The Application of Logic Modeling to the Inter-ethnic/Interdisciplinary Mentoring Institute for Graduate Education

A Capstone Project

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Kedrick B. Perry, MPA

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Executive Summary

Advisor: Dr. Heather Wathington

Over the past several years, the mandate of The Inter-ethnic/Interdisciplinary Mentoring Institute for Graduate Education at the University of Virginia has been to promote a welcoming, supportive, and inclusive environment for diverse graduate and professional students. Specifically, the objectives of the Mentoring Institute have been to: a) Enhance the educational experience of first and second year graduate students and facilitate their successful transition to teaching and researching and; b) Increase the recruitment, retention, and graduation rates of marginalized groups at the University of Virginia.

Looking at this student affairs program, just as with many others, involves asking the questions: What resources are the program using? What type of programming is occurring? What are its goals? Will it be impactful? There is also an ever increasing concern for how to convey the program and its objectives in a succinct manner to participants and other stakeholders.

The field of student affairs has not generated many dynamic or innovative approaches over the years in addressing how to tersely convey program theory or how to prepare a program for assessment. The purpose of this capstone project is to demonstrate how a tool, the logic model, can help the higher education community better understand how a program works by unambiguously identifying what inputs are a part of the program, the processes that occur within the program, and what goals the program is striving for. Moreover, it is an active tool that can assist with the

contextualization of the program within the greater university by allowing stakeholders to interpret resource streams and lines of accountability.

Information to create the logic model was gathered from several different sources: mentoring literature, logic model literature, program materials, and most importantly, interviews with stakeholders in the Mentoring Institute. The interviewees were program administrators, faculty members, and graduate student participants. The literature yielded guiding principles by which to create the logic model such as the amount of detail to include, how to ascertain if the model expresses a coherent story, or if the model is logical to interpret and follow.

Based on all information attained, the implementer developed a logic model that clearly specifies the resources that are being invested into the Mentoring Institute, the processes that are/should be occurring, and the [expected] outcomes. This information is beneficial when articulating program goals and during evaluation or modification phases. With this model, the program director or other stakeholders will have an expedient tool that will allow them to understand streams of answerability and present the logic of the program to outside entities.

This capstone project is significant because it introduces logic modeling in student affairs practice as a means to rationalize and more pithily relate the inner workings and aims of a program in order to create a shared vision for all those involved. Additionally, this project brings together the fields of pre-evaluation and student affairs and offers a new way to examine a student affairs program.

CHAPTER 1: INTRODUCTION

"A lot of people have gone further than they thought they could because someone else thought they could." ~Unknown

The higher education landscape is constantly changing but one element that remains constant from institution to institution is the demand for accountability. Moreover, many program budgets have been slashed while some programs have simply been disbanded because they could not adequately communicate their messages and goals. This is especially true for newer programs. Funders, university administration, and other pertinent stakeholders often cannot gain an adequate understanding of how a program's processes are structured to produce desired results. Studying the dynamics of a program, including, but not limited to funding, individual experiences, and perceptions, offers practitioners a valuable look at the interrelated mechanisms of a program. Furthermore, it provides a template for evaluation of content and function. This capstone project presents an example of how qualitatively mined data can be used to create a logic model. It focuses on a graduate student affairs program at the University of Virginia called The Mentoring Institute.

Problem of Practice**:** For years, student affairs professionals have been tasked with creating programs geared to aid in the retention of marginalized graduate student populations. However, many of these programs have come under criticism due to

unclear goals and methods of success. And oftentimes, assessments of these programs lead to more questions than answers.

Formalized mentoring programs for graduate students are not the norm. Thus, it is essential to ensure that the ones that have been created are functioning as they were designed to do. Operations need to be fully comprehended and communicated to all stakeholders and executed under settings that ensure reliable outcomes. A program should have consistency when it prepares to undergo assessment--a formalized and tangible way for others to understand how the program was considered, communicated to others, and implemented.

Thus, this capstone project will utilize an innovative technique to aid in modifying, streamlining and, clearly articulating the internal and external processes of a university student affairs program. It will, thereby provide a dedicated framework for future assessment. Additionally, this project serves as a response to the question of how best to prepare student affairs staff to offer exactly what a program was created to do effectively and prepare them to be evaluated on those outcomes.

Program Description

The program to be analyzed is the University of Virginia's Inter-Ethnic/Interdisciplinary Mentoring Institute for Graduate Education. The program endeavors to create a welcoming, supportive, and inclusive environment for graduate students from groups underrepresented on the basis of race/ethnicity, gender, and sexual orientation. A rigorous examination of the program will lead to the proposal of a logic model--a tool that will display the sequence of actions that describe what the program is, what the program is doing, and how investments into the program link to

results. Moreover, the formation of a cohesive logic model can be used in communication, implementation, evaluation, and long-range planning of new or ongoing initiatives. While other techniques may be more popular in aiding in the pre-assessment process, logic modeling is especially relevant to this circumstance due to its utility for understanding complex processes and its flexible nature.

Purpose

This Ed.D capstone project seeks to give an example of practitioner scholarship in which, from my position as doctoral intern for Graduate Student Diversity Programs in the Office of the Vice President for Research, I implemented logic modeling –*a systematic and visual representation of one's understanding of a program's interrelated variables*--to situate and critically consider a mentoring program's resources, activities, outputs, outcomes, and impact. In this capstone project, I demonstrate how logic modeling can illuminate a program's key components in order to aid in pre-assessment and programmatic endeavors. My findings deliver useful perspectives and findings for other student affairs professionals who are interested in more effectively presenting a program's processes to provide clarity and to efficiently present information. Furthermore, it is the belief of the researcher that others will see the value in creating and employing logic models to inform future program development.

Purpose Statement

The following statement captures the purpose of this project:

1. How can logic modeling be utilized as a unifying framework from which to direct the organization of data, the flow of inputs, outputs, and outcomes, to

aid in preparation of an evaluation of a graduate mentoring program in student affairs?

This statement has applications for not only the mentoring program being analyzed in the project, but also for other programs throughout higher education. By gaining a deeper understanding of program creation, theoretical underpinnings, and current operating processes, a student affairs professional will presumably be able to identify and change facets of a program that are not meeting expectations. The logic model should be seen as a tool that one can use to seamlessly integrate the varying components of a program and other qualitative data relating to it. This is done in order to provide a clear set of strategies for administrators, students, and other stakeholders who value the program.

Context

I confine this study to the University of Virginia's Inter-Ethnic/Interdisciplinary Mentoring Institute for Graduate Education, or, as it will be referred to throughout this study, The Mentoring Institute. I present this organization from my perspective as a former doctoral intern in the office (Graduate Student Diversity Programs) that has administered the Institute since its inception in 2006. My early and consistent involvement with all aspects of the program, including with the students and faculty involved, gave me a great vantage point by allowing me to add a depth of detail that can only be contributed by an insider within the program.

By using the institute's background, objectives, theory behind its formation, program materials, and interviews from several stakeholders, a clear framework for the creation of the logic model will be evident.

Background of The Mentoring Institute

Nationwide, shortages of diverse graduate students have been reported. According to research, this may be caused by the difficulty experienced by students of color acculturating into the graduate school environment, especially if these students of color are attending a predominantly white university (Davidson & Foster-Johnson, 2001; Iijima-Hall, 1997).

Due to a desire to increase enrollments of graduate students of color into University of Virginia graduate programs, the Inter-Ethnic/ Interdisciplinary Mentoring Institute for Graduate Education was developed. Its intentions is to address barriers and challenges related to social inclusion and academic preparation that students of color may encounter in graduate education and which may be linked to the challenge of developing critical masses of minority populations in graduate programs. Long term forecasts indicate that ignoring these challenges may contribute to the continuation of lower rates of enrollment for graduate students of color throughout programs at the University of Virginia (IAS, 2006). These disparities can have a significant impact on the number of persons of color who can enter the professoriate, conduct high-level research, and produce relevant literature (Iijima-Hall, 1997). Consequently, the University of Virginia believes that having more graduate students of color in the pipeline will aid in alleviating racial disparities that have arisen over the years in academe. (VPR, 2007).

The University's Office of the Vice President for Research conducted research that indicated having a mentoring program could be an integral piece of the academic framework in addressing the paucity of graduate students of color (VPR, 2007). Since

1984, the University has offered a peer advisor program, for undergraduates from underrepresented populations, through the Office of African-American Affairs. This peer advising program is often cited as playing a significant role in producing high graduation rates of African-American undergraduates at the University. In fact, the University has had the highest graduation rate of African-American undergraduates, among public institutions, for thirteen consecutive years (JBHE, 2009). The University of Virginia aspires to achieve the same success for its graduate student population and believes The Mentoring Institute is an important step toward reaching that goal.

A Description of The Mentoring Institute

The program received its initial funding stream from the Council of Graduate Schools and Peterson's College Guides. The Office of Graduate Student Diversity Programs, under the auspices of the Office of the Vice President for Research, was chosen to execute the goals and objectives of The Mentoring Institute. More specifically these goals included enhancing the educational experiences of masters and doctoral students; facilitating their successful transition to training and researching at the University of Virginia; and, increasing the recruitment, retention, and attainment of underrepresented groups at the University of Virginia. The program is also composed of faculty mentors who will share their academic and institutional knowledge to aid the students through the graduate school process.

The Mentoring Institute is under the direct guidance of the Director of Graduate Student Diversity Programs who, with input from graduate students and faculty, oversees the functioning of the program. To assist with the institute, a program coordinator is employed to implement new ideas, provide instructional materials, alert

members to relevant forums, plan social gatherings, and make changes as necessary to ensure the effective functioning of the institute.

As stated, the program consists of graduate students and faculty members. To begin the matching process for a cohort (which consists of an entering graduate student, advanced graduate student, and faculty member), participants complete an online application that addresses issues that concern them. It tries to pair them with those of other genders, ethnicities, and disciplines to broaden their cultural horizons. The entering graduate student is referred to as a mentee, the advanced graduate student is considered a mentoring coach, and the faculty member is known as the faculty mentor or simply "mentor". At the beginning of each year all of the cohorts are brought together to learn about their roles, time commitments, the availability of professional development, funding to attend conferences, and other social support and financial resources available to them. Students who apply are selected based on references, prior institutions attended (with special consideration given to minority-serving institutions), first-generation status, and academic discipline. Faculty mentors are selected based on recommendations from other faculty and their history of supporting a diverse and inclusive environment for graduate students.

Theory Informing The Mentoring Institute

The theoretical basis for the institute is grounded in research by Davidson and Foster-Johnson (2001). These scholars suggest that effective mentoring improves the graduate experiences of underrepresented students and gives them increased chances to succeed in their chosen fields after graduation. Moreover, Davidson and Foster-Johnson (2001) state that "traditional mentoring programs do not acknowledge the

cultural differences of students of color and the impact that these differences may have on student performance and expectations."

