdom, skill, and grooming of talent. The mentoring relationship is built and maintained on mutual respect, engagement, positive regard, and trust between the mentor and the mentee. The mentor provides the mentee with information about academics, co-curricular activities, student organizations and involvement, and other support programs that facilitate the learning and success of the mentee.

The proposed STEM mentoring framework creates a supportive environment that enhances student retention and college completion. The framework enhances the learning experiences of the mentor and the mentee by enabling them to develop a sense of belonging and an enhanced awareness of campus and community resources and services; engage in academic and social activities; achieve personal satisfaction, positive campus experience, a higher level of confidence and self-esteem; maintain good academic standing; participate in institutional activities and achieve STEM outcomes.

Mentor Training

Considerable resources are expended in recruiting qualified students into STEM programs, and retention of these students should be of high priority and a cost-efficient way of increasing the STEM workforce and diversity necessary for America's competitiveness in the global economy. In a mentoring program, more experienced peers provide support for academic success, and interpersonal development of the mentees to ensure that the mentees are successful in their classes and attain college completion with increased confidence and motivation. Providing first-year STEM students access to experienced, higher-level STEM mentors is an investment in increasing persistence and retention. Hence, institutions must understand the importance of creating a contemporary academic environment in achieving mentoring outcomes. Mentoring fosters beneficial outcomes for the mentor, mentee, and the institution.

The institution has the responsibility of providing a supportive environment for creating and maintaining a strong connection between the mentor and the mentee. Mentor training will contribute to the effectiveness of the mentoring relationship. The institution can achieve the benefits of peer mentoring by matching mentors with mentees, and training mentors on the effective approach for positive role-modeling, and providing guidance and feedback.

The training should focus on relationship management to achieve expected mentoring program outcomes, and periodically evaluated for effectiveness and improvement.

More experienced higher-level students should be trained as mentors to effectively provide lower-level students with information about academics, co-curricular activities, student organizations, and involvement in campus activities to increase their engagement, confidence, and motivation for college completion. The training will help the mentors in providing first-year students with social and emotional supports that would enable them to successfully cope with the challenges associated with transitioning to a college campus. The training will help the mentors in developing the skills necessary to become familiar with the individual goals, aspirations, and needs of the mentees through listening, discussing issues, and providing support. For example, mentees should be able to discuss challenges in a course, project, or personal issues with the mentor at any time. Such interactions will solidify the mentor-mentee relationship in achieving the expected outcomes of the peer mentoring relationship. The program should focus on helping the mentor to develop the ability to understand the mentee's frame of reference and emotional experiences.

Mentoring Program

Peer mentoring has been found to provide academic, psychosocial, and emotional support [6][7][8] that enhances the performance of the mentee [6][7][8]. Psychosocial factors that are associated with STEM include science identity, self-efficacy, sense of belonging to the institution and to STEM, career expectancies, and intention to leave STEM majors. The mentoring program provides a supportive environment to enhance the experience of both the mentor and the mentee by enabling them to develop a sense of belonging, engage in academic and social activities, and have an enhanced awareness of campus and community resources and services. The mentors provide personalized guidance, support, and dissemination of their knowledge about academic support programs and activities. This approach is expected to increase interactions between upper-level and lower-level students, enhance the experience of both the peer mentors and mentees and the development of their human and academic potentials for success.

Mentorship improves student performance outcomes by providing an environment in which students continuously enroll in classes and participate in curricular and co-curricular activities that move them toward degree completion. The mentors provide guidance, support, and dissemination of their knowledge about academic support programs and activities. Some higher institutions are providing access to students who might have been deemed underprepared for higher education. This creates an environment of uncertainty about their success, and retention, and attrition. A mentoring program will help in providing the academic and social support that such students need for success, retention, and completion. The experiences of both the mentor and the mentee must be periodically evaluated to ensure that the program outcomes are being met.

Human Connection and Mentoring

According to [9], high-quality connections are discrete positive social interactions between at least two people, where the individuals in the relationship are aware of the interaction. A high-quality connection, based on the supportive and meaningful connections between the mentor and the mentee, is critical to the effectiveness of student mentoring relationships. The high-quality connection ensures that the mentor and the mentee achieved beneficial outcomes from the relationship [10].

Human connection is an important aspect of social experience and varies in the level of quality. This variation in the quality of the mentoring relationships dictates the effectiveness of the connections. A high-quality connection depends on the actions of the peer mentor and the reactions of the mentee. Peer mentoring provides psychosocial and academic support for the mentor and the mentee and enables the mentee to develop, grow, and engage in campus activities. Furthermore, it provides the environment that helps the mentee to maintain good academic standing, participate in institutional activities, engage in team-building and leadership development, and achieve personal satisfaction, positive campus experience, higher level of confidence, and self-esteem.

The mentee and the mentor must recognize the potential to mutually learn and grow together. High-quality mentoring relationships are built on the ability to treat every interaction as an opportunity to learn and grow by paying attention to the task and reflecting on each other's ideas. High-quality mentoring that promotes strong relationships and leads to high-quality outcomes is demonstrated through the ability of the mentor and the mentee to put themselves in each other's shoes and shape their behaviors to demonstrate empathy, care, and concern. It requires the ability of the mentor and the mentee to respectively and effectively engage and communicate with each other, listen and support each other, and be empathic. Openness and trust contribute to respective and active engagement, which, in turn, boosts high-quality connections between the mentor and the mentee.

