A STUDY OF MOTIVATION TYPES AND BEHAVIOR OF

GRADUATE STUDENTS IN FUTURE FACULTY

PREPARATION PROGRAMS

A Dissertation

by

CHARITA DIONNE RAY-BLAKELY

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2011

Major Subject: Educational Human Resource Development

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Approved by:

Co-Chairs of Committee,	M. Carolyn Clark
	Bruce Herbert
Committee Members,	Mary Alfred
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ABSTRACT

A Study of Motivation Types and Behavior of Graduate Students in Future

Faculty Preparation Programs. (May 2011)

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There currently exists a challenge in higher education to improve undergraduate education. The development and more adequate preparation of future faculty, who are current graduate students, is one of several options identified as a viable strategy to address this challenge.

This dissertation explored the quality of motivation as a factor affecting the preparation or socialization of future faculty at two top-tier universities. The quality of motivation is believed salient to preparation and socialization. This study focused on the motivation types of teaching-focused future faculty preparation program (FFPP) completers, their programmatic experiences, and various personal and social factors, such as gender, program, and academic discipline, as reason for motivation type.

This mixed methods research study was based on the tenets of self-determination theory and revealed quantitatively, through inferential statistics, that a significant difference exists in the motivation type of participants based on gender, program, and academic discipline. Qualitative findings, from focus group interviews, were that FFPP

design characteristics included elements to satisfy the innate psychological need for competence but fell short in meeting the need for relatedness.

The findings offer insights into aspects that affect the quality of motivation in program participants. They also suggest that in order to more adequately prepare and socialize future faculty, consideration must be given to the importance of satisfying innate psychological needs in an effort to enhance the quality of participant motivation. Both findings support the importance of relatedness in affecting the quality of motivation.

The findings of this study support the notion that certain demographic or contextual factors, as well as the satisfaction of innate psychological needs are critical to motivation quality, internalization, behavior, and socialization. The results of this study will contribute to program developers' awareness of motivation quality and its effect on behavior to enhance the design of teaching-focused future faculty preparation programs and socialization. Through the use of motivation quality, this study serves as a catalyst for the more adequate preparation of future faculty to improve undergraduate education.

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CHAPTER I

INTRODUCTION

The educational experiences of future faculty interested in a career in academia

are fundamental to their adequate preparation, development, and future success;

however, research shows that the experiences of many graduate students are

inadequately preparing them for a successful academic career.

> When university and college search committees select new faculty members,
> they hope that the newcomer will understand and support the missions of the
> institution and be successful in integrating components of the professorial-role
> including research, teaching, learning, advising, institutional citizenship, and
> outreach and professional service responsibilities-into a satisfying and productive
> career. Yet research shows that many doctoral students are not adequately
> prepared to handle the full range of roles that are part of academic work. (Austin,
> Connolly, & Colbeck, 2008, p. 69)

The socialization process comprises such educational experiences and is often used to

describe the preparation and development of novices like future faculty. The

socialization process involves learning about the cultural norms of a group or

organization, as well as assists in the development of necessary attitudes and skills

related to that organization or group. As defined by Brim (1966), socialization is "the

process by which persons acquire the knowledge, skills, and dispositions that make them

more or less able members of their society" (p. 3). Weidman, Twale, and Stein (2001),

using the foundational definition of Brim (1966), later suggested that socialization is

more than knowledge and skills and to fully understand it, consideration must be given

to the affective experiences of graduate students. This consideration will result in the

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This dissertation follows the style of *Teaching and Teacher Education*.

"development of commitments to and identification with a particular profession, including its ethical practice" (Weidman, Twale, & Stein, 2001, p. 5). Although rarely referred to as such, future faculty preparation programs (FFPPs) are part of the socialization process that graduate students engage in as they strive toward a successful academic career.

In recent years, higher education has been faced with many challenges and experienced many changes, altering the appearance of the academic workplace. As described by Austin (2002), "the modern academic workplace is characterized by student diversity, new technologies, changing societal expectations, a shift in emphasis toward the learner, expanding faculty workloads, and a new labor market for faculty" (p. 97). In addressing recent challenges and changes in higher education to include improving the quality of undergraduate education, an obligation exists to consider these changes and their effect on the next generation of professors, which are today's graduate students, to better prepare them for their role as faculty in the midst of these changes. In other words, we have a duty to examine the socialization of graduate students into an academic career, to ensure that consideration for changes and challenges in higher education is being given, and to better facilitate a successful academic career. Concern for the preparation and development, or socialization, of future faculty should increase to simultaneously address the stated changes in higher education, to more adequately prepare future faculty, and to foster career success. To adequately address these issues, it is likely requisite that today's graduate students become more than college graduates, but agents of change.

Motivation has long been studied as a rationale to explain or predict human behavior, but just as there is no simple explanation to give reason for our current, fluctuating economy, there is no simple explanation to explain the behavior of human beings. Motivation is but one of many concepts explored in an effort to give reason for why people do what they do. At its core, "motivation deals with why people behave as they do" (Wlodkowski, 2008, p. 95). Motivation theorists suggest that a strong correlation exists between motivation and behavior and therefore study both amount and type of motivation, across multiple contexts, to more fully comprehend behavior. For this study's purpose, motivation and behavior in higher education, as it relates to participation in future faculty preparation, was the context of greatest importance as type of motivation is believed salient to the enhanced socialization and preparation of future faculty and the production of change agents.

Motivation theorists Ryan and Deci describe types of motivation through a six category continuum. In short, at opposite ends of the continuum, they explain that motivation type is either self-determined (autonomous) or nonself-determined (regulated). They suggest that the type of motivation possessed by people is linked to the satisfaction of three essential and innate psychological needs: (a) competence, (b) relatedness, and (c) autonomy. "Needs specify innate psychological nutriments that are essential for ongoing psychological growth, integrity, and well-being. As noted, we identified three, the needs for competence, relatedness, and autonomy" (Deci & Ryan, 2000, p. 229). They posit that people are motivated to act or behave in the satisfaction of one or all of these psychological needs. In other words, relating to the context of this

research, if the characteristics of an FFPP are found to attend to one or all of the student's innate psychological needs, FFPP participants will likely develop a more self-determined motivation type to participate in that FFPP, likely enhancing the socialization of that participant into an academic career. "If the social contexts in which such individuals are embedded are responsive to basic psychological needs, they provide the appropriate developmental lattice upon which an active, assimilative, and integrated nature can ascend" (Ryan & Deci, 2000, p. 76).

In attending to emergent forces and demands in higher education, the need to better socialize and more adequately prepare more future faculty through more and better future faculty preparation programs is evident. Turning attention and efforts toward an examination of the characteristics of FFPPs and determining the types of motivation that graduate students possess in the participation and completion of FFPPs, in an effort to increase participation and subsequently enhance the socialization process, is a first step in altering the design of FFPPs or the "culture of preparation" (Gaff, 2002, p. 66). This should be done to suggest a more appropriate design or formula that will more adequately prepare future faculty for a successful academic career and to address changes in higher education. Socialization, whether conspicuous or inconspicuous, occurs as a condition of graduate school or future faculty preparation and can likely be enhanced to produce agents of change if the characteristics of an FFPP speak to individuals' innate psychological needs.

Statement of the Problem

Improving the quality of undergraduate education is a challenge currently being faced by institutions of higher education. As a result, widespread reformation to address this challenge has ensued. Claims of undergraduates not getting the quality education expected, in return for their tuition, both support and increase the urgency in the need for reformation. As described by the Boyer Commission (1998),

> The research universities have too often failed, and continue to fail, their undergraduate populations. Tuition income from undergraduates is one of the major sources of university income, helping to support research programs and graduate education, but the students paying the tuition get, in all too many cases, less than their money's worth. (p. 5)

The Commission not only brought an awareness of the existence of this challenge, it also offered suggestions of ways to address it. One such suggestion was the more adequate preparation of future faculty who are current graduate students.