Because mentoring revolves around personal relationships, as well as the climate and structure of the graduate program, the authors' research suggests that, to be an effective mentor, faculty members must cultivate an appreciation for, and an understanding of the experiences of students from diverse backgrounds. Thus, preparing mentors to be culturally sensitive, regardless of their own racial identity, enhances the impact of the mentoring relationship. To culminate their perspectives, Davidson and Foster-Johnson succinctly identified five realities that have an impact on graduate mentorship:

1) an institutional focus on assimilation rather than cultural inclusion;

2) assumptions on the part of the faculty mentor about professional similarities in regards to the mentee;

3) an avoidance of multiculturalism in graduate school course work;

4) the impact cultural differences have on student outcomes; and

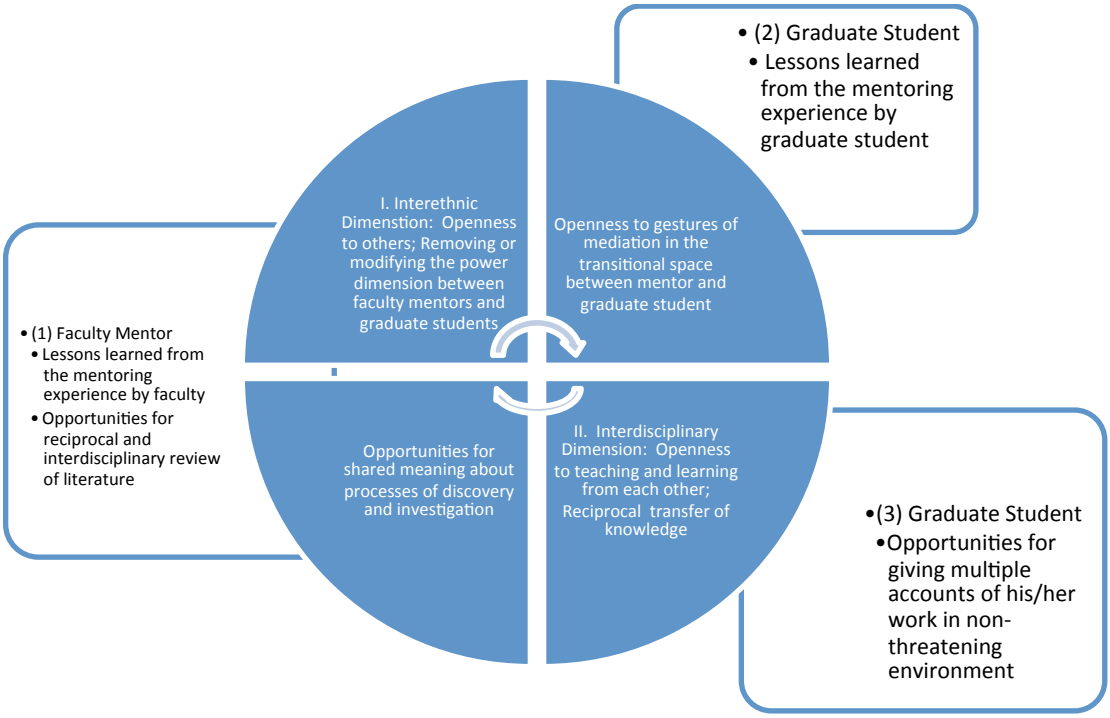
5) how race is addressed in the cross-racial mentoring dynamic.

The implication is that an understanding of these realities will aid in the creation of mentoring opportunities for graduate students from underrepresented groups.

To aid in the preparation of diverse graduate students, The Mentoring Institute employed the concept of "reciprocal mentoring" to raise the sensitivity of faculty mentors to the issues faced by graduate students from dissimilar racial backgrounds. Reciprocal mentoring enriches the roles implicit in the traditional mentoring model by changing the relationship between graduate students and faculty mentors into a complementary one.

Reciprocal mentoring aims to strengthen the underlying pillars that sustain growth in diversity within the University community by cultivating mutually meaningful connections between individuals at all levels of the organization.

The figure below gives a graphical representation of the institute's theoretical underpinnings (GSDP, 2007):



1, 2, & 3 converge: Compilation of new knowledge about best practices to inform each subsequent year's program and to share with the granting agency for dissemination to other grantees.

It is through the innovative reciprocal process that the Mentoring Institute believes will aid in improving feelings of social isolation within the University, provide avenues to increase retention and graduation rates, and strengthen the connection between those of diverse backgrounds at the University.

Capstone Project Plan

The next chapter “Review of Related Literature” will present the importance of mentoring since it is the impetus for the creation of the institute. While the existence of mentoring literature is widespread, there seems to be a shortage of literature relating to mentoring programs using a reciprocal mentoring framework. We see examples of programs geared towards certain groups or disciplines but none that are as interracial and cross-disciplinary as The Mentoring Institute. This work intends to gain some footing on that front. Before that can be achieved, however, it is beneficial to understand the concept of mentoring on a more substantial level. It should be noted that this review is not be an exhaustive review of the many facets of mentoring and its dynamics but instead focuses on those issues that are germane to the mentoring program in this study. Therefore, the first section reviews the significance of mentoring, types of mentoring relationships, issues in mentoring graduate students of color and women, benefits garnered from the mentoring experience, and provides a brief summary. Finally, more information related to logic models is presented. Emphasis will be given to theory mechanics behind this concept and its use as a preparation tool for program evaluation and planning.

The “Methodology” chapter describes how primary sources (interviews) are incorporated with the Institute’s grounding theory, resources, and expected outcomes to create a logic model framework.

The “Results” section answers some of the earlier questions pertaining to forming the model. Additionally, the implementer shows how the logic model focused the data

and established linkages, created a new framework for future planning, and substantiates the overall utility of creating logic models.

The “Discussion” followed by the “Action Communications” sections seek to bridge all remaining gaps in the project. The results and their implications will be fully parsed out, with a list of key findings and implementer recommendations.

CHAPTER 2: REVIEW OF RELATED LITERATURE

Mentoring Introduction

This literature review is divided into two parts. The first section of this review focuses on the significance of mentoring, types of mentoring relationships, issues in mentoring graduate students of color and women, benefits garnered from the mentoring experience, and a brief summary.

The second half of this literature review is dedicated to detailing more information related to logic models. Emphasis will be given to theory mechanics behind this concept and its use as a tool for program evaluation and planning.

History of Mentoring

As cited in Jacobi (1991) to Tillman (1995), to Knox & McGovern (1988) and many others, the concept of mentoring seems to have begun in Homer's Greek epic The Odyssey. In this story, the King of Ithaca entrusts the development and education of his son, Telemachus, to a man named Mentor. Mentor, in actuality, was the human vessel used by Athena, goddess of wisdom and craft, to counsel and give guidance to Telemachus. We now use the term "mentor" for someone who facilitates one's emotional growth, personal development, and cares for one's well-being (Tillman, 1995).

What is Mentoring?

"…mentoring is a more intricate, long-term, one-on-one relationship that goes well beyond simply providing information. True mentoring is a complex process between

professor and college adult learner that supports a mutual enhancement of critically reflective and independent thinking, " (Galbraith, 2003).

As stated earlier, there is a great deal of literature on mentoring. Even more abundant are the definitions researchers have come up with to define exactly what mentoring is. The quotation by Galbraith represents a consensus on what mentoring entails. In academe, mentoring is the process of a professor providing support, enhancing academic skills, and providing career advice to a student. Dondero (1997) further asserts that a mentor is a person who builds a relationship with one who is in need. The following components of what the mentoring experience involves seem to be of particular interest to this project. Jacobi (1991) states that mentoring relationships are:

1) based on building knowledge and skills in order to achieve long term goals;

2) concerned with professional and personal development and support;

3) beneficial to all participants;

3) based on direct interactions; and,

4) structured on the fact that the mentor is considered the one who has the professional knowledge base .

Significance of Mentoring

The purpose of mentoring varies from field to field but the one constant is that mentoring is used for the personal and professional development of an individual (Crawford & Smith, 2005). In higher education, mentoring has been used on the undergraduate level to inspire students to further their scholastic endeavors by pursuing graduate study (Arredondo, 1995). Chan (1995) posited that just as undergraduates

could use mentoring as a means of enhancement, graduate students and especially those considered ethnic minorities could take advantage of the mentoring process to overcome obstacles that occur during their graduate school tenure.

The value of mentoring in academic settings can be traced back to literature in the 1970s, particularly to Carroll (1973) and Epstein (1973). In the years following, more research was conducted on mentoring and how it was utilized or underutilized in various groups. For instance, Kanter (1977) found that in large organizations minorities and women had the most difficulty finding adequate mentors. In 1978, a study conducted by Levinson found that mentoring was crucial to the enhancement, skill sets, and intellectual development of a person.

Concerning colleges and universities, Odell (1989) suggested that mentoring relationships were some of the most important associations a student could develop. Blackwell (1983) indicated a similar line of thinking by suggesting that mentoring, along with peer networking, was essential to success in graduate and professional education. Other researchers (Smith and Davidson, 1992; Faison, 1996) agreed that mentoring gave students a necessary professional development tool that could potentially lead them in possible career directions. At the graduate level, Faison (1996) asserted that mentoring was an essential component through all the stages of graduate education. He posited that at each level of the graduate experience, mentoring could provide a different benefit. In the initial level of graduate school, Faison (1996) describes the mentor's role as one of motivator and supporter to the student or mentee. The second level can be categorized as the mentor continuing to lend his/her support as needed and continuing to encourage the student as he/she goes through the rigors of graduate

education (Faison, 1996). The final level, according to Faison, is one in which the mentee garners essential guidance on life after graduate school, with specific emphasis being placed on career direction.

Types of Mentoring Relationships

There are numerous types of mentoring relationships that depend on a multitude of variables including type of institution, number of people in the mentoring relationship, and objectives of the relationship. However, all of the various types of mentoring can be parsed into two distinct variations: formal and informal mentoring.

Formal mentoring relationships are those in which the mentor and the mentee are brought together for professional or career development (Russell & Adams, 1997). Moreover, a formal mentoring relationship may include an organized match between mentor and mentee, explicit expectations from the relationship, objectives that are to be accomplished, consistent meeting times, and set locations where the meetings take place (Wright, 2004). In regards to ethnic minorities and women, formal mentoring was seen as a driving force in overcoming educational or professional challenges that were impediments to success (Russell & Adams, 1997). In the university, many formal mentoring programs were created to address concerns of equal access and opportunity for students of color, women, and first –generation students (Carden, 1990). Furthermore, Tillman (1995) emphasizes that formal mentoring for students of color and women can assist in the development of diverse talent that might otherwise be ignored. Once these mentored diverse students are in the pipeline, there are many positive outcomes that may arise for their institution and the greater society (Tillman, 1995). Many of the studies conducted on mentoring have studied it in its formal practice.

Informal mentoring, on the other hand, does not involve having a specific agenda, meeting times, or location. Unlike formal mentoring, these relationships are not structured in an official manner (Russell & Adams, 1997). The naming of specific objectives to be accomplished or the expectations both members have of the relationship might not be thoroughly discussed. Informal mentoring seeks to fulfill a short term need in the student, and once that need is met in some fashion, the mentoring relationship evolves into an even more fluid structure.

Haring (1997) asserts that through both mentoring processes a type of networking also occurs that is greatly beneficial to students of color and women especially in navigating the academic setting they currently reside in. Also stated was the recognition that this networking could also transpire between the various students that a mentor counsels. These diverse mentees and their mentors are able to pool resources to give the student the best tools possible in order to empower themselves to achieve success (Haring, 1997). Additionally, Haring (1999) suggested that formal mentoring was a more certain way to enhance one's career prospects, but informal mentoring could be seen as a way for the mentee to traverse the academic waters on his or her own and in the process gain a sense of empowerment. The University of Virginia's Mentoring Institute employs elements of formal, informal, and the networking aspects of mentoring to achieve its various objectives.

