# Designing and Implementing a Land-Grant Faculty-to-Student Mentoring Program: Addressing Shortcomings in Academic Mentoring

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## Abstract

Mentoring programs at universities have become common because of the perceived benefit to student persistence and retention. Evaluation of the effectiveness of these programs has not kept pace, primarily due to the following three problematic issues: (1) lack of theoretical guidance, (2) lack of an operational definition of mentoring, and (3) lack of methodological rigor. This article describes the evolution of a regional Faculty-to-Student Mentoring program into a statewide program, and how it addressed each of these three problematic issues. Using logic modeling, the intimate connections between theory, operational definitions, and sound methodology are made explicit, thereby addressing many of the shortcomings of previous mentoring programs. By addressing these shortcomings, universities can better evaluate if mentoring programs should be part of the overall strategic plan to help students be successful.

*Keywords:* mentoring, student success, Faculty-to-Student Mentoring, academic mentoring

## Addressing Shortcomings in Academic Mentoring

The purpose of this article is to generate an ongoing conversation that addresses weaknesses in previous Faculty-to-Student Mentoring research and publication. As stated in a literature review conducted by Law, Hales, & Busenbark (2020), many mentoring programs have been developed to address attrition in enrollment numbers at higher education institutions. Law et al.'s (2020) study of the literature published about these mentoring programs revealed weaknesses categorized as lack of theoretical guidance or framework, lack of an operational definition of mentoring, and lack of methodological rigor. This article is designed first to describe how a Statewide Faculty-to-Student Mentoring program addresses these

shortcomings that have plagued academic mentoring programs for the past 30 years. Secondly, briefly describe the evolution of this one program from a regional Faculty-to-Student Mentoring program to a multiple-campus, statewide program. This program is in its early stages, and this article is designed to benefit other Faculty-to-Student Mentoring programs in designing and structuring mentoring with clarity and rigor. Although increasing student persistent rates is the goal of most mentoring programs, without a proper framework, definitions, and rigor, it is not possible to capture data to show whether mentoring programs are achieving their purpose. This article intentionally focuses on strategic design and is meant to discuss this focus so that programs, and future literature, can offer valuable data for analysis and assessment. It is important to discuss early and often the weaknesses of previous programs so that future data can be reliable and applicable.

In January 2017, administrators and faculty/staff from Utah State University (USU) Uintah Basin (USUUB) met to discuss ways to improve enrollment numbers through retention. As a result, a Student Success Committee was formed and drew from the work of retention expert Vincent Tinto (1993), who emphasized that creating a sense of "belonging" for students is key in effective retention efforts. Influenced by Tinto's work, the Student Success Committee formalized that a Faculty-to-Student Mentoring Program would help increase the sense of belonging for students in the Uintah Basin and help retain students. In January of 2018, the Student Success Committee implemented the Faculty-to-Student mentoring program at the USU Uintah Basin campus.

During the first two years of the program, the majority of faculty volunteered to be mentors, and 88 students volunteered to be mentees, with about half of those agreeing to participate in the research portion of the program. Early results of the program supported that mentoring students helped them feel like they belong at the university. Using a five-point Likert scale with high scores representing more feelings of connection, students receiving various amounts of mentoring were compared. Participants (n=15) who did not receive mentoring had mean scores of 2.13 (SD = 1.30), those mentored between zero minutes and 1 hour (n=12) scored 2.67 (SD = 1.30), and those mentored more than one hour (n=12) scored 4.42 (SD = .70). This pattern showed a dose-response, with those receiving more mentoring experiencing more connection ($F = (2, 36) = 13.955$, $p = .000$). Eta-squared, the effect size of .44 was moderate. While these early findings need to be interpreted with caution due to the small size of the Uintah Basin Pilot program, they were encouraging. They supported Tinto's assertion of the positive impact mentoring has on students feeling like they belong at the university. This early data validates the emphasis on the theoretical framework and methodological rigor. Future analysis and assessment will be completed once more data has been gathered.