The Boyer Commission report suggests the inadequate preparation of graduate students, who are our future faculty, as a possible reason for the critical situation currently being experienced in undergraduate education. The Commission purports that current graduate students will soon fill the role of teacher to future undergraduate students; therefore, attention should be given to the current development experiences of graduate students as future teachers. The underlying belief here is that undergraduate education can be improved through the more adequate preparation of future faculty.

Increased focus on the developmental experiences of graduate students as future teachers has revealed the existence of some inadequacies. Research findings suggest that graduate students are being inadequately prepared for their future role as college teacher.

A statement found in the Boyer Commission's (1998) report adds, "some of their [undergraduate students] instructors are likely to be badly trained or even untrained teaching assistants who are groping their way toward a teaching technique" (p. 6). Findings from a study by Austin (2002) support the conclusions of the Commission by suggesting that graduate students do not receive careful guidance and adequate training in many aspects associated with college teaching, such as teaching strategies or curriculum design. Additionally, referring to the job of college teacher, Golde and Dore (2000) concluded that graduate students are not adequately being prepared for the jobs they'll soon be taking.

This revelation sparked reform in graduate education and the development of many programs designed to advance the teaching skills of future faculty. As a result of the plethora of claims by these programs, claiming to advance teaching skills, these programs, in addition to graduate programs, have come under review. The question of whether these programs are meeting the needs of its participants and more adequately preparing them for their role as a college teacher has emerged.

In reference to graduate programs, various academic disciplines, to include the science, technology, engineering, and mathematics (STEM) academic disciplines of Ph.D. producing, research-focused institutions of higher education typically focus on developing the research, rather than teaching, skills of their graduate students. For those graduate students who intend to pursue a career in academia, this practice of training graduate students to be effective researchers may not adequately be preparing them for an academic career. According to Koblinsky, Kuvalanka, and McClintock-Comeaux

(2006), "research reveals that many current graduate programs fail to adequately prepare doctoral students for the demands of academic positions" (p. 29). One way to address this and more adequately prepare and socialize students into an academic career is through participation in teaching-focused future faculty preparation programs (FFPPs). Gaff and Lambert (1996) describe skills viewed essential for future college teachers.

> New college faculty are typically confronted with a need to design new courses, teach a diversity of students, advise about education and careers, contribute to institutional initiatives ranging from internationalizing the curriculum to using technology, and serve on faculty committees-none of which they are typically prepared to do. (p. 38)

To address higher education's challenge to improve undergraduate education and to facilitate the successful academic career of future faculty, an examination of the characteristics of teaching-focused FFPPs is needed. If found necessary, alterations to FFPP characteristics, incorporating a consideration for the satisfaction of innate psychological needs, may entice more graduate students to participate in teaching-focused FFPPs.

Research suggests that a small percentage of the graduate student population at research intensive universities participate in future faculty preparation programs (FFPPs) offering professional development designed to prepare them for a career in college teaching; yet, a very large percentage of graduate students at research intensive universities pursue a career in college teaching (Sanderson, Dugoni, Hoffer, & Selfa, 1999). The result is under-prepared instructors, as it relates to teaching and learning of undergraduate students, and ultimately a less effective education for undergraduates. Understanding this, efforts have recently been formed to enhance future faculty

preparation and socialization to better prepare a greater number of future faculty, as a means to improving undergraduate education and fostering successful academic careers. One such effort is The Center for the Integration of Research, Teaching, and Learning (CIRTL), a network comprised of six institutions focused on the development of future faculty in the STEM disciplines. The six CIRTL institutions include: Texas A&M University; The University of Wisconsin at Madison; The University of Colorado at Boulder; Michigan State University; Howard University; and Vanderbilt University.

The culture across many academic disciplines in higher education suggests that research performed by faculty members is more highly valued and rewarded over teaching; therefore, faculty members spend more of their time doing research and developing their research skills in an effort to achieve greater rewards. "The scholarship of discovery and publications provide the primary basis for the allocation of rewards in the academic profession. At the institutional level, these rewards include tenure, promotion, and salary" (Braxton, Luckey, & Helland, 2002, p. 77). This opinion is shared across most academic disciplines including the STEM academic disciplines. Serow (2000) tells of one research participant's, described as a natural scientist, depiction of the disciplines culture regarding teaching and research as saying, "anyone not doing the right type and amount of research would 'never be accepted as a legitimate, card-carrying member of the faculty'" (p. 453). This type of cultural description, provided by this natural scientist, facilitates negative implications about a lack of expertise in teaching not only by STEM faculty members, but faculty in general.

As future faculty are socialized into the profession, they are likely to adopt this same culture, resulting in a reduction in motivation or desire to spend time developing their teaching skills. With one of higher education's challenges being to improve the effectiveness of undergraduate education, it has become evident in many academic disciplines that the need to focus more attention and effort toward the development of teaching skills exists. The question of how to enhance desire or motivation to spend time developing teaching skills emerges.

People, in general, act or behave in ways to be considered self-serving. When people believe an action will produce a certain, desired outcome, they will likely act in the required manner. This process is a sentiment of several, prominent motivational theorists (e.g., V. Vroom, K. Lewin, & E. Tolman), who maintain that,

> The strength of a tendency to act in a certain way depends on the strength of an expectancy that the act will be followed by a given consequence (or outcome) and on the value or attractiveness of that consequence (or outcome) to the actor. (Lawler, 1973, p. 45)

Relating this sentiment to that of Deci and Ryan's theory concerning needs satisfaction, socialization, as a result of motivation type, can be enhanced if aspects of FFPPs are designed to speak to or satisfy an individual's desired outcome or innate psychological need. In an effort to improve socialization and practice, and ultimately produce agents of change, there is a need for educators and program developers to review program factors affecting type of motivation involved in the participation and completion of FFPPs by graduate students in higher education.

Purpose of the Study

The purpose of this study was two-fold. First, the purpose was to identify the specific types of motivation that graduate student certificate holders in both the GTA and GTP possess in the participation and completion of their respective FFPP and to identify what factors affect the motivation of those graduate students. Second, the purpose was to identify the presence or absence of program elements designed to satisfy participant's innate psychological needs for competence, relatedness, and autonomy. An additional purpose of the study was to offer a suggestion for the design of FFPPs to include an element for the satisfaction of innate psychological needs, in an effort to influence motivation type, increase participation, and enhance the socialization and future practice of future faculty. My thesis is that more adequately socialized and prepared future faculty or "change agents" will be produced by FFPPs if a more self-determined motivation type is developed or possessed by FFPP participants, through the satisfaction of innate psychological needs. The research questions are:

1. What is the range of types of motivation, as defined by self-determination theory (SDT), possessed by graduate student participants at TAMU and CU, who have completed a future faculty preparation program designed to improve teaching skills in higher education?

    a. Does graduate student motivation in an FFPP differ by gender?

    b. Does graduate student motivation in an FFPP differ by program characteristics/type?

c. Does graduate student motivation in an FFPP differ by academic

discipline?

2. In reference to innate psychological needs and program characteristics, why

did graduate students complete a future faculty preparation program?

a. Do the characteristics of the GTA FFPP at TAMU attend to the

satisfaction of the innate psychological need for competence?

b. Do the characteristics of the GTA FFPP at TAMU attend to the

satisfaction of the innate psychological need for relatedness?

c. Do the characteristics of the GTA FFPP at TAMU attend to the

satisfaction of the innate psychological need for autonomy?