Phases of Mentoring

According to Johnson (2007), in both informal and formal mentoring, there are four phases that exist to varying levels: initiation, cultivation, separation, and redefinition.

The initiation phase consists of the initial several months of the mentoring relationship. The mentor and mentee begin scheduling meetings (if formal), getting to know one another, and set expectations for the relationship. This phase is the critical cornerstone for an effective and successful relationship (Johnson, 2007).

The cultivation phase occurs when the mentee heavily relies on the academic knowledge and experience of the mentor. With the mentor's displays of concern or guidance, the mentee begins to trust and respect the mentor more. The mentor actively aids the student in achieving his/her academic goals by building up the student's self-efficacy. Cultivation is also the longest phase of the mentoring relationship (Johnson, 2007).

The separation phase activates slightly before or after the mentee's graduation from the college or university. In essence, the mentee has achieved success or is in the process of accomplishing his or her academic goal, and the mentor has provided some of the necessary skills to deal with academe. This phase sets the tenor for the redefinition phase (Johnson, 2007).

The phase of redefinition involves the mentor stepping back to fully relinquish his/her role. Also, the relationship evolves into one that is more based on collegiality and circumstance (Johnson, 2007).

Characteristics of Effective Mentor/Mentee Relationships

As is the case with any relationship, both sides of a mentoring pair need certain skills in order for the match to be fruitful. Through research by Jacobi (1991) and Rowley (1999), several similar traits for effective mentoring relationships come to the forefront:

a) the relationship must be based on the acquisition of knowledge;

b) it requires commitment to the role of being a mentor or a mentee;

c) mutual benefits;

d) interpersonal connectedness; and,

e) mentors must be competent and willing to advocate as necessary on the behalf of their mentee.

Crawford (2004) asserts that the framing or nature of the relationship will depend on the needs or expectations of the mentor and mentee, departmental dynamics, university climate, and the circumstance in which the relationship was initiated.

Mentoring in Graduate Education

As mentioned earlier in the review, mentoring relationships have been proven to be important in the academic setting. More precisely, Lyons & Scroggins (1990) asserted that graduate students who had a faculty mentor viewed the relationship as a central highlight of the graduate school experience. Mentoring was a pivotal tool used by graduate students to aid in their persistence to degree attainment and career decisions (Lyons & Scroggins, 1990).

In a case study analyzing mentoring processes between faculty and students conducted by Valadez and Duran (1991), the researchers determined that these relationships have very effective results in making students more prepared for higher level scholarly research. In a prior study conducted by Cronan-Hillix (1986) two major findings were brought forth: a) a positive correlation existed between having a mentoring relationship and the number of published articles by a student, and b) having a mentor provided for higher visibility on campus and led to more involvement in

professional undertakings. Other researchers (Girvez, Zepeda, & Gwathney, 2005; Patton & Harper, 2003) have supported these claims in finding that mentoring is a critical factor in the academic success of students.

Thirty years ago, Vartuli (1982) stated that graduate students needed "webs of support" in order to complete the graduate process and if these webs did not exist or dissipated during the process, then the graduate student had significantly more difficulty than those who had constructed functioning and reliable webs of support. Based on this review of the literature, it appreas that this assertion still holds true for students entering graduate school.

A large body of work concerning mentoring in higher education was assembled by Jacobi in 1991. In her work, she divides mentoring models into three distinct groups: emotional and psychological support, academic and social integration, and scholarly and career development. It is her contention that each of these groups has a direct bearing on how mentoring is implemented within the university context (Jacobi, 1991).

Issues Concerning Race and Gender in University Mentoring

For women and persons of color, entering graduate programs may seem to be a daunting undertaking. Oftentimes, these individuals are first-generation students and are blazing a path in which expectations may not be clearly known. Demands to conform to the departmental culture or higher scholarly standards can lead students to feel isolated and ill-equipped to engage with faculty and peers. Sentiments such as these can lead many graduate students to have extremely negative graduate school experiences or withdraw from the university altogether (Granados & Lopez, 1999).

Graduate programs exhibit a homogenous nature in many instances, and students considered diverse may have adjustment problems or misinterpret the appropriate way to navigate academia (Davidson & Foster-Johnson, 2001). It may be assumed by faculty that a student comes into the graduate program with the necessary skills in order to be successful. When that proves not to be the case, conflicts between graduate students and faculty arise. These conflicts lead to stress for the students, which, in turn, can detrimentally affect their performance (Granados & Lopez, 1999).

Moreover, literature seems to suggest that faculty mentors often choose mentees who are more like themselves with regards to racial background and gender. Oftentimes those mentors are white males, thus leaving behind significant numbers of women and persons of color (Haring, 1997). As a consequence, these two groups can be negatively impacted by not having the same emotional and professional guidance as their majority counterparts.

The work that exists on the experience of females and mentoring suggests that a female's career trajectory can be positively influenced by the presence of a mentor (Dreher & Cox, 1996). Additionally, in fields that are traditionally male dominated, mentors can aid women into adjusting into the culture in order to effectively achieve their career aspirations (Dreher & Cox, 1996). Women who had positive mentoring relationships were found to have built social capital within their organizations which aided them in work performance and advancement in their field (McGlowan-Fellows & Thomas, 2004).

Students of color who attended predominantly white institutions were also found to benefit greatly from the mentoring experience. In particular, they felt more

comfortable in their learning environment and felt more supported emotionally (White & Shelley, 1996). A study conducted by Smith and Davidson (1992) found that Black graduate and professional students who had mentors: 1) had higher levels of networking which directly related to their attendance at professional conferences and article publications; and 2) were provided more opportunities for professional development. Those who did not have a mentor felt they had very little support from the faculty in general.

Nielson (1992) initiated another study that compared the experiences of Black and white graduate students at a large research university in the Midwest. His study yielded similar findings: black graduate students felt that they had less support than their white peers and black graduate students had lower levels of satisfaction with the university environment.

Comparable findings were reported by Sligh-DeWalt (1997) in a study that examined perceptions of black doctoral students. The students who had active mentoring relationships felt they had more opportunities for support in terms of financial assistance, scholarly work, and career options. Students who reported that a mentor was not present during their degree work stated that they had fewer opportunities for the above mentioned types of support (Sligh-Dewalt, 1997).

Breda Bova (2000) performed a qualitative study of black women to investigate how these women experienced mentoring relationships and outcomes. All of the women in the study attributed mentoring as a key factor in their career advancement. The mentoring aided them in overcoming stereotypes and racism in their respective

fields and gave them a sense that their ideas, success, and overall presence in the organization actually mattered (Bova, 2000).

Hernandez (2000) conducted a study with Latino students who matriculated at predominantly white institutions. It looked at factors such as belonging and rates of retention and graduation. Data revealed that the students had issues of social alienation, unwelcoming university climate, and lack of academic support. A similar study found that Latino students had similar feelings of isolation, especially if they had more Latino friendships than non-Latino friendships (Levin, Van Laar, and Foote, 2006). Other themes that emerged were lower academic performance for Latino students who had a majority of Latino friends, and conversely, increased academic performance for Latino students who felt they had a sense of belonging at the university (Levin, et. al, 2006).

Benefits of Graduate Mentoring for Diverse Students

Themes of isolation, cultural alienation, and lack of academic support have been construed from several of the studies mentioned in this review. To temper these concerns and to increase the retention and graduation rates among members of diverse populations, faculty mentoring and institutional mentoring programs were found to be effective instruments (Terrell & Hassell, 1994). Researchers agreed that graduate students should make it a priority to find a mentor in the earliest stages of their graduate program (Bordes & Arredondo, 2005). Further inquiry found that universities that had formal mentoring programs in place could positively correlate them to acceptance rates of admission offers, satisfaction, and completion of the graduate degree (Bordes & Arredondo, 2005).

Graduate students who have a faculty mentor gain research skills, social and emotional support, and an added voice of encouragement. Additionally, faculty mentoring and mentoring programs aided students with navigating professional circles and enhanced their opportunities for career development (Barker, 2007).

McPherson and Morton (1999) noted that subpar advising done by professors was a contributing factor to graduate students' poor academic productivity levels and overall experience at the university. To compensate for poor or inconsistent advising by faculty members, mentorship programs that focused on diverse individuals were shown to help students maintain high levels of self-efficacy and motivation (Dorsey & Jackson, 1995; Mullen, 2007).

Fundamentally, the faculty mentor will guide the mentee throughout his or her graduate tenure and provide supplemental support in terms of career decisions and development. The mentor gains significantly from the relationship as well. He or she is kept current on graduate student dimensions that may not always be apparent from the perspective of the faculty and becomes more culturally competent by interacting with individuals who are different from them (Davidson & Foster-Johnson, 2001).

Mentoring Summary

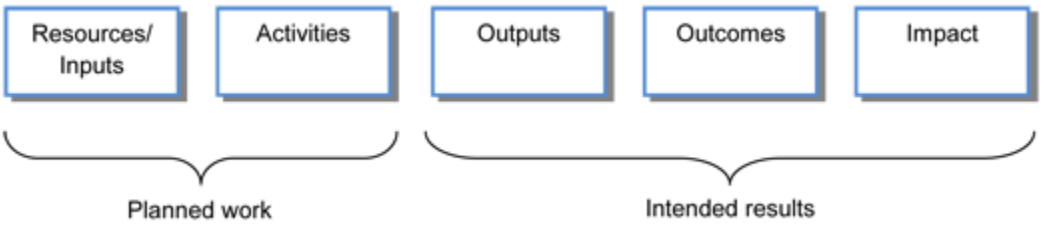
The literature is replete with data that affirms the benefits of mentoring graduate students, especially women and students of color. These two groups of graduate students often face obstacles that have the potential to inhibit their academic success. The relationship between a graduate student and his or her mentor can be one of the most important in academic life. Having a capable faculty mentor can aid in professional development, retention, degree completion, and scholarly production.

The Logic Model

Logic modeling is key to this capstone project, as a tool to illuminate program function. Thus, a more detailed analysis of what logic modeling is and the role it can play in the program improvement process must be discussed.

According to a 2004 guide by the W.K. Kellogg Foundation (WKKF), a logic model is a visual representation that attempts to convey relationships that exist between the development of a program, how it is implemented, and the evaluation of it. McLaughlin & Jordon (2004) assert that logic models aid in identifying critical program factors which in turn lead to questions that should be asked about that program. Weiss' (1997) approach to considering logic models is similar, but also adds that a logic model is not a theoretical approach or an evaluation model but more an approach for integrating aspects of theory, planning, implementation, and evaluation. And as a final point, Frechtling (2007) adds a summative dimension to a logic model when she states that it "characterizes a project through a system of elements that include components and connections, with context being an important qualification."

Weiss maintains that the basic blocks of a logic model consist of a) program inputs, b) program activities, c) interim outcomes, and, d) end results. By diagramming these components, Weiss suggests, essential issues and opportunities can be explained by those who are assessing a program. The Kellogg Foundation (2004) also points to the benefits that can be acquired from logic models such as "effective programming and offering greater learning opportunities, better documentation of outcomes, and shared knowledge about what works and why." The diagram below represents a basic logic model as described by the WKKF:



The model is intended to be read from left to right or from the planning phase to the results phase. Drawing upon the WKKF (2004, p. 2) guide, the following definitions of the logic model will be used in this analysis:

1. Resources/inputs refer to the human, financial, organizational, and community resources a program has available to direct toward doing the work.
2. Activities are what the program does with the resources. These include but are not limited to processes, tools, events, technology, and actions that are an intentional part of the program implementation. These interventions are used to bring about the intended program changes or results.
3. Outputs are the direct products of program activities and may include types, levels and targets of services to be delivered by the program.
4. Outcomes are the specific changes in program participants' behavior, knowledge, skills, status and level of functioning. Short-term outcomes should be attainable within 1 to 3 years, while longer-term outcomes should be achievable within a 4 to 6 year timeframe.
5. Impact is the fundamental intended or unintended change occurring in organizations, communities or systems as a result of program activities, which

might include improved conditions, increased capacity, and/or changes in the policy arena.