During spring semester 2019, as part of the *USU Strategic Enrollment Management Planning* (SEMP), the SEMP steering committee chair encouraged statewide administrators to roll the Uintah Basin program into a new, soon-to-be-developed Statewide Faculty-to-Student Mentoring Program. With a targeted implementation date of fall semester 2020, the first order of business was to create the Statewide Faculty-to-Student-Mentoring Steering Committee. Faculty in the statewide system with reputations for engaging students were selected for this committee and tasked to oversee the program's operations at their respective campus (see *Appendix A* for the committee's organizational structure).  During the academic year 2019-2020, with the full support of statewide administrators, the steering committee began the tasks of 1) designing the program, 2) detailing the program's implementation, and 3) planning how to evaluate the program to assess its effectiveness. As the steering committee worked through the process of designing the program, the program's goals were identified. The primary goals of the program were identified as helping students:

1. Successfully adjust to university life.
2. Feel like they are valued members of the university.
3. Have a clear sense of purpose.
4. Achieve their educational goals.

The steering committee met monthly during the 2019-2020 academic year to fulfill its charge. In preparation, the steering committee completed a thorough review of the academic mentoring literature to identify shortcomings in the field. As a result, the committee recognized they were in a unique position to address these shortcomings as they developed the Statewide Faculty-to-Student Mentoring Program.

## Shortcomings Identified in the Mentoring Literature and How These Are Addressed in the USU Statewide Faculty-to-Student Mentoring Program

The steering committee framed its review using three well-known previous literature reviews on academic mentoring. The first was by Jacobi (1991), the second by Crisp and Cruz (2009), and the third by Gershenfeld (2014). Jacobi's (1991) review did not exhaustively survey all mentoring literature but focused on noteworthy research related to undergraduate academic success. Crisp and Cruz examined 42 empirical studies from 1990 through 2007. The last review by Gershenfeld (2014) reviewed 20 studies from 2008 to 2014 that focused on undergraduate students. Jacobi was the first to identify three problematic issues in academic mentoring research, which Crisp and Cruz (2009) and Gershenfeld (2014) later used to frame

their reviews as well. The three problematic issues were: (1) lack of theoretical guidance, (2) lack of an operational definition of mentoring, and (3) lack of methodological rigor. These three problematic issues are described more fully in the following sections, as well as how the Statewide Faculty-to-Student Mentoring Program addressed each issue.

## Theoretical Framework

Describing theoretical links between mentoring and academic success is not just an intellectual exercise; it shifts the focus of what is being emphasized. Without a theoretical framework, links between mentoring and academic success cannot be explained. In empirical studies, theory guides how the independent variable (in this case, mentoring) will be measured, as well as the selection of intervening and dependent variables. Jacobi (1991) cautioned that mentoring programs may be inadequately developed when models or frameworks of mentoring remain implicant and lack clarity.

The reviews by Jacobi (1991) and Crisp and Cruz (2009) identify the lack of theoretical or conceptual framework as a limitation in the field. There were improvements made from the first review by Jacobi (1991) to the third review by Gershenfeld (2014), as more studies identified a theoretical foundation. However, even though more studies identified a theoretical foundation, few studies linked theory with methodology. Most studies simply gauged the satisfaction of mentoring and called that enough. The most refined theoretical models, such as Kram's Mentor Functions (Kram, 1985), Hunt and Michael's (1983) Model of Mentoring, O'Neil and Wrightsman's (2001) Sources of Variance Theory, and Tinto's (1993) Social Integration Theory, have rarely been researched (Johnson, Rose, & Schlosser, 2010). Law, Hales, and Busenbark (2020) include a brief description and useful chart (p. 9) of theoretical or conceptual frameworks used in mentoring studies reviewed by Gershenfeld (2014). Gershenfeld (2014) suggested that future mentoring programs use more than one theory or framework to guide the research because of the wide range of outcome measures modern mentoring programs should include.

Following Gershenfeld's (2014) suggestion that modern mentoring programs should use more than one guiding theory, the statewide steering committee chose three different and unique theories: (1) Kram's Mentor Functions (Kram, 1985); (2) Social Learning Theory (Bandura, 1977): and (3) Social Integration Theory (Tinto 1987, 1993).