Significance of the Study

There exists a plethora of studies identifying barriers or deterrents to the

selection of an academic career or the development of teaching skills by future faculty;

however, little research exists on understanding the motivation that guides graduate

students' participation in future faculty preparation programs designed to advance

teaching skills and an academic career. According to Weiss (2007),

> Students are entering the teaching profession, yet little research has been done on
> the characteristics of these individuals or their prior experiences. The majority of
> the research has focused on deterrents for science majors to enter teaching and
> options to these individuals outside of education (Brown & Lauder, 2001; Levin,
> 1985; U.S. House of Representatives, 2000). This has left a gap in the research
> concerned with the attractive aspects or experiences that encourage a science
> major to enter a teaching career. (p. 6)

In an effort to narrow this existing gap, this study will contribute to the scholarly

literature on future faculty preparation by examining FFPP characteristics. This study

examined the characteristics of an FFPP (the GTA at TAMU) in search of aspects designed to satisfy innate psychological needs that are believed to affect type of motivation. If the satisfaction of innate psychological needs is present and it is discovered that participant motivation types are more self-determined, a prescription or theory can be proposed suggesting that if FFPP program characteristics address the satisfaction of innate psychological needs, participants will develop a more self-determined motivation type to become excellent teachers. As a result of buy-in or internalization, a more self-determined motivation type to become an excellent teacher will enhance the socialization process, producing more adequately socialized and prepared future faculty or change agents to address higher education's challenge and facilitate career success.

In keeping with the CIRTL objective, more appropriately designed FFPPs, and increased and sustained participation of graduate students in them is necessary for adequate socialization and the advancement of the undergraduate teaching and learning practice. Viewing this as a necessary means to an end, this study serves as a catalyst for the improvement of future faculty preparation program design, career preparation, and the reformation of undergraduate education.

Additionally, this study advances the theoretical literature by utilizing self-determination theory (SDT), which is a relatively new theory of motivation. According to Deci and Ryan (2008), there is not much empirical research in existence utilizing SDT. It has only been during the past decade that research on SDT has grown. This study contributes to the existing empirical research by further exploring SDT as it

applies to graduate students. SDT is the chosen theoretical frame because it examines people's life goals and focuses on the interaction between those goals and subsequent behavior. This theory looks at types of motivation as predictors of behavior, which is the primary focus of this study. In addition, this theory more simply allows for the numeric description of trends in types of motivation.

Definition of Terms

In order to gain an improved understanding of terms used in this study, the following is a list of terms as I define them:

Graduate-Through-Faculty: a current graduate student with future aspirations of becoming a faculty member at an institution of higher education.

GTA Fellow: a GTA participant who has completed all established program requirements necessary for the achievement of the GTA Fellow certificate. Specific GTA Fellow requirements include: (a) attend at least 16 of the 22 GTA seminars; (b) select and work with a mentor; (c) complete and reflect upon three classroom observations of teaching by experienced faculty members; (d) develop a statement of teaching philosophy; (e) develop a course syllabus; (f) complete a professional service activity; and (g) write one reflective essay describing experience.

GTP Teacher Certificant: a designation received by GTP participants participating in the graduate teacher training certificate program. Participants of the teacher training certificate program must complete specific program requirements to achieve this certification. Specific program requirements include: (a) teaching for two full semesters; (b) attending 20 GTP workshops; (c) completing a minimum of 20 hours

of discipline specific work; (d) developing a plan on teaching improvement based on video self-assessment through two videotaped consultations; (e) being observed and evaluated while teaching by department personnel; (f) developing a teaching portfolio; and (g) completing a program exit survey.

Review of the Literature

The purpose of this study was two-fold. First, the purpose was to identify the specific types of motivation that graduate student certificate holders in both the GTA and GTP possess in the participation and completion of their respective FFPP and to identify what factors affect the motivation of those graduate students. Second, the purpose was to identify the presence or absence of program elements designed to satisfy participant's innate psychological needs for competence, relatedness, and autonomy. An additional purpose of the study was to offer a suggestion for the design of FFPPs to include an element for the satisfaction of innate psychological needs, in an effort to influence motivation type, increase participation, and enhance the socialization and future practice of future faculty. The review of literature clearly explains the role of socialization in the adequate preparation of future faculty and suggests the presence of motivation as an underlying cause in driving behavior, or in this case, program participation and completion. The selected literature explores three content areas: (a) the self-determination theory (SDT) of motivation, (b) socialization theory, and (c) academic professional development programs. SDT is this study's theoretical frame and utilizing its tenets, I attempted to identify the presence or absence of the three innate psychological needs in the GTA FFPP as well as identify the types of motivation that

participating graduate students possess. Socialization theory is explored to gain an understanding of the impact that the socialization process has on future faculty preparation, development, and future success. The literature on academic professional development programs provides a historical view of the movement to prepare future faculty, as well as identify the best practices or essential design elements of an effective future faculty preparation program.

The selected literature is important to the study because it describes socialization, and provides fundamental perspectives of factors, like motivation, that contribute to the effective or ineffective socialization process of future faculty. The first content area explores the motivational theory that sets the frame for this study, self-determination theory. This content area looks at the proclamations of self-determination theory, to include the satisfaction of innate psychological needs and the types of motivation SDT endorses as a rationale for why people do what they do. This area is of significant importance in answering all research questions.

The second content area is designed to aid in the acquisition of knowledge regarding the socialization process of graduate students as they traverse from student-to-faculty. This area explains the socialization process, makes clear that future faculty preparation programs are considered part of the socialization process, and confirms the impact that the process has on future faculty success. The third content area is reviewed to construct a historical picture of the movement to prepare future faculty through future faculty preparation programs. This area also informs about specific program design elements deemed essential to a good or effective design.

Self-Determination Theory

Much research pertaining to motivation theory focuses on motivation with regard to amount or effort versus the type of motivation one utilizes. Researchers Deci and Ryan endorse one theory of motivation that focuses on types of motivation: the self-determination theory (SDT) of motivation. Deci and Ryan (2008) explain that self-determination theory (SDT) is "an empirically based theory of human motivation, development, and wellness that focuses on types, rather than just amount of motivation" (Deci & Ryan, 2008, p. 182). SDT asserts that certain psychological needs exist within every person and that in meeting a specific need, a certain type of motivation is produced.

"Self-determination theory (SDT) maintains that an understanding of human motivation requires a consideration of innate psychological needs" (Deci & Ryan, 2000, p. 227). According to Deci and Ryan, those innate psychological needs are the need for competence, autonomy, and relatedness. These needs must be met in order for well being and psychological growth to remain. Hence, behavior is inextricably linked to the satisfaction of one or more of these needs. In other words, a person displays a certain behavior in an attempt to satisfy a need. "Need satisfaction is a process of replenishing deficiencies; and the purpose of behavior is need satisfaction" (Deci & Ryan, 2000, p. 230).

Within the SDT framework, the type of motivation guiding behavior is related to the type of psychological need requiring satisfaction. In describing the different psychological needs, Ryan and Deci (2002) explain that competence is not "an attained

skill or capability, but rather is a felt sense of confidence and effectance in action" (p. 7).

Here, effectance refers to competence that can be further defined as a feeling of

effectiveness when one is given an opportunity to exhibit aptitude (Deci & Ryan, 2000;

Ryan & Deci, 2002). "The need for competence leads people to seek challenges that are

optimal for their capacities and to persistently attempt to maintain and enhance those

skills and capacities through activity" (Ryan & Deci, 2002, p. 7).