Types of Logic Models

Logic models can take virtually any visual shape and can be any size. Thus to add clarity they can be categorized into three basic approaches: theory, outcomes, and activities (WKKF, 2004). This discussion of the three models is not meant to be far-reaching, but to simply establish the basic premises of each model and situation in which each can be appropriately utilized.

1. Theory Driven Logic Model

This approach "emphasizes the theory of change that has influenced the design and plan for the program" (WKKF, 2004, p. 9). Theory is used as the foundation for creating the program and its practices. Visually represented, the model seeks to show how the theory is linked to services provided and outcomes. Furthermore, the theory is used to address not only how the program should work but why it should work. The Kellogg Foundation views this approach as the most useful during the planning and design phases of the program. A basic theory approach would take this form (*emphasized feature(s) and linkages in bold)*:

Theory/ Assumptions/ Reasons	Resources/Inputs	Activities/Solution Strategies	Outputs/Issues Addressed	Short and Long Term Outcomes	Impact

2. Outcomes Approach Logic Model

This approach "focuses on the early aspects of program planning and attempts to

connect the resources and/or activities with the desired results in a workable program" (WKKF, 2004, p. 10). The essential resources and inputs available to the program are linked to corresponding activities. Theory based assumptions are included in this model but are not the central component. The keys to this model are the outcomes which are divided into short-term (1 to 3 years), long-term (4 to 6 years), and impact (7 to 10 years). With its reliance on the linkages that exist between resources and activities and the expected outcomes, this model is most germane to future assessment of programs and reporting the ultimate results of a program. The simplified outcomes approach would look similar to this (*emphasized feature(s) and linkages in bold)*:

Assumptions	**Resources/ Inputs**	**Activities**	Outputs/Issues	**Short-term Outcomes (1-3 years)**	**Long-Term Outcomes (4-6 years)**	**Impact (7-10 years)**

3. Activities Approach Logic Model

This approach "pays the most attention to the specifics of the implementation process" (WKKF, 2004, p. 10). Detailed listings of planned activities are the focus of this approach. Although similar to the other approaches in which assumptions are made and linkages established between resources and inputs, the activities approach main thrust is linking the activities and resources with the detailed activities and steps pertinent to initiate or execute the program. Those who find this approach most useful are ones who seek information about the program implementation process. The simplified outcomes approach would look similar to this (*emphasized feature(s) and linkages in bold)*:

Assumptions	Resources/Inputs	**Activities/Detailed Steps**	**Outputs/Program Implementation**	Short and Long Term Outcomes	Impact

Eight guidelines for the use of the logic model were outlined by Julian, Jones, and Dayo (1995):

1. The logic model can be a valuable tool for evaluation
2. Logic models differ from traditional social science evaluation methods
3. The development of the logic model requires involvement of evaluation and program staff
4. Developing a logic model is a worthwhile yet time consuming task
5. Using a logic model to specify activities and outcomes is an effective way to communicate these ideals to funders and stakeholders.
6. The creation of the logic model is the catalyst for formal evaluation techniques. It makes the decisions about what data needs to be elaborated more on
7. A set of outcomes in which staff can be held accountable to is provided by the logic model.
8. The efficient delineation between short-term and long-term outcomes.

Other than the guidelines and approaches categorized previously, there is a lack of a set pattern or preconceived diagram regarding how a logic model should look. A researcher does not have to pick just one approach to create a model, but may endeavor to combine approaches to form a model representative of the salient points of

each (WKKF, 2004). As long the model is tying together the relationships within an organization and the processes conducted, the form of the model may vary.

There is a general consensus on the positive benefits on the use of the logic model for purposes of pre-assessment and planning. However, other viewpoints must be brought into the conversation. According to Cooksy, Gill, & Kelly (2001), disadvantages to using logic models do exist. The first of these is the cost involved in ascertaining a theory that is applicable to your program and then creating a model for it. Cooksy et al. (2001) views this only as a detriment when the logic model did not precede the development of the program's goal and activities. Another disadvantage of the logic model is the misuse of the theory or theories used to scaffold the program. This occurs when program administration rigidly follow the model to dictate processes which in turn limits the flexibility of the organization to respond to issues and increases the time it takes to process critical information (Cooksy et. al., 2001).

To summarize the disadvantages or alternatives to the logic model, Cooksy et al. (p. 121, 2001) present a concise narrative:

> *Compared to the options, logic models are unique in communicating the relationship of program resources and operations to outcomes in a simple picture. Path diagrams share the simplicity of logic models, but do not include the operational detail that a logic model has. In addition, they usually start with program activities or outputs, rather than with antecedent conditions. Without outlining expected resources and support activities, path diagrams are likely to be less useful than logic models when diagnosing why a program does not have the intended effects. Like logic models and path diagrams, program templates*

distill detailed descriptions of the assumptions underlying a program into a format that is easy to follow, however they emphasize program activities instead of the connections between resources, activities, and outcomes. Similarly, concept maps tend to be limited to a single step in the sequence of resources, activities, outputs, and outcomes. Finally, textual descriptions can be more complete than charts, diagrams, or matrices, but written presentations of program theory are not consistent in their content and there-fore are not useful as a generally recommended framework.

However, even with the disadvantages and alternatives to presenting programmatic data the authors concede that logic models do have more potential to create an integrative framework than the other options especially when trying to portray program theory.

The Rand Corporation has also assembled a thorough analysis of logic modeling used for strategic planning and evaluation. One of the most pertinent pieces of information gained from their experience is the amount of data to be included within the logic model framework. According to Rand (2006), the intricateness of the model relies on the preference of the researcher. He or she can be as elaborate as deemed necessary to accurately describe the organization and its functions. Rand's (2006) position is best stated as the:

> "aim of a logic model is to provide a simplified representation of a program, but as a tool for strategy development, it must also provide sufficient information to establish appropriate goals and measures."

From this statement one infers that only the most germane details that establish linkages and functions should be included in the model. This will enable the model to be reactive to change and malleable enough to bend for new directions or goals. Rand (2006) asserts that models such as these will be applicable even if the program is moved to a new unit or if there is a change in the constituencies.

Patton's (1990) description of logic modeling as a summative test seems to be one that aligns with what other researchers have said. Patton considers the logic model to be a relatively simple and straightforward way to visualize what is and what is not working within the organization. He goes on to say that logic modeling is not an absolute end in itself but more a means to produce critical insights about effective processes and practices across cases and multiple experiences (Patton, 1990).

In summation, it appears that a great deal of the literature available on the creation and utilization of logic models have come from the social sciences, industry, and the nonprofit world. Using logic models in a student affairs context to assess and strategize seems to be a relatively recent endeavor. However, the research cited here suggests that logic models have many practical applications and benefits for any organization being studied. As I have indicated earlier, I will seek to use this tool in its practical sense to prepare The Mentoring Institute to enter into assessment; furthermore, I will use it as a guide to organize data thus adding to the practical knowledgebase for student affairs professionals.

CHAPTER 3: METHODOLOGY

The nature of this research took on a qualitative dynamic. Qualitative research is a processed-based framework of coming to conclusions using various forms of inquiry to understand human or social issues (Creswell, 1998). The methodological tools employed in qualitative design are well suited to gathering data based on commentary, assigning meaning to that commentary, and deriving how behaviors contribute to actions (Creswell, 1998). Observations and interactions among subjects in organizations, such as universities, drive the investigation (Marshall & Rossman, 1989). More specifically, this project was placed within a paradigm of constructivism. This paradigm posits that persons construct realities through interpretations and experience (Charmaz, 2006). The implementer, moreover, found this paradigm beneficial because it takes into account the limited separation between researcher and the subject of his research. Having no hypothesis to form the basis of the research readily lent itself to constructivist thinking since meaning is continuously generated or assigned during the process of research (Creswell, 2003).

The logic model is an interpretation of data; thus the subjectivity that is inherent and accepted within constructivism is valued. From this position, the implementer endeavored to bring forth knowledge and comprehend how The Mentoring Institute participants shared meaning. This project was informed through my lived experience as a doctoral intern in the Office of Graduate Student Diversity Programs. Among those experiences that provided a vantage point into this process were my years working in student affairs, previous research on mentoring, and familiarity with study participants.

These key linkages plus the participants' feedback were critical in assembling an understanding of a unique context in which the logic model could be situated.

Purpose of the Capstone Project

The creation of a logic model for The Mentoring Institute as a capstone project was conducted in order to assist the director in the functioning of the Institute by allowing them to efficiently prepare for evaluation and also to clearly communicate the vision of the Institute to others. The model was based on an amalgamation of the outcome and theory approach to logic modeling.

Specifically, this project's core is the creation of the logic model not to assess the program but to understand how the program functions, uncover how Institute stakeholders experience and perceive the Institute, bring to light how resources are being utilized, and to determine if the model effectively sets up the program for eventual evaluation. In addition, this project seeks to be an example to student affairs professionals on how one can use logic modeling to plan, implement, and prepare programs for assessment. All materials detailed in the methodology framework will be included in the appendix including interview protocols.

Setting

The study was conducted within The Mentoring Institute, which resides in the Office of Graduate Student Diversity Programs within the University of Virginia. The University of Virginia, located in Charlottesville Virginia, is a predominantly white institution (PWI) that was founded in 1819 by Thomas Jefferson. It is categorized as a research-intensive public university that offers bachelor's degrees, master's degrees, graduate certificates, and doctoral degrees. According to University of Virginia

Institutional and Assessment Data (2015), 21,500 students are enrolled at the university. The statistics indicate that approximately 15,000 of those students are undergraduates; and 6,400 are classified as graduate students. Of the undergraduate students, over 98% are full-time and around 92% of the graduate population attends full-time. The most recent data on the racial/ethnic background of graduate students by school is as follows:

On-Grounds Headcount Enrollment by Race, Fall 2014

Graduate	Total	African American	Asian American	Hispanic American	Multi-Racial American	Native American or Alaskan	Native Hawaiian or Pacific Islander	Non-Resident Alien	Unknown	White American
Architecture	181	12	4	8	2	0	0	35	12	108
Arts and Sciences	1,295	25	52	34	22	0	0	347	83	732
Basic Medical Sciences	275	15	18	15	7	1	0	26	21	172
Business	852	31	49	39	12	1	0	217	29	474
Commerce	245	11	20	15	4	0	0	35	11	149
Continuing and Professional Studies	55	0	4	0	1	0	0	2	3	45
Education	707	37	34	26	17	1	0	29	20	543
Engineering	590	9	35	14	6	0	0	269	13	244
Law	1,067	54	74	35	32	1	0	78	70	723
Leadership and	88	6	5	2	2	0	0	8	6	59

Public Policy										
Medicine	620	24	104	55	30	2	1	21	115	268
Nursing	373	35	10	12	10	0	1	6	5	294
Other	47	0	2	1	1	0	0	29	0	14
Subtotal	6,395	259	411	256	146	6	2	1,102	388	3,825

SOURCE: Data from the Office of Institutional Assessment and Studies, University of Virginia. Available from http://avillage.web.virginia.edu/iaas/instreports/studat/enrollment.shtm

The Office of Graduate Student Diversity Programs was created in the fall of 2005 and appointed its first director in the spring of 2006. The charge of this office is to lead the University's efforts to foster a diverse graduate and professional student population and also to provide a climate of inclusion and support to prospective and current students. The office focuses on racial/ethnic diversity in graduate education but also encourages representation from other underrepresented segments whether they be based on gender, nationality, ability/disability, and sexual orientations. The office oversees recruitment programs, academic workshops and seminars, lectures, and The Mentoring Institute.