### Kram's Mentor Functions

Kram (1985) helped differentiate mentoring from other forms of developmental relationships by clarifying that mentoring had two components: one practical and the other supportive. The practical component prepares the mentee to navigate the career or academic world. The supportive component is about emotional or psychological support and helps create a safe

place for the mentee to explore and process. Using factor analysis, Tenenbaum, Crosby, and Gliner (2001) confirmed these two factors. Nora and Crisp (2007), also through factor analysis, found that in academic settings, the practical component could be further differentiated into Academic Expertise and Career Guidance. These three constructs (Academic Expertise, Career Guidance, and Psychosocial Support) are considered independent variables and provide the foundation of the Theory of Change Logic Model, as shown in the middle three red-colored text boxes in *Appendix B*.

## *Social Learning Theory*

Erkut and Mokros (1984) and Thomas, Murrell, and Chickering (1982) have suggested that Social Learning Theory provides a theoretical foundation for mentoring. Social learning occurs through the observation of other people's behaviors (Bandura, 1977). In the context of mentoring, the mentor guides the mentee in adjusting to the academic world. The mentor also helps the mentee explore career options and pathways. As this practical guidance is given in a supportive manner, the mentee develops trust and a bond with the mentor over time. Through this process, social learning occurs, and the mentor becomes a role model for the mentee in how to be successful in the academic/career world. The mentor serving as a role model is the fourth construct or independent variable of the Theory of Change Logic Model. This construct is in the bottom left of the red-colored boxes in *Appendix B*.

## Social Integration Theory

Vincent Tinto's Social Integration Theory was the most widely used theory in the latest review by Gershenfeld (2014). On page 147 of his landmark book *Leaving College: Rethinking the Causes and Cures of Student Attrition*, Tinto (1993) states that "Effective retention programs are committed to the development of supportive social and educational communities in which all students are integrated as competent members." When students are socially integrated into the academy, they feel like they belong; they feel like they are valued members. Allen and Eby (2010) note that all individuals possess a universal and fundamental "need to belong" (p. 399). Tinto's Social Integration Theory provided a framework that explained that when mentees receive academic and career guidance in a supportive environment, they become integrated into the academy and feel like they belong. Having a sense of belonging to the statewide campus system of USU, as explained by Social Integration Theory, is another key construct or intervening variable of the Theory of Change Logic Model and is found in the bottom green-colored boxes of *Appendix B*. By using a clear and explicit theoretical framework, the steering committee identified the links between mentoring and the desired goals of the statewide program, which were articulated previously. This clear and explicit theoretical framework paved the way for the team to move on to the second problematic issue identified, the lack of an operational definition of mentoring.

# Operational Definition

Operational definitions should be closely connected to the theoretical frameworks being used. When these connections are obvious, they clarify which constructs will be used and how they will be defined.

In a recent literature review of faculty mentorship, Law, Hales, and Busenbark (2020) discussed the lack of an operational definition related to mentoring. In addition, Gershenfeld (2014) found that over 50 articles dedicated to mentorship lacked an operational definition. This lack of conceptual agreement about the definition of mentoring is problematic to the mentoring field because it limits the ability to measure what constitutes a successful mentoring experience. Furthermore, not being clear about what is being measured also contributed to overall weak research designs commonly found in the mentoring literature (Crisp & Cruz, 2009; Jacobi, 1991).

In preparing to create the operational definition of mentoring, the steering committee for the Statewide Faculty-to-Student Mentoring Program reviewed many of the most common definitions of mentoring and the functional aspects of mentoring advanced by Nora and Crisp (2007). Over time, the committee gravitated towards the definition offered by McWilliams (2017), who oversees mentoring programs at Wake Forest University. McWilliams (2017) defines mentoring as: "building a purposeful and personal relationship in which a more experienced person (mentor) provides guidance, feedback, and wisdom to facilitate the growth and development of a less experienced person (mentee)" (p. 70). Though the steering committee liked the general definition offered by McWilliams (2017), they recognized that it lacked functional components of mentoring, continuing to make measuring mentoring difficult. To remedy this, and as recommended by Gershenfeld (2014), the committee drew upon Nora and Crisp's work (2007). Nora and Crisp identified four domains or latent constructs from the mentoring literature:

1. Psychological/emotional support: listening, providing moral support, identifying problems, and providing encouragement.
2. Goal setting and career paths: assistance with setting academic/career goals and decision making.
3. Academic subject knowledge support: acquisition of necessary skills and knowledge, educating, evaluating, and challenging mentee academically.
4. Role model: mentee's ability to learn from a mentor's present and past actions and achievements/failures.