The innate need for autonomy refers to volition or a self-endorsement of one's

own actions (Deci & Ryan, 2000). Autonomy, as intended within the SDT framework, is

not about independence but rather about integration. Individuals connect with or

integrate either intrinsic or extrinsic reasons for their behavior, which results in action.

"When autonomous, individuals experience their behavior as an expression of the self,

such that, even when actions are influenced by outside sources, the actors concur with

those influences, feeling both initiative and value with regard to them" (Ryan & Deci,

2002, p. 8). According to Deci and Ryan (2000), "autonomy concerns the experience of

integration and freedom, and it is an essential aspect of healthy human functioning" (p.

231).

The final innate psychological need identified in SDT is the need for relatedness.

Relatedness refers to the desire to feel connected to others, to care for and be cared for

by others, and to have a sense of belongingness with others and with the community

(Baumeister & Leary, 1995; Bowlby, 1979; Harlow, 1958; Ryan, 1995). Relatedness is,

therefore, concerned with the satisfaction of the psychological tendency to be with or to

connect with others, as opposed to the attainment of a certain outcome (Ryan & Deci, 2002).

SDT purports that the satisfaction of innate psychological needs, through specific behaviors, leads to an individual's well being, and well being is typically desired by everyone. This claim suggests a relationship between need satisfaction, behavior, and well being. As previously suggested, the type of psychological need requiring satisfaction is directly linked to the type of motivation that guides an individual's behavior in ensuring that well being is achieved. SDT uses two categories to describe behavior: (a) self-determined or autonomous behavior and (b) nonself-determined or regulated or controlled behavior. A third, also categorized as a type of motivation, is amotivation that represents the most nonself-determined behavior. As shown in Figure 1, moving from right to left on a continuum, the type of motivation an individual possesses determines his or her behavior category.

According to Deci and Ryan (2008), an autonomous orientation develops as a result of all three psychological needs being satisfied. The controlled orientation develops as a result of the competence and relatedness needs being somewhat satisfied while at the same time, the satisfaction of the need for autonomy is neglected. Lastly, and in direct contrast to the autonomous orientation, neglecting or failing to satisfy all three psychological needs leads to the development of the amotivation orientation. In short, the types of motivation and subsequent behaviors are rooted in the satisfaction of an individual's psychological need(s). These orientations characterize motivational tendencies relevant to a specific type of motivation. "These three orientations are

representative, respectively, of general tendencies toward (1) intrinsic motivation and

well-integrated extrinsic motivation; (2) external and introjected regulation; and (3)

amotivation and lack of intentional action" (Deci & Ryan, 2000, p. 241).

Behavior	Nonself-Determined					Self-Determined
Motivation	Amotivation	Extrinsic Motivation				Intrinsic Motivation
Regulatory Styles	Non-Regulation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic Regulation
Perceived Locus of Causality	Impersonal	External	Somewhat External	Somewhat Internal	Internal	Internal
Relevant Regulatory Processes	Nonintentional, Nonvaluing, Incompetence, Lack of Control	Compliance, External Rewards and Punishments	Self-control, Ego-Involvement, Internal Rewards and Punishments	Personal Importance, Conscious Valuing	Congruence, Awareness, Synthesis With Self	Interest, Enjoyment, Inherent Satisfaction

Figure 1. The Self-Determination Continuum With Types of Motivation, Their Regulatory Styles, Loci of Causality, and Regulatory Processes (adopted from Deci & Ryan, 1985).

On the continuum, within the two categories of behavior, SDT proposes two

different types of motivation: (a) intrinsic motivation or motivation to behave for the

sheer enjoyment or satisfaction of an activity itself and (b) extrinsic motivation or

motivation to behave to attain an outcome separate of the activity itself. These types of

motivation exist along the continuum with amotivation, which stands in direct contrast to

motivation, to give reason for subsequent behavior. Branching from the two types of

motivation and amotivation are the regulatory styles associated with each motivation

type.

From far right to left, intrinsic regulation is the first regulatory style described by SDT. Intrinsic regulation produces the most self-determined or autonomous form of behavior. It is directly linked to intrinsic motivation, which refers to doing an activity for the inherent satisfaction of the activity itself. For example, a person exercises or does homework because they like to exercise, or enjoy homework. An individual possessing this regulatory style has completely internalized or fully accepts and believes in what he or she is doing or the mission of a program in which they are associated. The next four regulatory styles are, at varying categories of behavior, linked to extrinsic motivation. Integrated regulation is taking in a regulation and making it your own so that it will emanate from your sense of self. For example, recognizing that an activity such as exercising is worthwhile, but doing it as a means to an end rather than for the inherent enjoyment of it. An individual possessing this regulatory style has internalized or believes in an activity or what he or she is a part of but his or her motivation for that activity does not come from within.

Identified regulation is consciously valuing a goal, causing the related action to be accepted or made personally important, for example, furthering one's education because you personally see the value in it for your chosen career. A person possessing this regulatory style has somewhat internalized or believes in the value of this behavior. Closer to the nonself-determined or less autonomous behaviors is the introjected regulatory style. Introjected regulation involves understanding the value of a behavior but not fully internalizing or believing in it. As described by Ryan and Deci (2000), "people are motivated to demonstrate ability (or avoid failure) in order to maintain

feelings of worth" (p. 72). This person's behavior is regulated more by external causes than by internal causes.

According to the continuum, external regulation results in the least autonomous behavior. When a person is externally regulated, he or she typically act or behave in satisfaction of an external outcome or reward. For example, a person does his/her homework in adherence to his/her parents' control. This person's behavior is completely regulated by outside causes. Finally, non-regulation sits at the far left of the continuum, representing the most nonself-determined behavior category. Individuals possessing a non-regulation, regulatory style lack the intention to act, in other words, acting without a consideration for value, or just going through the motions. The actions of a person possessing this regulatory style are said to be impersonal.

A body of empirical research exists in support of the claims of SDT. In a literature review on SDT, conducted by Guay, Ratelle and Chanal (2008), it is made clear that students' persistence or participation, in the case of this study, is a correlate to their motivational profile. According to their review, "the more students endorse autonomous forms of motivation, the higher their grades are, the more they persist, the better they learn, and the more they are satisfied and experience positive emotions at school" (Guay, Ratelle, & Chanal, 2008, p. 237). Guay, Ratelle and Chanal's review make plain SDT's hypothesis that a certain type of motivation or regulation facilitates various corresponding behaviors. In applying SDT to educational settings, conclusions drawn by Reeve (2002), support those of Guay, Ratelle, and Chanal by suggesting that "autonomously-motivated students thrive in educational settings" (p. 183). Additionally,

in the form of a conclusion, they suggest that students benefit from autonomy-supportive environments.

Baard (2002) utilized SDT in a study exploring the effects of motivation on success in for-profit and not-for-profit organizational settings. Baard's conclusions provide additional support for the relevance of motivation type to behavior in the work and worship places. Specifically, in the work setting, Baard found that workers experienced greater intrinsic need satisfaction when their manager or the work environment was autonomy-supportive and, in the worship setting, growth in attendance and giving levels were related to the satisfaction of innate psychological needs.

This study explored the central hypothesis of SDT, being that as a result of the satisfaction of innate psychological needs, more autonomous or self-determined motivational orientations will be experienced to affect behavior and apply it to graduate students. This study builds on previous research by further examining the tenets of SDT from a different and less explored setting. The results of this study will contribute to the foundational research on SDT as it applies to graduate students. For this study's purpose, the findings may incite a greater commitment to participate in and complete an FFPP, thereby enhancing the socialization process to produce more adequately prepared future faculty and agents of change.