The Mentoring Institute was created as a program to provide support and guidance for underrepresented students and other marginalized populations in graduate education. The main objectives of the program are to enhance the educational experience of these populations; and to increase their recruitment, retention and graduation rates at the University of Virginia. More specifically, the program (*TMI*, n.d.) lists the following as objectives:

- *"To facilitate a positive social and academic transition into graduate and professional studies for students who are traditionally underrepresented in their respective disciplines at the*

University of Virginia. Additionally, to contribute to setting a foundation for their success throughout graduate and professional studies.

- *To provide two-fold opportunities for advanced graduate, professional and postdoctoral scholars to develop valuable and transferrable communication and mentoring skills.*
- *To create communities of mutual learning and respect within and between diverse and interdisciplinary cohorts.*
- *To promote innovation and improved quality of life for all by increasing the recruitment, successful matriculation and advancement of scholars and professionals from backgrounds traditionally underrepresented in advanced studies."*

During the earlier stages of The Mentoring Institute, faculty members were selected to join based on recommendations from their department chairs. Next, advanced graduate students (3rd year and up) were selected based on recommendations from their advisors or other members of the faculty. They were trained in mentoring best practices and given an overview of their responsibilities. First and second-year graduate students learned about the program through word of mouth, their departments, and especially the Graduate Student Diversity Retreat which occurred at the beginning of the academic year. The retreat focused on establishing meaningful interactions and educational success strategies for new and returning graduate students. The first and second-year graduate students were accepted into the Institute based on letters of recommendation and academic disciplines. Their previous college or university was also taken into consideration since those who matriculated at minority-serving institutions received special consideration. Once officially accepted, these students learned about the roles of the advanced graduate student (mentoring coach) and the faculty mentor in their reciprocal relationship. They were also introduced to time

commitments, workshops/seminars offered, and funding opportunities offered by the Institute.

Study Participants

Participants in this study included the director who administered the program, the coordinator of the program, two mentoring coaches (advanced graduate students), two mentees (newer graduate students), and two faculty mentors. All participants excluding the mentees, had been part of the program for several years.

Each participant was interviewed with questions tailored to his or her role in the Institute. For example, the director and the mentee questions were different since they occupied different roles within the Institute and viewed the Institute through different lenses. Several of the interview questions were similar. All participants were told that participation in the study was voluntary and their responses were kept confidential.

Interview Protocol for Director

The interview protocol for the director was constructed based on her executive/administrative duties to gauge her thinking about the overall Institute. The 17-question protocol addressed the goals and purpose of The Mentoring Institute, the population involved, treatment activities, and perceived outcomes.

Interview Protocol for Coordinator

This interview protocol was tailored to the administrative duties of the coordinator. The 22-question protocol included sections concerning the coordinator's responsibilities, goals and purposes of the institute, the population involved in the institute, treatment activities, assessment and outcome questions, and finally a closing

question in which the coordinator was given the opportunity to comment further on any topic or ask questions of the researcher.

Interview Protocol for Mentees or Mentor Coaches

This interview was tailored to the graduate students who cserves as mentees or mentor coaches. The 30-question protocol was a modified version of the other protocols and included sections that sought to obtain demographic information, their overall views of The Institute, the cohort experience, and programmatic outcomes. It concluded by giving them the opportunity to further discuss any topics or ask questions of the researcher.

Interview Protocol for Faculty Mentors

This interview protocol was designed for the members of the faculty who had volunteered for the role of mentor. The 18-question protocol sought to gain the mentors' views on topics that included the goals and purposes of the institute, the general population involved in the Institute, treatment activities that they were involved in, Institute outcomes, and ended by giving the mentors the opportunity to ask the implementer further questions or for them to give any final comments.

Process

The tool used to strategize and understand the Mentoring Institute is the logic model. This model aids in outlining a program, ascertaining which data are needed to add depth, and inform the final discussion of the project.

Logic Model

The logic model was used to frame the (pre)assessment and strategic planning process. It was the hope of the implementer that the model would aid in answering

questions appropriate to organizational planning. Also, the literature on logic modeling was intended to support what data should be included to make a concise model. After reviewing program related materials and analyzing the interviews from the stakeholders, a model was created.

The model can be seen as a visual representation of the critical components that constitute The Mentoring Institute. For the purposes of this capstone, development of the model was based on elements such as inputs (i.e. training materials, staff support), output (activities i.e. workshops, social gatherings), short-term outcomes (i.e. members understanding their respective responsibilities), intermediate outcomes (i.e. cultivation of relationships), long-term outcomes (i.e. enhanced educational experience), and impact.

Data Collection

Stakeholders (director, coordinator, mentors, mentoring coaches, and mentees) were contacted by email to seek their participation in the study. Once they agreed, the implementer sent out materials to further explain the study and to schedule a semi-structured face-to-face interview. Each of the interviews lasted approximately sixty to ninety minutes based on the interviewees' willingness to share and expand on their answers. With the permission of participants, the interviews were recorded on a digital recorder and later transcribed. Confidentiality was assured to participants. The interviews were conducted in a quiet and confidential space within the confines of Graduate Student Diversity Programs or a location of the participants choosing.

Questions designed to frame the experience of the participants were developed by the implementer. They fell into categories such as demographic information, cohort

relationships, the institute, program outcomes, and other narrative questions that delved deeper or explored topics not grouped into the former categories.

Data Analysis

For data analysis in the projected, information drawn from implementer notes and digital recordings was keyed into the computer. Information was parsed out into the created categories of investigation. Once transcribed and categorized, any meaningful themes were grouped, noted, and analyzed.

It was the implementer's goal that the analysis would elucidate ways in which membership in the Institute has shaped students 'experiences with emphasis on such variables as climate, research productivity, and social dynamics.

Role of the Implementer

In qualitative research, one of the most integral parts of the research process is the researcher. Creswell (1998) noted that the researcher was the primary instrument in data collection and the generation of patterns. It should be noted that at the time of the research I had a professional role within the office that administers The Mentoring Institute. This is a critical factor that may have played a part in my interpretation of the data and the conclusions I drew. Additionally, this factor is a potential source of bias that must be documented. I made a special point of detailing this fact to participants and asked that they provide me with candid statements. I also stated that they shouldn't feel any reservations about fully answering. As noted earlier, I kept their identities (mentors, mentoring coaches, and mentees) confidential. I conveyed to them that their answers were only intended to illuminate areas of the operation of the Mentoring Institute that needed more emphasis.

Assumptions

The first assumption made in initiating this capstone is that the Mentoring Institute was operating soundly and should continue to be a major initiative for the University of Virginia. Although there is room for improvement in all organizations, the implementer saw the Institute as a key vehicle in promoting cross-racial and cross-curricular collaborations that would aid students long after they leave the university. The second assumption was that the logic model would be a valuable tool in preparing for assessment and strategic planning. The literature on logic modeling has not shown it to be employed with a program such as this before, but as research on other organization types indicates, the logic model should promote clearly identifiable data with emphasis on goals and outcomes. Consequently if confirmed by this project, the model will likely be a valuable tool in increasing or sustaining effectiveness in university programs geared towards diverse graduate students.

Limitations

Although logic models can assist in the pre-assessment process by providing a systematic way of focusing program objectives and goals there also exist drawbacks that may be linked to logic models when applied here.

- Even though it is possible, when establishing theoretical and actual linkages, to draw on many different sources, there can be no assurance of completeness. It is inevitable that some linkages will not reveal themselves through the program handbook, related institute materials, literature, and interviews with the key stakeholders.

- The logic model revolves around how the researcher views and interprets a program. Thus one has to make sure that linkages are shown in a way that can be understood by other individuals.
- Establishing the boundaries of a logic model may be problematic. Deciding on how many external forces act on the program and how they are to be displayed within the model is challenging.

These limitations can be critical to the creation and efficacy of the model. This made it imperative to be aware of them before initiation of the logic model process. However, if needed, the logic model can be intermittently revised to reflect program enhancement, new directions, and present a succinct vision.

In summation, my methods sought to gain a full picture of The Mentoring Institute in order to construct a logic model that could be organized and guide future evaluation work and possible adaptations of the Institute. It is my hope that this work will add to the knowledge base of student affairs professionals.

CHAPTER 4: ANALYSIS

In chapter one of this study, an introduction to the topic of logic modeling and background information was presented on The Mentoring Institute. Chapter two highlighted the relevant literature on mentoring, graduate mentoring, and some issues related to mentoring underrepresented students in graduate education. This chapter also provided the framework for understanding the logic model and its potential utility in different arenas. Chapter three gave a succinct look at how data was collected, from whom it was collected, information about the setting, protocols and several limitations were identified.

In chapter four, analysis/results of the study are presented that frame the creation of the logic model heuristic. Along with literature and programmatic materials, several participants in the Mentoring Institute (director, coordinator, 2 faculty mentors, 2 mentoring coaches, and 2 mentees) were interviewed to offer their critical insights into the workings and goals of the program. It was the decision of the implementer to structure the interview questions in line with the main categories present in a logic model: inputs, activities, outputs, and outcomes.

The findings of the project are reported in a way that links interview data to the theory and connects the linkages that exist between logic model components. This is intended to illuminate the process from which the logic model was created. During the interviews, expected and unexpected themes emerged from the interview questions, as well as the subsequent dialogue between researcher and program participants. Themes were connected to parts of the literature presented in chapter two. This aided

in providing direction and analysis for the rest of the project. Topics such as networking, time management, and life after graduate school emerged in the interviews. These topics served as starting points to build linkages to other sources of data. Moreover, in terms of documents analyzed, the implementer searched for relevance in each and drew upon those that could add significance to the model.

Parsing out linkages among the interviews, literature review, and program materials led to findings that became main categories that supported earlier frameworks of the Mentoring Institute. Other connections brought into question some notions that were used to initiate the program. The implementer documented similarities and comparisons in the data collected from interviews and data analysis. A process of constantly comparing data throughout the collection process reinforced the chosen incremental development style of the study. These processes gave the researcher confidence that results were grounded in relevant research and provided a qualitatively constructed picture of a graduate student affairs unit within the University of Virginia. Thus, the following sections of the analysis will present the evidence used, the four main components that comprise the logic model, and the themes that were discovered within each as well as two versions of the logic model.

Logic Model Components

To reiterate the components of the logic model, the researcher has pulled from the definitions used by the Kellogg Foundation (2004), Weiss (1997), and Frechtling (2007) to create classifications that will be most suitable to The Mentoring Institute in its current configuration and the direction it can possibly take in the future.

A. Inputs: A broad range of financial, human, organizational, and university resources that are available for the Graduate Mentoring Institute to carry out its mission. The inputs signify the type and degree of outlays needed by the institute to perform its expected activities and to produce the desired outcomes.