Using factor analysis, Nora and Crisp (2007) found support for the first three constructs. The last construct, role modeling, was not supported. However, the committee chose to retain

it because some limitations identified by Nora and Crisp may have contributed to it not being supported, such as students being enrolled at a two-year institution.

After reviewing many of the most common definitions of mentoring, as well as the functional aspects of mentoring, the steering committee for the statewide Faculty-to-Student Mentoring Program selected the following operational definition of mentoring:

> *Mentoring is defined as building a purposeful and personal relationship in which a more experienced person (mentor) provides guidance, feedback, and support to facilitate the growth and development of a less experienced person (mentee). Operationally, mentors provide mentees with services such as:*
>
> 1. *Academic Subject Knowledge and Institutional Support*
> 2. *Education/Career Exploration and Goal Setting*
> 3. *Psychosocial Support*
> 4. *Role Modeling*

By providing an operational definition of mentoring and clearly identifying what constitutes a mentoring experience, the steering committee addressed a significant problem in the mentoring literature. Addressing this problem increased the committee's ability to measure what is meant by "the mentoring experience."

A review of *Appendix B* illustrates the interconnection between the three theoretical frameworks (Kram's Mentoring Model, Social Learning Theory, Social Integration Theory) chosen and the operational definition. The overall Theory of Change Logic Model displays this interconnectedness and explains how it helps students achieve their educational goals described earlier. After developing the theoretical framework and a clear operational definition of mentoring, the committee was prepared to address the third and last problematic issue, which was also the most complex: the lack of methodological rigor.

## Methodological Rigor

Although some progress was made in the area of theoretical frameworks, and definitional clarification evolved between the reviews of Jacobi (1991) and Gershenfeld (2014), the same cannot be said of methodological rigor.

Jacobi (1991) found that most empirical research on mentoring relied on retrospective, correlational designs using small samples with data collected at a single time. She recommended that future research use quasi-experimental designs and that data be collected at multiple time points because it is unknown how long it takes for mentoring effects to emerge.

Crisp and Cruz (2009) identified the same methodological shortcomings as Jacobi (1991). In addition to suggesting similar ways to improve future research, Crisp and Cruz suggest that researchers should be mindful of mediating effects or potentially extraneous variables such as institution type, mentee and mentor attitudes, and other characteristics of mentee and mentor; for instance, gender or ethnicity.

Gershenfeld (2014) ended her review by stating that her most important finding is the need for more rigorous research designs in the studies of undergraduate mentoring programs. She continued to point out the same problems that threaten external validity, such as small sample sizes, single geographical locations, and narrowly focused programs. Gershenfeld contributed to the mentoring literature in three significant ways. First, she applied the Levels of Evidence-Based Intervention Effectiveness (LEBIE) developed by Jackson (2009) to assess methodological rigor for evidence-based practice. LEBIE includes five levels: Level 1 = Superior; Level 2 = Effective, Level 3 = Efficacious, Level 4 = Emerging, and Level 5 = Concerning. None of the studies reviewed by Gershenfeld (2014) qualified for the two highest levels because none used an experimental design. Five studies qualified for Level 3 by using a nonrandomized control or a comparison group. Four studies met Level 4 requirements. Most studies, 11, received the lowest classification of Level 5. These Level 5 studies only collected data at one point in time on mentees or mentors, with no comparison group. In summary, most studies reviewed by Gershenfeld (2014) continued to have the same methodological concerns as those noted by Crisp & Cruz (2009) and Jacobi (1991). While each of the studies Gershenfeld reviewed reported some positive effects of mentoring, their significance needs to be viewed with caution due to the methodological limitations identified.

Gershenfeld contributed secondly by identifying the dependent variables for each study. Of these studies reviewed, 60% (n=12) used more subjective measures, whereas the other 40% used more objective measures. In some cases, the subjective measures were used as proxy measures for predicting academic and other outcomes.

The third and final contribution from Gershenfeld (2014) was a description of the operational features of each study, such as the number of students who had access to mentors, nature of mentor/mentee relationship, mentor-mentee ratio, volunteer status, financial compensation, frequency of meetings, duration of mentor/mentee relationship, training resources for the mentor, and ongoing supervision of the mentor.