Socialization Theory

An individual's passage from the status of novice to professional is anything but simplistic. This passage usually requires time, the completion of several steps, some of which include the acquisition of experience and education, and assistance from those in

the field already holding the status of professional. A book by Moore and Rosenbloom (1970), *The Professions: Roles and Rules*, provides a list of criteria for achieving the status of professional. Aside from including the obvious criteria such as a specialized education or training, two of the criteria suggest that a professional must exhibit a commitment to his or her profession, to include the adoption of certain norms and behaviors. A second criterion suggests the adoption of a peer-approved persona. These criteria should be considered equal in importance to the more obvious criterion of education, with regard to an individual's passage from one status to another. Within their list of criteria, Moore and Rosenbloom are fundamentally discussing what is referred to as the socialization process.

The socialization process, according to Bragg (1976), "is the process by which an individual achieves his identity within the group. The end product of the socialization process is the incorporation of group values and norms into the individual's self-image" (p. 6). In other words, the socialization process likens to a makeover or transformation process where individuals develop or morph into something more refined or new. As people are socialized, they begin to accept the beliefs and behaviors of a particular group, which in turn moves them from outsider to insider, in relation to that group.

> Thinking about socialization as a developmental process essentially ascribes a serial nature to the development of identity, commitment, and role acquisition. This serial development takes the neophyte from the earliest thinking about what it might be like to play a particular role, and, through interactions with the training or professional preparation process, that individual is socialized to become an accepted member of that profession or role. (Antony & Taylor, 2004, p. 94)

It should be emphasized that the outcome of socialization is not to mimic or copy what others do or believe in, but to integrate new knowledge and beliefs into one's present character. "The outcome of socialization is not the transfer of a social role, but identification with and commitment to a role that has been both normatively and individually defined" (Weidman, Twale, & Stein, 2001, p. 36).

Socialization, also referred to as role acquisition, is comprised of two dimensions believed essential to the development of and commitment to role identity. They are curricular and normative dimensions. The curricular dimension is concerned with acquiring the knowledge and skills needed to perform a particular role, whereas, the normative dimension refers to the acquisition of the personality or dispositions of a certain role. Within these two dimensions, according to Weidman, Twale, and Stein (2001), knowledge acquisition, investment, and involvement, are salient to identification with a role and commitment to that role. These three are referred to as the core elements of socialization.

Similar to what Deci and Ryan suggest about the satisfaction of the innate psychological need for competence to enhance motivation or produce a more self-determined motivation type, socialization theorists suggest that knowledge acquisition is key to role acquisition. There are two ways in which knowledge acquisition are germane to socialization. As described by Stein (1992),

> First, sufficient knowledge and skills are required so that the professional role incumbent is able to perform required role activities adequately....The second category of knowledge includes an awareness on the part of the novice of the professional role, his or her assessment of personal ability to act successfully in the role, and finally, the novices' awareness of the assessment of others concerning their capacity to practice the professional role successfully. (p. 30)

This description states the necessity of knowledge and dually implies the need for efficacy or autonomy to influence socialization outcomes.

Investment is the second core element associated with the development of role identity and commitment to a role. In keeping with Stein (1992), "to invest in a role is to commit something of personal value such as time, alternative career choices, self-esteem, social status, or reputation to some aspect of a professional role or preparation for it" (p. 31). In other words, a graduate student will buy into, believe in, or value a role to subsequently voluntarily devote something of value or worth, such as time, to the acquisition of its tenets. This process suggests that investment is limited by degree or level of value. Finally, a third core element is involvement. Akin to Deci and Ryan's innate psychological need for relatedness, "involvement is participation in some aspect of the professional role or in preparation for it….Involvement with teachers and older students gives the novice insights into professional ideology, motives, and attitudes" (Stein, 1992, p. 32). Working with or being connected or related to incumbents enables an iterative process of self-evaluation to ensue, to foster a more accurate development of role identity and commitment to a role. It is clear that these core elements are interrelated as a student must first buy into, devote time, or invest in the acquisition of knowledge, while involving himself with the practical dimensions of a role through relationships with incumbents, to successfully acquire a role. Although these core elements have been established to promote the success of role acquisition, it should be noted that role acquisition is often stalled as a result of incongruence between role expectations and personal demands.

Dissimilarity between role expectations and personal demands are often discovered during the socialization process. This happens when an individual's beliefs or self-conceptions do not agree with or parallel with role expectations.

> The adult himself has his own ideas about the way in which he wishes to change. The inevitable result is frequent conflict between the direction in which the adult wishes to move, with respect to his career, family, or role in the community, and the direction in which others wish him to change, or not to change. (Brim, 1968, p. 192)

Resolution of this conflict is necessary for successful role acquisition or socialization and usually requires the modification of existing self-concepts by students. This process lends itself to the idea of re-socialization. According to Wheeler (1966), conflicting goals and re-socialization go hand-in-hand. Weidman, Twale, and Stein (2001) summarize Egan (1989) and Miller's (1966) descriptions of re-socialization as, "resocialization may require students to abandon previous roles and values and adopt the values, attitudes, beliefs, and identity of a new professional that, in certain instances, conflicts with one's preexisting character" (p. 20). In other words, if a conflict exists, the graduate student or future faculty member must modify his or her self-concepts in a way that takes into account his personal values and beliefs, while at the same time, accounting for the demands of the role, leading to the development of a more self-determined motivation to identify with and commit to a new role. Understanding this complex process allows one to see the involvement that a graduate student has in fostering a successful socialization process, which in the past assumed limited involvement by the graduate student or the person being socialized.

Traditionally, the socialization process was believed to be a linear process; however, in recent times, an interactive or circular process is deemed more accurate as a result of the desire for feedback being a key difference. Weidman, Twale, and Stein (2001) provide a description of the linear model of socialization:

> The linear configuration depicts a process whereby program faculty admit students, socialize them in some prescribed fashion, and graduate them after a specific program of study has been completed. Graduation may be followed by additional study and/or examination for professional licensure or state certification. (p. 25)

This model makes clear the responsibility of the faculty in the socialization process but fails to accommodate a place for the graduate student's perspective. This failure is a common criticism of the linear model. "While linear programs do develop professionals, the processes underlying them lack a mechanism for feedback" (Weidman, Twale, & Stein, 2001, p. 26). Because the academic setting has changed and become more complex, a non-linear model of socialization represents today's socialization process more accurately. Today's academic setting is more diverse and because its focus is learner centered, it provides students greater autonomy in their education. "More extensive interaction among participants and the introduction of greater student participation in normative dimensions of socialization has become increasingly more important as both structures of institutional governance and more heterogeneous populations of students have changed the academic context" (Weidman, Twale, & Stein, 2001, p. 26).

For this study's purpose, enhancement of the socialization process required a look at the normative dimensions of the process. More specifically, a look at the

motivation types of graduate students who completed an FFPP was required. A look at motivation type gives insight into the presence or absence of psychological needs satisfaction, as well as the existence of the core elements of socialization, which are believed to lead to identification with and commitment to a role by students.

Academic Professional Development Programs

The preparation of future faculty became a topic of great interest approximately two decades ago. Its genesis developed as a result of a shift in academic priorities from teaching to research, resulting after World War II. According to Boyer (1992), after World War II, "Men like Daniel Coit Gilman, who founded Johns Hopkins in 1876, were convinced that a new kind of university was required in America, one that focused almost exclusively on science and research" (p. 87). In 1968, Talcott Parsons wrote, "the typical professor now resembles the scientist more than the 'gentleman scholar' of an earlier generation, when teaching was more highly prized" (Boyer, 1992, p. 88).