B. Outputs: The means in which the institute tries to address the issues that led to its formation. These activities may include mentoring sessions, events, initiatives, and workshops. Given properly defined boundaries, the activities demonstrate how the Institute is trying to reach desired outcomes.

C. Outcomes: The change (behavioral, social, academic, etc.) or benefits to participants, stakeholders, or the institute in general that result from outputs such as improved recognition of the institute among peer programs, greater levels of retention and eventual graduation of participants. Outcomes can be further broken down into short-term, intermediate, or long term.

    - Initial: Changes in participants' attitudes or knowledge base that usually happens within one to two years of being in the Institute such as the mentee having greater knowledge about the University of Virginia community.
    - Intermediate: Changes in a participant's behavioral patterns or practices that can occur within two to four years. An example of this would entail a participant, specifically a mentoring coach, having the ability to conduct sophisticated or more interdisciplinary research.

- Long-term: These outcomes or impacts are the ultimate goals that the institute hopes to achieve and typically occur in four to six years. They result in a participant's circumstance changing such as status from graduate student to graduate of the University.

Interview Data

After the interview protocols were categorized in the above fashion, the implementer then commenced with the interview process by first asking the participants to give information on their backgrounds to get a better understanding of how their backgrounds might affect the way they viewed the Institute. Through thorough analysis, the researcher parsed out thirteen themes and placed them into one of the four logic model categories. The categories and related themes are itemized below followed by more detailed analysis of the themes:

1. Inputs
    a. Staff
    b. Time
    c. Financial
2. Outputs (Activities)
    a. Dinner meetings
    b. Diversity banquet
    c. Workshops
    d. Networking (# of individuals attending networking events)
    e. Workshop related knowledge (# attending various workshops)
    f. Cohort Mentoring (# of cohort present)
3. Outcomes
    a. Retention
    b. Graduation

c. Belonging
d. Awareness

Program Description and Goals

According to the Mentoring Institute program website, The Inter-ethnic/Interdisciplinary Mentoring Institute for Graduate Education (the Mentoring Institute) was funded by a combined grant from the Council of Graduate Schools/Peterson's to increase the number of underrepresented students in graduate programs at the University of Virginia, to retain them, and eventually graduate them. The Office of the Vice President for Research was the recipient of the grant and it designated the Office of Graduate Student Diversity Programs to administer the program.

Interviewees described the program similarly, reporting that it was a cross-cultural graduate mentoring program, and a program that helps advanced and entering graduate students by pairing them with faculty of a different ethnic group. Responses from program staff were identical to the program descriptors from the website.

The central goal of the program, as stated through the manual and program website, is to "create a welcoming, supportive, and inclusive environment for graduate students of marginalized groups (e.g., race/ethnicity, gender, sexual orientation)," with a short- and long-term goal of enhancing educational experiences and increasing recruitment, retention, and graduations rates, respectively.

Responses from interviews yielded similar answers including helping graduate students adjust to graduate school, preparing students for life beyond UVa, and giving students extra support. Of note, is that all responses included "support" in some form when describing the goals of the program.

Staff

The Office of Graduate Student Diversity Programs administers the institute. This office is composed of the director, the Institute coordinator, and the implementer who functioned in an ancillary role when needed for the Institute. Participants gave extremely high marks to the director with one participant noting, "*She has given me all I asked for…*," and another participant stating that "*You can tell that she really cares about the students."* One participant, who has been involved with the institute since the beginning, said that the director has always tried to build self-efficacy in the students and is not timid about involving others in the process. To conclude about the director, the final quote seems to encapsulate the feelings of most participants, "*She is like your grad school mother. You go to her when you have good news and you go to her when you are in trouble*." Participants also have positive things to say about the Institute coordinator. They noted that he kept individuals aware of upcoming events, planned interesting workshops, and he seemed "*involved with the institute*."

Time

When participants were asked if participation in the Institute was time consuming, all of them answered no. A common thread was that faculty members and students lead very busy lives, and any extracurriculars that were pursued had to be limited. They thought the time commitment to the institute was just the right amount. Two of the participants noted that their cohorts met at infrequent times and wanted more contact on a regular basis. One of the faculty mentors felt that he did not devote enough time to his cohort due to the fact that other duties constantly arose.

Financial

In terms of the financial resources of the institute, participants who had been at the University for several years were a bit surprised by the amount of money that was invested into the institute. Both mentoring coaches stated that the financial rewards for being a part of the institute were a major benefit that other programs across the University could not equal. There existed some confusion as to the exact benefits that were allowed for each group (i.e. mentoring coach, faculty mentor and mentee). One participant noted that the resources given to her "*were the only way she could afford to go to a conference*." Of concern is that the current levels of funding will not be sustainable without outside financial assistance.

Dinners

Three times a year the entire institute has dinner together to inform participants of progress, socialize with other cohorts, and announce upcoming events. These dinners were seen as very important to participants because they felt it was a bonding experience with other students and faculty. These formal dinners, in which all Institute participants joined, were deemed "robust" and the most affirming. Graduate student participants saw these as excellent opportunities to meet other students while the faculty thoroughly enjoyed the discourse and often engaged with students outside their cohort. Other dinner type activities that were mentioned were the individual cohort dinners. Students felt that these occasional dinners needed to happen more frequently.

Workshops

The Institute conducts workshops several times throughout the year as a means of providing professional development to members. Workshops pertaining to giving effective presentations and career development advice seem to have been the most

popular. One participant noted that although there "*were probably other workshops like these at the University*," she felt more comfortable attending institute workshops with people she already knew.

Workshop-related knowledge

After attending workshop sessions, the graduate students felt they "*knew more than they did coming in*." Examples that were mentioned included learning how to effectively use PowerPoint in a presentation, creating a curriculum vitae, and learning about options other than academia after graduation.

Networking

Those interviewed felt that the networking aspect was a significant byproduct of Institute activities. The consensus was that often a student or faculty member felt isolated in a department without much interaction with others outside of his or her discipline. The interdisciplinary aspect of the institute allowed members to connect with others across the university and to make valuable contacts.

Collegiality

An interview participant stated that in her first year, she "*stayed to herself a lot but connecting with other grad students through The Mentoring Institute made her feel connected [to the University]*." Responses also revealed that members gave encouragement to each other and it was a nice feeling to know that "*you were not going through the process alone…others feel as aimless as I do sometimes*." Members developed a shared sense of success. When one of them accomplished a great feat such as defending their dissertation or attaining a postdoc, they felt "*motivated and*

moved" to do the same thing. This collegiality could also be phrased as a "*sense of community*."

Retention

When the implementer turned the lens to possible outcomes that the Mentoring Institute was seeking to achieve, retention was the most common answer. In asking how the Institute tries to make tangible this goal, the following were some of the responses:

- *"They try to foster relationships so that there is a faculty member who is not in our department who cares about our academic success… someone who I can come to seek some outside guidance."*
- *"Sensitizing other people, especially professors, to the issues that students of color face at UVa helps us to adjust to the scholarly life easier. I mean when other people know that this place is not easy for us…maybe the concern level changes. I think that is what I mean by easier."*
- *"I think [the director] tries to create an atmosphere where students aren't afraid to ask for help. We have done it solo for so long… that I think it becomes ingrained in us that we can always do it ourselves."*

One responder stated that they were not aware of other programs at the University that actually tried to assist in retaining students. The respondent went on to say that once they accept you into a doctoral program "*you are basically on your own*."

Graduation

The faculty members and Institute staff mentioned that the end goal of the Institute was to, as the director put it, "get you done." The director said that although

the Institute had no direct involvement in a student's research agenda, the support they give during the dissertation phase involves mainly "mental and emotional" guidance. She further noted that programs such as hers gave the type of extrinsic motivation that students crave but oftentimes can't find. The graduate student mentees and mentoring coaches knew that the end goal was graduating but they were more concerned with "just getting through" their immediate situation, i.e. the current semester or preparing for a proposal defense.

Belonging

The implementer was surprised that a sense of belonging is one of the topics that frequently arose. The students felt the University was not the most welcoming place. This, in turn, made them question their place in academia. The students were keenly aware that the aims of the doctoral program were to produce the next generation of scholars, but after "stressful and trying" times with either faculty in their departments or "the tedium of research," they started to question whether they made the right choice. One student indicated a list of things that she should have done instead of a doctoral program with the first option being "going to law school." The students then attributed the Institute with aiding in making them feel they were not alone in this type of thinking. They felt that hearing other graduate students in other disciplines echo their sentiments was "affirming in a peculiar way." Hearing other students who they thought of as competent and successful having doubts about their academic careers made them feel less like "an imposter" and more like every other doctoral student.

Awareness

In terms of awareness, the central point was that members of the Institute became more knowledgeable about "how UVa operates" and how to "navigate the waters." Additionally, participants became more aware of "what's going on throughout grounds." The students mentioned that they sometimes just participated in departmental activities, but through their faculty mentors or other graduate students in the Institute learned about other opportunities that were of interest to them. One of the faculty mentors responded that he really hasn't been active in many things outside of his school but it was great to know that "the school is still a vital beast in the eyes of students."

Continuation of Interview Data

To demonstrate an even more precise utilization of responses from interviews, the below table was created with an amalgamation of four precise questions there were asked from the participants. Each of these questions responds to one of the major pieces of the logic model e.g., inputs, outputs, outcomes, and impact. Although several responses could be used for these categories, I selected one or two responses that were most germane to building data or creating a program theory for the model.

What resources are available? ***[Inputs]***	**What types of activities occur?** ***[Outputs]***	**What are the goals?** ***[Outcomes]***	**What is the lasting change?** ***[Impact]***
"I would say that the program [staff] are really involved…"	"I think the workshops are supposed to be about skill development…things we SHOULD already know"	"I believe as with any mentoring program, we [faculty] want to make sure we are not only developing the student to be a future colleague,	"…More black PhDs means more black professors…"

		but also developing them to be an outstanding Virginia graduate student…"	
"They seem to have lots of funding for …dinners and conferences…"	"Obviously the mentoring occurs…"	"The cross-racial dynamic was intentionally developed for The Institute…we wanted the reciprocal groups to actually bond, feel comfortable with discussions of race and gender…"	"I think what you are seeing here is an infant pipeline program… success means our students will graduate… success means are students will produce [research]…success means they will be mentors to those that come after…"
"They provide money for conferences and we [mentoring coaches] get a stipend."	"It's good to have a different perspective on grad school from a professor you would have never worked with…"	"As with any program of this type, the University can use it as a tool for recruitment… if it's a choice between two similar universities, and one has this program and one does not… if I were a student, I would pick the university that could offer me another form [of support]."	"This makes the school look good…. You can only give a finite amount of financial assistance… but this seems to be a type of support that is necessary but hard to quantify…does it leave an impact; I would say yes… but what that is…I think we don't know yet…"
"She [the director] is just amazing. She always seems so calm. So after you go see her, you are calm too…"	"Pizza and drinks are the norm for student meetings. We have 3-course meals at restaurants I wouldn't go to unless someone else paid…"	"When I started, the main purpose of The Institute was recruitment, retention, and graduation…. These, I think, are still the main points of why we have this... We also have to assume that the cohorts are going to gain intercultural	"Research. I hope that others will look at this as a way to collaborate across disciplines."

		competencies just by the inter-ethnic dynamic.]"	
"She [the director] is someone who has known me since I started here. She even gave me a grant to help pay my expenses."	"The [PhD] student cannot do only the academic; there must be balance and sometimes we can't afford that balance monetarily so it's nice when social events are provided that we don't have to pay for."	"If you want to become a professor, you must be mentored by a professor… this is the goal of a PhD…There are no professors in my family. Actually no one in my family has gone to college…"	"Makes you feel less anxious about deciding to go to graduate school. Knowing there are others like you, no matter the differences, who at times feels lost, is weirdly encouraging."
"…She [director] is like your grad school mother."	"If you stay only in your department, you may not realize what the greater university has to offer. You learn a lot from other grad students and professors… that's how I learned about the Mentoring Institute."	"My mentee and I are in totally different disciplines but when you get down to it, we are both studying the same thing. It's uncanny and yet confirming to know that others view this [topic] like I do."	