Literature Review

Mentoring has been shown to provide first-year students with the ease of transitioning and acclimating to the university campus environment and facilitate the personal development of the mentor, improving academic performance, and ensuring persistence to completion in a specific discipline [11].

Peer mentoring provides academic and social support, decreases attrition, and increases student achievement [12]. Structured peer interaction is beneficial to both the mentee and the mentor. Interpersonal interaction between the mentor and the mentee has the potential to enhance the mentee's performance [13], meet the psychological needs for relatedness [14], and develop a sense of belonging [15]. The effectiveness of a mentoring relationship depends on the quality of the interactions between the mentor and the mentee and their level of satisfaction with the relationship. An analysis of the impact of mentoring programs on the retention, persistence, and success of students in physics and related majors found that mentoring has a positive effect on the ability of the mentee "to develop a sense of belonging and science identities" [8]

An investigation of the perspectives of peer mentors in a peer mentoring program for students in a doctorate in education program illustrated that mentors identify with the social, emotional, and academic life balances of the mentees, provide support and reassurance to mentees, guide mentees to focus on the future, and gain personal and professional growth [12]. Mentors see the mentoring program as being helpful for their mentees and beneficial to their own personal and professional development. An investigation of the impact of mentee-reported relationship quality and mentor-reported use of goal setting and feedback-oriented activities on academic, behavioral, and social-emotional outcomes showed that goal setting and feedback-oriented activities resulted in high impact outcomes [16].

An evaluation of the relationship between instrumental, socioemotional, and negative mentoring and their impact on scientist identity suggests that instrumental and socioemotional mentoring are positively correlated with scientist identity [17]. An assessment of the role of peer mentoring on the mental wellbeing, social connectedness, and professional competencies of medical residents found that. access to peer support was associated with decreased stress and anxiety, and increased self-confidence and sense of belonging [6]. A study on peer mentoring by [18] in the United Kingdom and Norway highlights the value of peer mentoring. Peer mentoring helped ensure that students make use of most of the academic and social support available at the university and supporting the growth and success of the mentors and the mentee.

An examination of the relationship between peer mentorship and the academic and socioemotional outcomes of Black college students established a positive relationship between mentorship, mentorship experiences, and college adjustment [19]. The study found that students with mentors reported significantly higher levels of belongingness and college adjustment scores on the Campus Connectedness Scale compared to students without mentors.

In a study to evaluate the impact of mentoring on "the formation of science identities," one graduate student was assigned to mentor four undergraduate students [20]. The opportunity for the undergraduate students to identify with STEM mentors was found to help them to develop their identity as scientists. A survey of 109 first-year undergraduate students assessed their well-being, integration, and retention. Peer mentoring was found to lead to higher levels of integration to the institution and an increased retention rate. Also, it provided the students with effective social support and the ability to persist to completion. It is recommended as an effective strategy for improving the retention rate [21]. An investigation of the role of peer mentoring and voluntary self-development activities in ensuring that students in science, technology, engineering, and mathematics stay in their college majors [22]. Peer mentoring was found to be an important factor in retaining undergraduate students in STEM and achieving STEM identity outcomes. A mentoring program at Montana State University peered upper-division female students with freshmen female students in engineering, computer science, and physics to improve the retention of women in the STEM fields. A survey at the end of the year showed that 90% of the freshmen women felt they had benefitted from the program [23].

High-quality peer mentoring provides a powerful framework that ensures that students are well-positioned to persist through college completion and pursue careers in STEM disciplines.

Mutual respect, positive regard, and trust dictate the quality of the relationship, and a high-quality connection is essential in realizing the benefits of a mentoring relationship. It is developed and sustained through the relational energy that develops between the mentor and the mentee [13]. High-quality connections can foster a

student's performance, adaptation to transitions, development, and growth [10]. A high-quality connection creates an environment for developing a sense of commitment and compassion that allows the mentor and the mentee to grow and learn together and succeed in their academic endeavors. The quality of the connection between the mentor and the mentee shapes the impact of knowledge sharing.

High-quality connection enhances the ability of the mentor and the mentee to interact more frequently in such a way that generates relational energy [24]. Relational energy between the mentor and the mentee has an impact on a mentoring relationship. In a study of 213 participants in a mentoring program, [25] found that a high-quality mentoring relationship plays a critical role in realizing the benefits of a mentoring program; and that relational energy enhances high-quality relationships.

Conclusion

High-quality connection in a peer mentoring relationship provides the strategy for improving student performance outcomes and success in STEM through psychosocial and academic support. A high-quality mentoring relationship requires suitable higher-level students who are willing to mentor and able to provide guidance regarding mentees' progress and needs, help mentees to discover themselves, and develop mutual respect between the mentor and the mentee. The mentor should engage in social activities, such as campus-based and community-based activities, with the mentee.

The quality of the relationship depends on the perspectives of both the mentor and the mentee. Hence, a process for evaluating and strengthening the relationship will ensure that the objectives of mentoring are achieved. A simple survey instrument for measuring the indicators of high-quality connection can be developed to periodically assess the perspectives of the mentor and the mentee. Appropriate steps should be taken to implement the results of the survey. The mentor's positive regard, authenticity, empathy, warmth, and the ability to provide appropriate support and challenge to the mentee will contribute to the quality of the relationship. A high-quality connection enables the mentor and the mentee to be more engaged in activities that strengthen the psychosocial, emotional, and academic bond between them, and by implication, the ability to persist to completion in a STEM discipline.

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