By the time the steering committee was focusing on the lack of methodological rigor in academic mentoring studies, they had already developed the theoretical framework and operational definition for the statewide mentoring program. As such, they were positioned to address the lack of methodological rigor in a manner that was consistently informed by the theoretical framework and operational definition. The following describes the methodological

limitations identified and how the USU statewide program addressed these limitations in additional detail. The methodological limitations are research design, clearly identified variables, extraneous variables, time points for data collection, threats to external validity, and operational features. Addressing these limitations will increase both the program's internal and external validity, resulting in greater confidence in the program's future findings.

## *Research Design*

Because there is support for the positive effects of academic mentoring (Eby, Allen Evans, Ng, & DuBois, 2008), the steering committee felt it would be unethical to employ a classical research design with random assignment to the treatment and control group. Following the suggestion of Jacobi (1991), the committee chose a quasi-experimental design, specifically a propensity-matched control group. In this design, the control group consists of matched individuals who are like the participants in the treatment group. For example, if one of the participants in the mentoring program was from the Blanding campus, age 35, native American, majoring in finance, with a GPA of 3.7, then a student who was not in the mentoring program but similar in the selected characteristics would be included in the propensity-matched control group.

## Clear Identity of Variables

Clearly identifying the variables is essential for two reasons. First, it helps other researchers replicate future studies using the same constructs and identified attributes. Secondly and more important, clearly identifying the variables and discussing their connection to the theoretical framework make it explicit how the independent and intervening variables are expected to influence the dependent variables. The Theory of Change Logic Model in *Appendix B* shows these connections clearly and explicitly.

## Independent Variables

For this program, the independent variables, or constructs, are *Academic Expertise*, *Career Guidance*, *Psychosocial Support*, and *Role Modeling*. Mentees and mentors who opt into the research portion of the program will complete these assessments.

*Academic Expertise* consists of eight indicators with the attributes measured by a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. This assessment was developed by Nora & Crisp (2007). An example, one of the indicators is "My mentor asks probing questions so that I can explain my views regarding my academic progress." *Career Guidance* was also developed by Nora and Crisp (2007) and contains 13 indicators and the same attributes as *Academic Expertise*. One example is: "My mentor helps me carefully examine my career options." *Psychosocial Support* was developed by Tenenbaum, Crosby, and Gliner (2001).

It has ten indicators with five attributes ranging from 1 = Never to 5 = All the time. An example of one of the indicators is: "On average, how often has your mentor encouraged you to talk openly about anxiety and fears that detract from your work?". The last subjective assessment is *Role Modeling*, also developed by Nora and Crisp (2007). It contains four indicators with the same attributes as *Academic Expertise* and Career *Guidance*. An example is: "My mentor shares his or her own views and feelings when we are discussing college-related issues."

## Intervening Variables

There are two intervening variables or constructs in this program: *Sense of Belonging* and *Success at Managing the Academic Environment*. As shown in the green boxes of *Appendix B*, these two variables come between the independent and dependent variables and will be completed by the mentees.

Hurtado, Han, Saenz, Espinosa, Cabrere, and Cerna (2007) developed *Sense of Belonging*. It has three indicators and five attributes like *Academic Expertise*. An example is: "How much do you agree with the following statement – I feel I have a sense of belonging to this college." *Success at Managing the Academic Environment* was also developed by Hurtato et al. (2007). It has five indicators ranging from 1 = Very Unsuccessful to 5 = Very Successful. One example is: "Since entering college, how successful have you felt at adjusting to the academic demands of college?"

## Dependent Variables

Both mentors and mentees will be assessed on various dependent variables. For example, mentors will complete assessments on job satisfaction and fulfillment, while mentees will have objective assessments gathered on them.

Mentors will complete the assessment *Mentoring Benefits for Mentors* developed by Ragins and Scandura (1999). This assessment has four dimensions. The first dimension is *Rewarding Experience*, the second is *Loyal Base of Support*, the third is *Improved Job Performance*, and the fourth is *Recognition by Others*. All four dimensions have the same attributes of 1 = Strongly Disagree through 5 = Strongly Agree. Examples for each of the four dimensions are as follows: *Rewarding Experience* – "The advantages of being a mentor far outweighs the drawback"; *Loyal Base of Support* – "My mentee is a trusted ally"; *Improved Job Performance* – "Mentoring has a positive impact on my job performance"; and *Recognition by Others* – "I gain status among my peers for mentoring my mentee."