Because the research function is more highly valued in research universities today, attention and focus on the enhancement of teaching skills or the teaching function, has become inconsequential. As a result, graduate students are not being well prepared for academic teaching careers; instead, they are being prepared for careers in research. As reported in the well-known research study on the academic experiences of graduate students by Golde and Dore (2001), a mismatch exists between what graduate schools are preparing graduate students for and what they actually need.

> The data from this study show that in today's doctoral programs, there is a three-way mismatch between student goals, training and actual careers.…Doctoral students persist in pursuing careers as faculty members, and graduate programs persist in preparing them for careers at research universities.…The result:

Students are not well prepared to assume the faculty positions that are available, nor do they have a clear concept of their suitability for work outside of research. (p. 5)

In short, graduate programs train doctoral students to be researchers when, in fact, many of them will employ at institutions requiring greater efforts in teaching than research.

Future faculty preparation programs developed not only in response to a recognized mismatch in graduate education, but in an effort to improve undergraduate education. With greater efforts being made to advance the research function of a faculty position, concern for the teaching function and the quality of undergraduate education developed. In resolving the stated disparity and addressing concerns about the quality of undergraduate education, the need for further development in faculty preparation programs offering professional development designed to prepare graduate students for a career in college teaching has grown. In addition, recently established education accountability requirements have heightened efforts toward the improvement of undergraduate teaching and learning.

Efforts by foundations and national associations are underway to modify existing programs and/or implement future faculty preparation programs emphasizing the teaching function. Such efforts, to name a few, include the Center for the Integration of Research, Teaching, and Learning (CIRTL), the Carnegie Foundation for the Advancement of Teaching, the Responsive Ph.D. Program by the Woodrow Wilson Foundation, and the Preparing Future Faculty Program by the Pew Charitable Trusts. According to Fairweather (2005), through National Science Foundation (NSF) initiatives

such as CIRTL, some land-grant research universities are "leading efforts to promote more effective instructional practices" (p. 402).

An increase in the number of efforts designed to better prepare future faculty as teachers has subsequently created a need to identify elements believed essential to effective program design or enhancing the socialization process. Austin, Connolly, and Colbeck (2008) suggest that a goal of such efforts is to "prepare 'integrated professionals,' individuals who understand, value, and incorporate into their work a range of commitments and activities" (p. 70). Considering their words, these researchers are indirectly speaking to the socialization process of graduate students into faculty members. As previously suggested, graduate programs should be viewed as future faculty preparation programs and as part of the socialization process and are, therefore, regarded as such in communication and efforts to restructure or develop new future faculty preparation programs designed to enhance the socialization process and the development of effective teaching skills.

Studies to aid in the identification of effective design elements have been conducted and design recommendations have subsequently been made. In a recent qualitative study, Austin (2002) recommends five elements essential to improving the design of future faculty preparation programs. With regard to FFPP design, study participants articulated a need for: (a) regular mentoring, advising, and feedback; (b) structured opportunities to observe, meet, and talk with peers; (c) opportunities to participate in diverse, developmentally oriented teaching activities; (d) information and guidance on all aspects of faculty responsibilities; and (e) regular and guided reflection.

In addition to Austin's findings, other researchers have provided suggestions for essential elements of an effective FFPP. Pruitt-Logan and Gaff (2004) suggest several programmatic elements essential to the effective development of future faculty. They suggest that FFPPs should: (a) include opportunities for more independent and varied teaching responsibilities; (b) include an element to foster understanding and appreciation of faculty service; (c) expose future faculty to the range of professional responsibilities in the various institutions; (d) provide a formal system for mentoring; (e) equip future faculty for changes taking place in classrooms and curricula; and (f) be integrated into the academic program.

Adding to the list of essential future faculty preparation program elements, Nyquist, Woodford, and Rogers (2004) make similar recommendations. They suggest that effective FFPPs should: (a) provide future faculty with a more realistic, versatile notion of the responsibilities of the academic profession; (b) examine and expose future faculty to academic career paths; (c) provide faculty-student mentorships; (d) provide teaching experiences; and (e) provide opportunities for future faculty to engage in professional self-assessment. The elements suggested by all researchers are quite similar. In short, they are recommending that future faculty preparation programs provide future faculty with mentorship and teaching opportunities, exposure to the elements or responsibilities of the academic profession, exposure to career paths and tools to navigate through paths, and opportunities for self-reflection or assessment.

Grouped into fewer categories, these recommendations similarly align with the theoretical assertions of self-determination theory and the satisfaction of innate

psychological needs. A recommendation for the inclusion of a program element designed to satisfy the need for competence is evident in the suggestion that FFPPs, effective in the preparation and development of teaching skills of future faculty, should expose students to the responsibilities of the academic profession, should expose them to the various career options, and should provide future faculty with information and effective tools to seek out and land appropriate and desired faculty positions. A recommendation for the inclusion of a program element designed to satisfy the need for relatedness is evident in the suggestion that FFPPs should provide future faculty with mentorship and self-reflection opportunities. This recommendation implies that regular opportunities for faculty to mentor, advise, or guide students, as well as opportunities for peer mentorship help students develop deeper professional relationships and fosters self-assessment and progress as a scholar. Finally, a recommendation for the inclusion of a program element designed to satisfy the need for autonomy is evident in the suggestion that FFPPs should provide future faculty with opportunities to teach.

This recommendation also fits into the satisfaction of the need for competence; however, it more appropriately fits to satisfy the need for autonomy because it provides future faculty with opportunities to practice a diversity of learned teaching skills and to think deeply or philosophically about their teaching. Through these types of engaging opportunities, students are able to familiarize themselves with their personal, pedagogical strengths, and weaknesses to either focus on the improvement of weaknesses or to find and develop a level of comfort or self-efficacy with their teaching abilities.

More engaging or practical teaching experiences coupled with a greater understanding of what it means to be an academician, and opportunities for assessment and self-reflection, satisfy the innate psychological needs purported by SDT. With the inclusion of such elements into an FFPP, future faculty should more fully integrate the objectives of the teaching-focused FFPP and develop a renewed enthusiasm and motivation for their efforts. An enhanced socialization process will likely ensue resulting in the production of future faculty members viewed as competent and skilled in teaching, ready to address the challenges of today's college classroom. "We must create doctoral programs that prepare faculty not to accommodate higher education as it is, but to be agents of change, helping higher education play its proper role in a twenty-first century global society" (Applegate, 2002, p. 2).

Methodology

The purpose of this study was two-fold. First, the purpose was to identify the specific types of motivation that graduate student certificate holders in both the GTA and GTP possess in the participation and completion of their respective FFPP and to identify what factors affect the motivation of those graduate students. Second, the purpose was to identify the presence or absence of program elements designed to satisfy participants' innate psychological needs for competence, relatedness, and autonomy. An additional purpose of the study was to offer a suggestion for the design of FFPPs to include an element for the satisfaction of innate psychological needs, in an effort to influence motivation type, increase participation, and enhance the socialization and future practice of future faculty. My thesis was that more adequately socialized and prepared future

faculty will be produced by future faculty preparation programs if a more self-determined motivation type, resulting from the satisfaction of innate psychological needs, is developed or possessed by FFPP graduate student participants. CIRTL supports the notion that one way to improve undergraduate education is through the adequate preparation of graduates-through-faculty. CIRTL's innovative message is that of the integration of research and teaching, in an effort to address quality concerns in undergraduate education and the effectiveness of teaching in the STEM disciplines, through an increase in the number of better-prepared future STEM faculty members (CIRTL Network, 2010b).