Constructing the Logic Model

Using the information that was gained from the qualitative data relating to the Mentoring Institute, the implementer began the process of illuminating a cogent model. The first step in creating the model was to determine what inputs should be included. The implementer views inputs/resources as critical elements that undergird the entire functioning and evolution of a program. Similarly, Frechtling (2007) and Weiss (1997) consider that a researcher should understand inputs as those goods that are available to support a program. Also, inputs have the potential to be unique to every

organization. As the implementer attempts to parse out those things that "support" the Institute, pulling from the interview data seems to be the best method.
Considering that the model is a streamlined approach to understanding processes, the researcher had to limit the amount of inputs in the model to those that represented the majority of commonalities across data.

Outputs or activities for a program can revolve around techniques, tools, and technology, but for this program the activities revolve almost solely on programming initiatives. The events seem all to relate back to underlying core principles within the Institute such as cultural fluency, institutional understanding, and post-graduate skill attainment with the majority of events aimed towards the mentees and mentoring coaches. Most of the activity, in the form of dinners and coffee meetings, takes place informally between the individual cohorts. In attempting to determine what activities to include in the model, the researcher wanted to give a broad view that allowed for reevaluation at the beginning of each new academic year in order to best gauge what the current group of participants needed the most and to avoid replicating themes too often. The other activities seem to focus on broadening multicultural paradigms such as inviting various speakers to campus, or he purely social opportunity which could involve bowling or movie watching nights. The categories here should be broad enough to encompass each iteration of the Institute, yet still fall under the main three topics of social, multicultural, and workshop-related.

Outputs such as collegiality and cultural competence are all thought to come from the activities, but these would be difficult to qualify at this first stage of logic model creation thus they will be noted. For future modifications of the model or when the

program is ready for evaluation, more structured qualitative appraisals into the satisfaction level or competence level of supplementary outputs can be included.

Short-term and intermediate outcomes should reflect the unique reciprocal approach the Institute is based on. Hence, in the model it was important to assign intended outcomes for each member of the cohort. For faculty mentors it is necessary for them to impart their wealth of knowledge and experience to aid in the academic and professional development of those in their cohort, while at the same time becoming more cognizant of the current and multifaceted issues facing graduate students. Mentoring coaches should constantly keep the faculty aware of situations that mentees may not feel comfortable addressing. During the mentoring sessions, coaches will gain valuable familiarity of the demands and opportunities that being a member of the faculty entails. Finally, the onus is on the mentee to make sure he or she is getting the most out of the mentoring experience. Mentees after their first year in the Institute should be capable of understanding the rigors of graduate study and have in place mechanisms to effectively meet these demands or mitigate issues that could hinder their progress.

And finally, in terms of the long term goals, graduation and career (trajectory/opportunity) are not only the most often cited goals across data and interviews but also objectives that are crucial to maintaining a diverse pipeline to academia. Attracting bright underrepresented students and, making sure they stay at the university and satisfactorily progress to graduation is not only a positive for the university but also for the greater society. Thus, students will eventually be mentors as well and provide the opportunity and guidance that aided in shaping and informing their career choices.

The Logic Model

As a result of the semi-structured interviews, and the literature, a logic model was developed based on Davidson and Foster-Johnson's (2001) reciprocal mentoring theory which posits that a mentor teaches their mentee best practices that can assist them in achieving their long-term, comprehensive goals. In exchange the mentee gives their mentor a vantage point of their graduate school and work experience and helps the mentor become culturally competent.

Figure 1 represents the created logic model.

Logic Model for The Inter-Ethnic/Interdisciplinary Mentoring Institute for Graduate Education

INPUTS *(If these resources are applied)*	OUTPUTS *(And if these activities are completed)*	INITIAL OUTCOMES *(Then…)*	INTERMEDIATE OUTCOMES *(And then…)*	LONG-TERM OUTCOMES *(And then…)*	IMPACT *(And finally…)*
1) Funding 2) Administrative support 3) Director 4) Program coordinator 5) Faculty 6) Graduate students	A. Reciprocal mentoring B. Workshops on developing research skills; creating a research agenda C. Advising D. Cultural activities E. Social activities F. Professional development sessions	▪ Cultivation of relationships ▪ Familiarity with the University and the resources it offers ▪ Issues and concerns are being expressed ▪ Development of research agenda ▪ Recruitment	▪ Positive transition to teaching and researching ▪ Successfully engaging in scholarly activity ▪ Gaining a better understanding of diverse student perspective ▪ Retention	▪ Production of scholarly publications ▪ Continuous professional development ▪ Successful defense ▪ Graduation	I. Higher education levels II. Increased under-represented graduate school enrollment and completion III. Increased diversity in professoriate

Davidson and Foster-Johnson (2001) provide the theoretical underpinning of the Mentoring Institute and subsequently the logic model. They posit it is essential for mentors to develop an understanding of the lived experiences of graduate students from a different ethnic/racial group than their own. They focus on a) intercultural understanding and dialogue, b) augmented facilitation skills, and c) situational adaptability and flexibility. Reciprocal mentoring = reciprocal learning.

CHAPTER 5: DISCUSSION

Frechtling (2007) states:

> Logic modeling is a tool and an approach for depicting the critical elements in a project and identifying where evaluation is most important. It is a tool used by people and with people; thus it takes skill and practice in employing the types of thinking and negotiating that must be done. Although logic modeling has its own "rules of operation," results differ widely depending on whether these rules are applied thoughtfully or mechanically. When real thought and engagement are involved, the results can be very informative, even transformative. If applied mechanically, the payoff can be reduced to virtually zero (p. 2).

The intent of this project is to contribute to higher education and more specifically, provide an additional practitioner tool, by proffering a logic model as an organizational technique in order to visually make explicit underlying assumptions of a program. The proximal goal is to improve how university programs function through analysis of inputs, activities, and outputs. The assumption is that improving graduate student affairs programs that are specially targeted for underrepresented students will contribute to improved levels of recruitment, retention, and graduation, the distal goal.

This chapter offers a concise response to the purpose statement that framed this study, discusses the limitations and delimitations, shares lessons garnered throughout the entire process, and offers recommendations and key findings

Creation of the Logic Model for the Graduate Mentoring Institute

Creating a logic model was a completely iterative process in which the implementer tried to categorize the information from program materials (brochures, flyers, manual, website, etc.), literature of graduate mentoring, and interviews into the distinct categories of inputs, activities, outputs and outcomes that form the basis of the logic model. The initial literature and program materials led the researcher to form an idea of how the logic model would present itself based on previous experience and expectations but the study interviews aided in creating a richer picture of what The Mentoring Institute was and what it could possibly be.

Designing the model is a fluid and continually evolving process. The framework of the model created for this study should not be the one used in perpetuity. It should evolve just as the program, participants, external environment, and goals change. For the implementer, the purpose of creating a unifying structure for the organization also implies that the model will a) adequately reflect the "logic" of the program—how it functions under given situations to achieve goals (Taylor-Powell, 2000); and b) provide a framework to assess effectiveness and efficiency.

McLaughlin & Jordan (1999) posited that when verifying the accuracy of the model four succinct questions must be addressed:

1) Is the model detailed enough to understand all elements and linkages?
2) Are all the elements accounted for?
3) All elements linked together in a coherent or logical fashion?

4) Have external factors been considered and the effects they have on the model been parsed out?

It is the researcher's assertion that these four questions can be answered in the affirmative, but with one caveat. External factors are constantly changing therefore whoever is constructing a new model for the organization must not solely rely on assumptions or considerations from past forms of the model, and must thoroughly conduct an environmental scan to determine current factors that may have a noticeable impact.

Responding to the Purpose Statement

This project relied upon of one overarching question: *How can logic modeling be utilized as a unifying framework from which to direct the organization of data, through flow of inputs, outputs, and outcomes, to prepare for assessment of a graduate mentoring program in student affairs?* This question served as the foundation of the project. It also provided a context for understanding how and why a logic model framework was needed for the Mentoring Institute. During the review of literature this concise question steered the course of the research. It led to findings that validated certain assumptions of the researcher and also elucidated other salient points not considered in the beginning of the research.

This logic model is illustrative of Wandersman and Linney's (1991) research that affirms the model as a series of statements that link an issue or problem to an organization, activities to address those problems, outputs that results from those activities, and the long term impact that can be attributed to

these activities. The model that the implementer has created is a straightforward means to convey the problem (attrition, socialization, etc.) to activities (workshops, dinners, etc.) to outcomes (graduation, increased retention, etc.).

Moreover, the completion of this study was consistent with the limited research available on logic modeling. Of note, is that the model was created in such a way as to easily conceptualize the flow of processes that are involved in creating certain products. By establishing linkages, the implementer has shown that the model can have a theoretical base which many student affairs programs require before they are initiated and/or continued (Cooksy, et al., 2001). Thus the next step for the program involves using the model to "review and clarify expectations for when the activities and impacts would be expected to emerge" (Frechtling, 2007) within the academic year and beyond for participants and stakeholders.

Likewise, the model should in essence be viewed as a hypothesis of how the program should work and/or an action statement of how it is working. If this model is not adhering to its intended linkages then we can surmise that it is not meeting it proposed goals. By figuring out what elements are not working or which elements are lacking, the responsibility for the lapses can be accurately attributed. This all leads to trying to determine efficacy. The model can help facilitators ascertain at which point quantitative indicators or measurements should be determined and whether goals are in fact representative of short-term, intermediate, or long-term aspirations (McLaughlin & Jordin, 1999).

The implementer additionally wanted to provide a practical and somewhat innovative approach for student affairs practitioners to think about programmatic improvement. "Practical" in the implementer's understanding of the word really suggests something that can create multiple solutions, be understood by diverse constituencies, can be generated with limited resources, and can be implemented in a very forthright manner. Thus, the researcher deems the study and resulting model to be highly practical in this regard. Others within or outside the university who may want to participate or replicate the program now have a strategy/guide to use for making better informed decisions that lie within their particular mission and vision.

For example, a dean, director, or coordinator may use a logic model to parse out institutional processes, activities, and outcomes to determine how they may be modified or increased in order to reach a larger number of students. Colleagues at other universities who are just beginning the process of creating mentoring programs for diverse graduate students could use this logic model as a jumping off point for discussing the resources and programmatic knowledge that would be necessary to implement a similar program or to enhance a program already in operation. Further research may involve how student affairs practitioners can employ the logic model heuristic to not only build more effective programs but also to dramatically re-engineer programs or the programmatic ethos.