Mentees will have objective assessments gathered on them that include persistence rates, Grade Point Average, and Graduation status. These objective data will be gathered from USU's Registrar's Office and the Office of Analysis, Assessment, and Accreditation.

## Extraneous Variables

In their 2009 review, Crisp and Cruz identify extraneous variables or mediating effects that may unknowingly impact the program. Specifically, they suggest institution type, mentee and mentor attitudes, and mentee and mentor characteristics such as gender and race.

### Institution Type

Gershenfeld's recommendation for methodological rigor requires  clearly identifying the type of institution performing the research. Utah State is Utah's land-grant university. It is a thriving research-oriented university that is student-centered. Mentors in the statewide system have teaching as their primary role.

### Mentee and Mentor Attitudes

Both mentors and mentees will complete four different assessments that gauge attitudes. All four assessments were developed by Allen and Eby (2003), and each has five attributes ranging from 1= Strongly Disagree to 5 = Strongly Agree. The first assessment is *Satisfaction with the Mentoring Relationship* and has five indicators. An example is "I am very satisfied with the mentoring relationship I developed with my mentor (mentee)." The second assessment is *Perceived Effectiveness of the Mentoring Program* and has four indicators. One example of the indicators is "The USU statewide Faculty-to-Student Mentoring program is well designed and administered." The third assessment *is Satisfaction with the Mentoring Program.* This assessment has three indicators. One indicator is: "I am very satisfied with USU's statewide mentoring program." Finally, the fourth assessment *Mentoring Program Understanding* has four indicators. An example is "I understood what was expected of me as a mentor (mentee)."

### Characteristics of Mentors and Mentees

The last extraneous variable identified by Crisp and Cruz (2009) was the characteristics of mentors and mentees. As suggested, the USU program will account for gender and race. Additionally, first-generation status will also be collected.

## Time Points for Data Collection

All significant reviews (Crisp & Cruz, 2009; Gershenfeld, 2014; Jacobi, 2019) stress the need to collect data at multiple time points. The USU statewide program collects the pre-assessments for mentees who enroll in the program's research portion at the beginning of that semester. Post-assessments are collected by both mentor and mentee who enroll in the

program's research portion at the end of each semester, resulting in multiple time points for data collection.

In addition to the pre-and post-assessments, all participants, including those who did not opt into the research component, are encouraged to complete a short monthly reflections survey that assesses overall satisfaction with the mentoring relationship, how often and how long mentees interacted with their mentor, and if there are any concerns.

## Threats to External Validity

In the latest review by Gershenfeld (2014), the author admonishes future researchers to address small sample size, single geographic location, and too narrow of a focused program, as these contribute to low external validity and difficulty generalizing the findings to other settings. These issues are addressed by the USU program in the following sections.

### *Small Sample Size*

With nearly 4,000 students in the statewide campus system, it is anticipated that approximately 10% of the students will eventually enroll in the program, resulting in about 400 students. About half of those will opt into the research component, resulting in about 200 mentees, a large enough sample for statistical analysis. In addition, about half of the faculty are anticipated to participate, with most of them opting into the research component, resulting in about 60-65 mentors. This will be large enough for statistical analysis.

### *Single Geographical Location*

As noted in *Appendix A*, this program will be offered at all eight of the USU statewide campuses. These campuses are in both rural and metropolitan communities. In addition, two of the campuses are residential, while the other six are commuter campuses. This rich diversity of campuses will increase the generalization of findings to other settings and universities.

### *Narrowly Focused Program*

While the statewide steering committee directs the overall focus and plan for the program, each campus has the latitude to carry out the plan in the way that works best for their campus. Each campus has its own mentoring committee, and that committee is responsible for the recruitment, training, and implementation of the program at each respective site.

## Operational Features

Gershenfeld's (2014) final contribution from her review was that future programs clearly delineate their operational features. The Statewide Faculty-to-Student Mentoring program seeks to address these issues in the following ways.

### Number of Students Who Had Access to Mentors

All students enrolled at one of the statewide campuses had access to the Statewide Faculty-to-Student Mentoring program. During the fall semester of 2019, there were 3,884 students enrolled in the statewide campus system. Students were recruited into the program through marketing materials such as flyers, rack cards, email and calling campaigns, faculty posting details of the program on Canvas pages and syllabi, campus Canvas page, and advisors describing the program to students.