CIRTL hypothesizes and purports that the advancement of undergraduate teaching and learning in the STEM disciplines will occur through the professional development of future STEM faculty, referred to as graduates-through-faculty (CIRTL, 2003). CIRTL understands that the professional development of graduate students is essential to the ongoing improvement of undergraduate education and, therefore, seeks ways to foster the development of graduates-through-faculty. In the development of graduates-through-faculty, CIRTL utilizes three pillars: (a) teaching-as-research, (b) learning communities (LCs), and (c) learning-through-diversity. Teaching-as-research is the deliberate use of research methods to advance learning experiences, LCs bring people together to share learning experiences in an effort to generate knowledge, and learning-through-diversity capitalizes on the rich array of skills and experiences to enhance learning (CIRTL Network, 2010a). CIRTL suggests that these pillars are essential to the advancement of teaching in the STEM disciplines. Funded by the

National Science Foundation (NSF), CIRTL began in 2003 as a result of a near $5 million grant focused on educational practice and research; and since its inception, more than 1500 graduate students, postdoctoral researchers, and faculty across the STEM disciplines have participated in network activities to improve their teaching skills (CIRTL, 2007).

A partnership between CIRTL and the Graduate Teaching Academy (GTA) at Texas A&M University (TAMU) was formed to incite reformation within all academic disciplines at TAMU. Sponsored by the Office of Graduate Studies (OGS) and the Center for Teaching Excellence (CTE), the purpose of the GTA is to assist graduate students in the preparation of a teaching career in a college or university setting. The GTA is a program focused on the development of effective teaching practices to enhance the current and future experiences of graduate students. This one-year program includes a seminar series by professors recognized for excellence in teaching, hands-on workshops, and small group discussions. Participants may choose to work toward a certification designation as a GTA Fellow by completing specific program requirements (Graduate Teaching Academy, 2010). For more details about the GTA, see Appendix A.

Similar to TAMU, the University of Colorado at Boulder (CU) also offers graduate students a venue for improving their teaching skills. A graduate teacher certificate can be obtained through CU's Graduate Teacher Program (GTP). The Graduate Teacher Certification Program encourages graduate students to examine their interest for teaching, to improve communication and teamwork skills, to understand various teaching and learning methods, and to develop as professionals in their fields. By

meeting certain requirements such as attending program workshops and developing a teaching portfolio, to name a few, one can comfortably achieve the graduate teacher certification over a period of two years (Graduate Teacher Program, 2010a).

Corresponding to the purpose, I utilize a mixed methods design consisting of both quantitative and qualitative inquires to answer the "what" and "why" of participant motivation. Specifically, the quantitative component was used to determine what types of motivation participants possess in the participation and completion of an FFPP, and the qualitative component was used to explore why, in reference to SDT, participants possess identified motivation types. Creswell (2003) explains that a mixed methods design is accomplished by integrating both quantitative and qualitative data within a study in an effort to bring clarity of understanding to the research problem. He purports that neither method can paint a thorough enough picture of the inquiry when used independently but when used together, complement each other in providing a better understanding of the study while neutralizing limitations or biases of the other method.

Based on the philosophical assumptions of positivism/postpositivism, I utilized a non-experimental quantitative methodology, employing a survey design approach of inquiry where numeric measures or statistical data were collected through the use of predetermined survey instruments (Creswell, 2003). "Survey methods are used in the study of a segment or portion-a sample-of a population for purposes of making estimated assertions about the nature of the total population from which the sample has been selected" (Babbie, 1973, p. 73). The survey design approach was appropriate for this study because a sample of both the Graduate Teaching Academy (GTA) and the

Graduate Teacher Program (GTP) populations was utilized to draw inferences about the graduate student population. The positivist/postpositivist paradigm takes a scientific approach to research and assumes that knowledge is derived from fact and, therefore, aims to minimize researcher bias through the use of such tactics as closed-ended survey questions.

> To avoid the possibility of inquirer bias on the one hand, and nature's propensity to confound on the other, the inquirer must use a manipulative methodology and empirical methods, often in the guise of questionnaires and factor analysis, that place the point of decision with nature rather than the inquirer. (Avramidis & Smith, 1999, p. 28)

Sample

In the acquisition of data, only the sources identified as achieving the highest level designations of GTA fellow and GTP teacher certificant, for both the 2008-2009 and 2009-2010 academic years, are utilized. These participants represented a percentage of all GTA and GTP participants. The participants were male and female graduate students, ages 18 and over and of diverse racial and academic groups. The sample size for this study consisted of 41 graduate students: n=29 for TAMU and n=12 for CU.

This sample was purposefully selected because it was assumed that these participants had put forth more effort than other participants in their future faculty preparation as attendance at a specified number of teaching-focused seminars, as well as the development of artifacts, such as a statement of teaching philosophy and course syllabus, were required to achieve these designations. It is believed that the assertiveness shown by these participants was requisite of a change agent versus those participants who did not achieve a program designation.

Quantitative Method

In the acquisition of quantitative data, 29 TAMU GTA Fellows and 12 CU GTP Teacher Certificants were used. With regard to the GTA, all GTA Fellows were selected as potential participants for this study; however, only consenting Fellows were utilized. During the 2008-2009 academic year, 45 of the 185 (24%) GTA participants became GTA Fellows, and during the 2009-2010 academic year, 35 of the 110 (32%) GTA participants became GTA Fellows. This produced a total of 80 potential study participants. As a result, 80 requests for participation were sent to GTA Fellows and of the 80, 29 consented and agreed to participate. This equates to a 36% response rate. In reference to the GTP, the decision of how many requests for participation to disseminate was made by GTP leaders, and subsequently, requests for participation were sent to potential study participants by GTP leaders. GTP leaders sent a total of 41 requests for participation to GTP Certificants, and of the 41 requests, 12 consented and agreed to participate. This equates to a 29% response rate.

Qualitative Method

In the acquisition of qualitative data, 10 TAMU GTA Fellows were used. With regard to the GTA, all 29 GTA Fellows who participated in the quantitative component were selected as potential participants. A total of 29 requests for participation were sent, and of the 29, 10 agreed to participate. This equates to a 34% response rate. In reference to the GTP, permission to interview CU GTP Teacher Certificants was not granted; therefore, GTP participants were not included as participants in this segment of the study.

Data Collection

Utilizing a mixed methods design, the selected data collection methods for this study included a survey and focus group interviews. The survey, or quantitative component, provided insight into the type of motivation possessed by program participants or "the what" and the focus group interviews, or qualitative component, provided insight into "the why" or reasons for participation. The qualitative component facilitated greater insight into participant perspectives with regard to the satisfaction of innate psychological needs.

Quantitative Method

Quantitative data were collected by way of a 28-item quantitative survey similar to Vallerand and colleagues' Academic Motivation Scale (AMS)-College Version. As prescribed by the survey developers, I modified the AMS-College Version to create the Academic Motivation Scale (AMS)-Future Faculty Preparation Program (FFPP) Version. The AMS contained 28, closed-ended, Likert-like questions.

The AMS was designed to assess types of motivation or motivational constructs definitive of SDT. The seven constructs of motivation, according to the AMS, are: (a) intrinsic motivation to know, (b) intrinsic motivation toward accomplishment, (c) intrinsic motivation to experience stimulation, (d) extrinsic motivation-identified, (e) extrinsic motivation-introjected, (f) extrinsic motivation-external regulation, and (g) amotivation. In short, the AMS assesses three types of intrinsic motivation, three types of extrinsic motivation, and amotivation. A significant amount of evidence supporting the reliability and validity of the AMS exists. In its internal consistency and construct,

the AMS has been determined both reliable and valid in measuring "the why of behavior" (Vallerand et al., 1992, p. 1016). The following paragraph describes the procedures that occurred during the data collection process, as well as the purpose for all collected data.