Limitations and Delimitations

One manner in which the study may be limited is the fact that the implementer used only eight participants from the institute, which could affect the validity of the model. Adding the perspectives of more participants would help determine if the process and the model are proven to still be reflective of the participants' vision and the program's mission. A second limitation that became apparent was the lack of literature on logic modeling and more specifically its use in student affairs. The research conducted and literature pertaining to logic modeling was focused primarily in other types of service organizations. Having an increased number of higher education professionals using the model and reporting back their methodology and results seems to be the only approach that can address this limitation thus demonstrating the utility of the model in this study becomes even more imperative. Another limitation of the study is that the implementer relied on assumptions based on proximity to The Institute and the current situation in higher education to structure the course of the study. This included the topics explored in the literature, methodology, and the analysis of program materials and interview participants' answers. The implementer tried to mitigate this limitation as much as possible by continuously referring back to the literature on mentoring and logic modeling to validate the direction and results of the study.

The main limitation of the study is the focus on one set of higher education students (graduate students) and on one type of program (mentoring), in one institute. Additional understanding might be garnered from including

undergraduate students and/or looking at alternative types of student affairs programs within an institution.

Conclusion

Developing a logic model from differing sources seemed to be a moderately challenging task at the onset of this study, but the more the implementer immersed himself in the program and interconnected the various topics, the process seemed to flow reasonably well. It is the belief of the implementer that the model is a very advantageous technique to organize a program's processes and also to demonstrate how the organization or program is structured to those on who are interested in replication or improvement.

Furthermore, this study was a great example of participatory research. Using subjects who were all connected within the organization to gather data and using that data to prescribe meaning and context is the true joy of qualitative inquiry. The main concern I had when doing this study was my closeness to the topic and the people. Bias seemed to be inevitable, but my closeness was actually a benefit I believe. I was able to put together themes and concepts more easily because I intimately understood the goals of the program and intended operations. Moreover, I only created the logic model based on what has already been said in the literature and what the participants told me.

More specifically the implementer's experience with the logic model process can be summarized by the following points:

a) The logic model can be used as a tool to determine accountability.

b) It is a succinct and interesting way to present program data to stakeholders and outside parties.
c) It has potential significant use during an evaluation period but can be most useful pre-evaluation.
d) A great instrument for consensus building and collaboration amongst staff.
e) More sources of information will produce a more intricate model.
f) Subjectivity will inevitably find itself woven in the model.

The most enlightening facet of this project was the dialogue with the selected interview participants. Hearing candidly how others felt about The Mentoring Institute was extremely beneficial in that it allowed the implementer to expand his preconceived paradigms concerning the Institute. More specifically, the interviews provided an avenue for learning how the Mentoring Institute was affecting students in other ways such as giving them more confidence to step outside of their departmental comfort zones and partake in other University of Virginia offerings. Although such candid answers were valued, they were not always easily integrated in the model.

Most notably, this study reaffirmed that the multifaceted nature and ever-changing character of challenges in the profession of student affairs require practitioners who can be adaptable, critical, and most importantly, capable of concisely presenting their programmatic/organizational vision. It is this researcher's belief that the logic model can facilitate in providing these competencies and ably support a program in the realization its goals.

Action Communications

To: Program Director
559 New Cabell Hall
PO Box 400882
Charlottesville, VA 22904-0882

From: Kedrick B. Perry, MPA
Doctoral Candidate
30 Taft St #1
Boston, MA 02125

Dear Program Director,

The purpose of this letter is to report the key findings and recommendations from my capstone project which involved the use of logic modeling on the Inter-ethnic/Interdisciplinary Mentoring Institute for Graduate Education. This capstone project is intended as a form of student affairs practitioner research.

During the capstone project, I read over the program's website, conducted a literature review on mentoring and logic modeling, and interviewed several participants of The Mentoring Institute including program staff, graduate students and faculty. Based on all the collected data, a logic model of the Mentoring Institute was created.

The key findings from the project are:

- **Key Finding 1**: The creation and use of a logic model before evaluation should be done. The logic model will allow you and your staff to structure information, processes, and create a program theory that can be easily communicated to stakeholders and outside assessors alike.

- **Key Finding 2**: The logic model can be a tool that will create a shared vision of the organization. If stakeholders are involved in the creation of the model, they will gain a better understanding of the dynamics behind The Mentoring Institute and will be better able to understand goals and implement systems to achieve those goals.
- **Key Finding 3**: Although the interviews elucidated many aspects of the program, there are still elements that were not mentioned by participants such as certain outcomes or inputs that one would expect from a mentoring program.

Based on these findings, I would recommend the following points for The Mentoring Institute as it continues to be a dynamic and engaging program:

- **Recommendation 1**: Before creation of another logic model, involve all the participants of the organization. Getting the feedback of all the reciprocal mentoring cohorts and program staff will only add to the richness and credibility of the logic model.
- **Recommendation 2**: During the orientation of new members into The Mentoring Institute, use the logic model as a visual aid to allow them to see how the program is supposed to function. At the onset, this will aid in creating a unifying mission and vision for all participants.
- **Recommendation 3**: To add to the depth of the logic model, incorporate more literature concerning the mentoring of diverse graduate students, assumptions that you make when creating the model, and any external

factors that could have an impact on the processes that occur within the model such as university environment and funding streams.

- **Recommendation 4**: The model that was created for this project should be used before evaluation but another direction would be to use a logic model when creating a new program or direction for The Mentoring Institute. The model can only aid you or other decision-makers in making sound and well-reasoned arguments that will be easily communicated.

I hope these findings and recommendations will be useful to The Inter-ethnic/Interdisciplinary Mentoring Institute for Graduate Education as it continues to be a source of support for diverse graduate students at the University of Virginia.

My sincerest gratitude for allowing me to explore your program to fulfill the requirements necessary to complete the Doctorate of Education in Higher Education and for your patience during this capstone project.

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Appendix A: Interview Protocols

Interview Questions: Director, The Mentoring Institute

Goals

1. What do you perceive to be the current short-term, intermediate, and long terms goals of The Mentoring Institute?
2. Do you think the goals are being met? If no, please explain.
3. What do you feel the impact of The Mentoring Institute should be?
4. What are the barriers preventing the lasting impact of The Mentoring Institute?

Inputs

1. Do you feel the current members of the institute are a diverse representation of the University of Virginia community? If not, what other representatives would you like to see?
2. What do you think of the size of the institute? Would you like to see it smaller, stay the same, or grow larger?
3. What resources are available to the mentees, mentoring coaches, and faculty mentor?
4. Do you feel the institute is adequately funded for the current activities or for activities you would like to see initiated?
5. Do you have any concern about the resources in general? Should there be a change?

Activities

1. What types of activities do the members take part in?
2. What other activities would you like to see?
3. Do you have any concerns about the activities in general? Should there be a change?

Outcomes

1. After the recent program evaluation, what outcomes did you expect to see? What outcomes did you actually see?
2. How would you suggest a researcher assess outcomes for mentees, mentoring coaches, and faculty mentors?
3. Who should be responsible for continual assessment?
4. What would you like outcome information to be used for?
5. What do you deem the most important outcomes of the institute?

Closing

1. Are there any other comments you would like to share or questions for me?

Interview Questions: Coordinator, The Mentoring Institute

Job Responsibilities

1. Are you a graduate student? If so, what program area?
2. Do you feel you were prepared to be coordinator of the institute?
3. How long have you been coordinator?
4. What services do you provide to institute members?
5. What part of your position do you feel assists the members the most?
6. Is there anything you do that you feel is most effective? Least effective?

Goals

1. What are the goals of The Mentoring Institute?
2. Of the goals you have listed, which ones are being fulfilled? For those not, what is preventing their successful fulfillment?

Inputs

1. Do you feel the current members of the institute are a diverse representation? If not, what other representatives would you like to see?
2. What do you think of the size of the institute? Would you like to see it smaller, stay the same, or grow larger?
3. Are the resources adequate for the activities you plan?
4. Are there any program components you feel are inadequate? If so, what would you do to improve them?

Activities

1. What activities do you have for the members of the institute?
2. What activities would like to see in the future?
3. For the activities you listed, what do you consider the purpose of that activity?

Outcomes

1. After the recent program evaluation, what outcomes did you expect to see? What outcomes did you actually see? What would you like to see in the future?
2. How would you suggest a researcher assess outcomes for mentees, mentoring coaches, and faculty mentors?
3. Who should be responsible for continual assessment?
4. What would you like outcome information to be used for?
5. What do you deem the most important outcomes of the institute?

Closing

1. Are there any other comments you would like to share or questions for me?

Interview Questions: Mentee or Mentoring Coach, The Mentoring Institute

Demographic Information

1. Are you a mentee or mentoring coach?
2. Do you identify as male, female or transgender?
3. How long have you been in The Mentoring Institute?
4. In terms of ethnicity, how do you identify?
5. What is your current degree program?
6. What is your current status in your degree program?

The Mentoring Institute

1. What can you tell me about the history of the institute?
2. What are the objectives of the institute?
3. Can you describe the reciprocal mentoring process?
4. Do you feel the institute is time consuming?
5. Do you take advantage of institute resources? If so, which ones?
6. Do you participate in institute activities? If so, which ones?
7. Do you feel supported by the director and coordinator? Explain.
8. Do you feel the institute is of value to you and other graduate students? How?

Cohort Relationships

1. Can you describe your cohort to me?
2. Do you think you have a beneficial cohort match? If not, why?
3. How often does your cohort meet? Do you have quality interactions?
4. Did members of your cohort share academic/social concerns? If so, which ones?
5. Were there any networking activities, outside of the institute, provided by your cohort?
6. Do you feel your cohort encouraged you? And if so, how?

Outcomes

1. Do you feel your cultural fluency has increased?
2. Do you feel a sense of support from the institute and/or cohort?
3. Do you feel your visibility on campus has increased with your participation in the institute?
4. Do you feel more integrated into you UVa community? If so, how?
5. Have you gained a better sense of how to navigate academic culture at UVa through the institute and/or your cohort?
6. Have you become more aware of UVa resources available to you?
7. Do you feel the institute has made UVa a more welcoming and supportive place for you, less welcoming or supportive, or do you see no change?
8. What is your view on teaching, professional development, or research after being involved in the institute?
9. Do you see a benefit from the interdisciplinary approach the institute employs?

Closing

1. Are there any other comments you would like to share or questions for me?

Interview Questions: Faculty Mentor, The Mentoring Institute

Goals of The Mentoring Institute

1. What do you perceive to be the goals of The Mentoring Institute?
2. Do you feel the goals are being met? If no, please explain.

Population of The Mentoring Institute

1. What were the strengths and weaknesses of your cohort matches?
2. Do you feel the institute is large enough, just the right size, or needs to be smaller?
3. What are some of the main issues brought up when your cohort meets?
4. What type of effect, if any, does your cohort members ethnicity, gender, or discipline have on the mentoring experience?

Input

1. What resources are available to you as a faculty mentor? Are these resources enough?
2. Do you feel the institute is adequately funded for the current activities or for activities you would like to see initiated?
3. Are there any program components you feel are inadequate? If so, what would you do to improve them?

Activities

1. What type of activities does your cohort take part in?
2. What activities would you like to see the institute coordinate or schedule?

Outcomes

1. What do you consider to be the long term outcomes and/or impact of the institute?
2. How would you suggest a researcher assess outcomes for mentees, mentoring coaches, and faculty mentors?
3. Who should be responsible for continual assessment?
4. What would you like outcome information to be used for?
5. What do you deem the most important outcomes of the institute?
6. What is your overall impression of the institute?

Closing

1. Are there any other comments you would like to share or questions for me?