### Recruiting and Selecting Mentors

Mentors were recruited through an email sent to all faculty from the Vice-Provost encouraging interested faculty members to attend a virtual workshop in August of 2020. In this workshop, it was emphasized that the program wanted faculty to serve as mentors who possessed the personality characteristics of warmth, empathy, self-awareness, integrity, and honesty. Behavioral characteristics included: respected by colleagues, effective communication, availability, and mentoring history (Johnson & Huwe, 2003).

### Matching Mentor and Mentee

As in any effective relationship, shared interests, shared expectations, and similarities are important in sustaining a relationship (Campbell, 2010). The Faculty-to-Student Mentoring Committee at each of the eight campuses identified in *Appendix A* matched mentors and mentees at their respective campuses. These committees had access to the declared major of each mentee. When possible, mentees were matched with mentors in the same department. If mentors were not available in the specific department, mentees were matched with a mentor in a closely related department. For undeclared students, the committee reviewed their course history, and particularly an advisor, to make recommendations about the best match for that particular mentee.

### Mentor-Mentee Ratio

The data managers of the program are tracking the number of mentees each mentor has.

### Volunteer Status

Each mentor and mentee who participates in the program does so on a volunteer basis. Therefore, there are no negative repercussions to mentors or mentees who choose not to participate, and it is not a requirement for employment.

### Financial Compensation

Mentors and mentees receive no financial compensation for participating in the program.

### Frequency/Intensity of Mentor/Mentee Meetings

As mentioned in the previous *Time points for data collection* section, both mentor and mentees are encouraged to complete a monthly survey that tracks the mentor/mentee meetings' frequency and intensity. Mentors and mentees are encouraged to have monthly interactions, with half of these interactions being done face-to-face. Due to the COVID-19 pandemic, these face-to-face meetings have been done remotely during the program's first year. Frequency is the number of interactions during the semester. Intensity is the total amount of time mentors and mentees met. The data managers of the program manage this data.

### Duration of Mentor/Mentee Relationship

The duration of the mentor/mentee relationship is recorded and tracked by the data managers.

### Training Resources for Mentor/Appropriate Boundaries

The last operational feature suggested by Gershenfeld (2014) has to do with training. After the mentors were recruited in August of 2020, individual training sessions were arranged at each campus. In coordination with each campus's chair, those overseeing the program provided training at each respective site.  These training sessions were recorded to be viewed later by those unable to attend. In addition to this training, mentors were given access to the statewide mentoring program guidebook. In this guidebook, mentors are given suggestions on making the initial meeting and all follow-up meetings successful. The guidebook describes what to do and what not to do. It educates mentors about FERPA requirements, the benefits of graduating from college, and how to assist distressed students. The guidebook also provides academic, health and wellness, crisis, financial, and career resources.

# Conclusion

The first section of this manuscript describes a regional Faculty-to-Student Mentoring program's evolution into a Statewide Faculty-to-Student Mentoring program. The statewide steering committee used two reference points in their creation of the statewide program. The first point was lessons learned from the Uintah Basin program. The second point was a review of the mentoring literature to understand the mentoring field's current limits and recommendations. Using these two reference points, the steering committee had both practical knowledge and academic knowledge to use in the development of the statewide program.

Having described the evolution of the statewide program, the rest of this manuscript identifies how the three major limitations in the field of mentoring are each addressed. These

limitations are (1) lack of theoretical guidance, (2) lack of operational definition of mentoring, and (3) lack of methodological rigor. To explain, the theoretical framework aligns with the operational definition of mentoring. The theoretical framework and operational definition both influence and guide this program's methodology by clarifying what independent, intervening, and dependent variables will be focused on.

Lastly, the Theory of Change Logic Model in *Appendix B* captures the steering committee's understanding of how this mentoring program helps students in achieving their educational goals. Through a series of "IF/THEN" statements on the top row of the model, the committee explicitly states how mentoring helps retain and graduate students. In the process, it provides mentors with greater job satisfaction. The boxes below the top row illustrate the intimate connections between theory, operational definitions, and sound methodology. By explicitly stating and diagraming these connections, the statewide steering committee has identified and addressed shortcomings of previous mentoring programs.

Program designers should consider the practical implications of this article. Connections between theoretical framework, variables under consideration, and how these will inform the design are often overlooked in a rush to gather and analyze data. It is imperative that Faculty-to-Student Mentoring programs consider theoretical framework, operational definition, and methodological rigor as the foundation for mentoring programs designed to improve enrollment or attrition rates. By identifying weaknesses in design and strategically addressing them in the earliest phases of mentoring, programs can be designed to capture multiple data points for longitudinal analysis.

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# Appendix A: USU Statewide Faculty-to-Student Mentoring Steering Committee

**Brigham City**
Tadd Colver (Chair)

**Salt Lake City**
Karen Woolstenhulme (Chair)
Amanda Deliman (Assist. Chair)

**Uintah Basin**
Mike Christiansen
(Chair)

**Tooele**
Joe Wilson (Chair)

**USU Eastern**
Rachel Walton (Chair)
Jeff Spears (Chair)
Hannah Lewis (Assist. Chair)

**Fall 2019**
**Total # of Students:**
**3,884**
**Total # of Faculty:**
**150**

**Moab**
Jen Evers (Chair)

**Southwest Region**
Andy Harris (Chair)

**Blanding**
Genevieve Ford (Chair)
Joao Bueno (Assist. Chair)

**UtahState**
**UNIVERSITY**

# Appendix B

Theory of Change Logic Model of How Faculty-to-Student Mentoring Contributes to Culture of Student Success and Faculty Engagement: Constructs, Theoretical Frameworks, and Assessments

USU Statewide Faculty-to-Student Mentoring Program – Revised 12-11-2019

**IF/THEN**
IF mentees enroll in the mentoring program, THEN the mentor will provide academic guidance, career guidance, psychosocial support, and role modeling.

**IF/THEN**
IF mentors provide mentees with academic guidance, career guidance, psychosocial support, and role modeling, THEN mentees will successfully adjust to the academic environment and feel like they belong at the university. Mentors will experience greater job satisfaction. (see mentor column)

**IF/THEN**
IF mentors help mentees successfully adjust to and gain a sense of belonging, THEN continuing mentorship will motivate mentees to connect to an academic discipline and develop goals with a plan to achieve them. Mentors will experience positive intended faculty outcome listed.

**IF/THEN**
IF mentors help mentees feel like they belong to the university family and are motivated with a plan to achieve their goals, THEN mentees are more likely to obtain their educational goals, which will result in increased persistence, retention, and graduation rates. Mentors will experience positive intended faculty outcomes listed.

**IF/THEN**
IF mentors help the mentee achieve their educational goals, THEN mentors will experience greater job satisfaction and fulfillment.

Construct:
 Academic Expertise
Theory:
 Kram's Mentoring Model
Assessment:
 Academic Expertise

Construct:
 Career Guidance
Theory:
 Kram's Mentoring Model
Assessment:
 Career Guidance

Construct:
 Psychosocial Support
Theory:
 Kram's Mentoring Model
Assessment:
 PsychoSocial Support

Construct:
 Role Model
Theory:
 Social Learning Theory
Assessment:
 Role Model

Construct:
 Successful Adjustment to the University

Assessment:
 Success at Managing the Academic Environment

Construct:
 Sense of Belonging/Connectedness to USU

Theory:
 Tinto's Social Integration Theory

Assessment:
 Sense of Belonging/Connectedness

Construct:
 Internally Motivated Purpose
 Committed to Goals

Assessment:
 Declaration of major or plan of study. Commitment to goals with plan to achieve them.

Construct:
 Persistence Rates
Assessment:
 Persistence Rates from Registrars Office and AAA

Construct:
 Retention Rates
Assessment:
 Retention Rates from Registrars Office and AAA

Construct:
 Grade Point Average
Assessment:
 Grade Point Average from Registrars Office and AAA

Construct:
 Graduation Rates
Assessment:
 Graduation Rates from Registrars Office and AAA

Intended Outcomes for Faculty
• Greater Job Satisfaction
• Research Opportunities with Students
• More Connection to Student Resources
• Develop Relationships with Students/Generativity
• More Connection to USU Organization
• Support for Promotion/Tenure Advancement

Assessment:
 Mentoring Benefits for Mentors