The AMS-FFPP version survey was administered to GTA Fellows and GTP teacher certificate holders at the end of the 2009-2010 academic year. The survey was administered via email. Those purposefully selected as research participants received an email describing the purpose of the study, what they were being asked to do, and any risks or benefits involved with participation in the study. In addition, they were advised that their participation was completely voluntary. At the end of the email, a link to the AMS-FFPP instrument was included. The email served as a consent form and those agreeing to participate in the study acknowledged their consent by clicking on the link and launching the survey. The link redirected participants to the AMS-FFPP version survey housed in SurveyMonkey, an online survey tool.

Qualitative Method

In the acquisition of qualitative data, I utilized focus group interviews. Freeman (2006) describes a focus group as "a form of group interview that places particular importance on interaction between participants. They comprise group discussion among carefully selected individuals, guided by a moderator using a carefully designed topic guide" (p. 492). Kitzinger (1994) stresses the importance of group interaction in an additional description of a focus group. Kitzinger (1994) explains, "a group is 'focused' in the sense that it involves some kind of collective activity….Focus groups are

distinguished from the broader category of group interviews by 'the explicit use of the group interaction' as research data" (p. 103).

Some advantages to utilizing focus group interviews for data collection, according to Kitzinger (1994), are that they highlight respondents' attitudes, priorities, language, and framework of understanding….They provide insight into the operation of group/social processes in the articulation of knowledge" (p. 116). Fontana and Frey (1994) also describe some advantages of utilizing focus group interviews. They suggest that focus group interviews are inexpensive and data rich; however, in addition to advantages, they cite "group think" or interference with individual expression as one disadvantage. With regard to "group think" they suggest that "the emerging group culture may interfere with individual expression" (Fontanta & Frey, 1994, p. 55). In other words, an individual may not express his or her personal experiences if he or she does not feel comfortable in a group or if his or her experiences appear contrary to what everyone else, or the rest of the group, is expressing about their experiences.

Focus group interviews were appropriate for this study because participants were accustomed to sitting and sharing in groups, as this is the format utilized by the GTA. This provided them with a familiar environment, hopefully increasing their level of comfort and ability to openly discuss their experiences. In addition, because of my familiarity with participants, I was able to identify each speaker; thereby minimizing potential interference with individual expression.

I interviewed TAMU GTA fellows in person, in two small groups, for one hour, on the TAMU campus. One focus group consisted of six GTA fellows and the other

group consisted of four GTA fellows. I asked a series of pre-established, open-ended questions. The semi-structured interview was audio recorded for later transcription (Creswell, 2007). Interview questions focused on GTA program effectiveness and whether the GTA addressed or met the innate psychological needs of the participants. Specific interview questions included:

1. Let's share ideas about what is a learning community. Please describe what you feel is a learning community (LC).

2. Based on your descriptions of a LC, do you feel the GTA is representative of a LC? Why/Why not?

3. Did the GTA program meet your needs? (What were your needs?)

4. Being aware of the program outcomes and "GTA Fellow" requirements, do you feel the program outcomes were achieved? (Which, if any?)

5. Why did you participate in the GTA?

6. What are some suggestions you have for improving the program?

This study's thesis was that more adequately socialized and prepared future faculty will be produced by future faculty preparation programs (e.g., the GTA) if a more self-determined motivation type, resulting from the satisfaction of innate psychological needs, is developed or possessed by FFPP participants. The purpose of all data collected was to answer the stated research questions and to determine the validity of the hypothesis.

Data Analysis

The goal of data analysis is to both quantitatively and qualitatively assess FFPP characteristics in relation to the adequate preparation and socialization of FFPP completers.

Quantitative Analysis

The goal of quantitative data analysis is to statistically identify the specific types of motivation that graduate student certificate holders in both the GTA and GTP possess in the participation and completion of their respective FFPP. In the analysis of quantitative data, I utilized instrument categorizing procedures analogous to those utilized by the AMS-College Version. The AMS-College Version utilized a 7-point, Likert-like scale to answer the "why" of behavior and to assess seven constructs of motivation. The seven constructs of motivation, according to the AMS, are: (a) intrinsic motivation to know, (b) intrinsic motivation toward accomplishment, (c) intrinsic motivation to experience stimulation, (d) extrinsic motivation-identified, (e) extrinsic motivation-introjected, (f) extrinsic motivation-external regulation, and (g) amotivation. I utilize the individual subscale score of each construct to determine type of motivation.

In addition to determining type of motivation possessed by participants, motivation type was analyzed by the variables of gender, program characteristics or type, and by academic discipline to uncover whether differences existed in type of motivation possessed by participants, as a result of these variables. Because I compared the means of three groups, I utilized the analysis of variance (ANOVA) experimental design. As described by Coolidge (2006),

ANOVA is concerned with analyzing the variance produced in multiple mean comparisons to determine whether genuine differences exist among the means of a response variable (or dependent variable) as the result of some independent variable. (p. 242)

Qualitative Analysis

The goal of qualitative data analysis is to identify the presence or absence of an FFPP element designed to satisfy participant's innate psychological needs for competence, relatedness, and autonomy. Upon completion of verbatim interview transcription, I employed a constant comparative method of data analysis to code or theme data, utilizing both emergent and prior-research driven approaches. The preexisting themes utilized as codes were derived from the self-determination theory of motivation and were identified as innate psychological needs. The three codes are (a) competence, (b) relatedness, and (c) autonomy. This method was appropriate for this study because analysis is grounded in data or the established theory of self-determination; however, a more inductive-like method is also appropriate in order to gain a more in-depth understanding of the overall experience of program participants.

Assumptions

The assumptions I made in this study were influenced by my review of the literature, my interactions with the GTASC and GTP leaders, and my personal affiliations with CIRTL. Having reviewed the literature, I assumed that faculty preparation programs and future faculty professional development or preparation programs were one and the same. Having developed a relationship with the GTASC, I assumed full support for this study by the GTASC and their solicitation to GTA Fellows for their cooperative participation. In addition, I assumed that each study participant was

open and honest when providing feedback about his/her program experience and that no study participant was penalized for their responses. Additionally, I assumed the support and cooperation of the GTP leaders in soliciting participation from GTP teacher certificate participants. Finally, because of my personal relationship with CIRTL, I assumed their full support in the study.

Limitations

This study had several limitations:

1. The GTA and the GTP were voluntary programs; therefore, participants were able to begin and end their affiliation with the program at any time, resulting in an impact on the sample size.

2. Technology may be a limitation of this study as study participants providing survey responses electronically may experience technical difficulties. In addition, some participants may not achieve a comfort level with the technology which may affect their ability to respond openly and honestly to survey questions.

3. Study participants were graduate students so their time could be restricted by academic requirements. Academic requirements took priority over research participation.

4. GTP leaders did not grant permission to meet with and/or interview GTP Certificants. This limited the study's ability to make a comparison between the GTP and the GTA with regard to the presence of program characteristics designed to satisfy innate psychological needs.

5. The study sample was somewhat biased as it was composed of achievers or people more favorably inclined to the program. Sample bias may affect results.

6. Generalizability was limited due to the small sample size and having studied only two programs.

CHAPTER II

THE ROLE OF MOTIVATION IN GUIDING PARTICIPANTS IN A

VOLUNTARY, PROFESSIONAL DEVELOPMENT PROGRAM

FOR FUTURE FACULTY

Introduction

Imagine running in a marathon without knowing the path of the race or the direction to the finish line. Running and knowing your way to the finish line are common practices in the marathon culture and simply go together. Without a tool such as a map, a runner would eventually find herself running aimlessly through unnecessary paths often containing multiple obstacles, with not much hope of actually reaching the finish line. Not having a tool or a map to successfully finish the race can be viewed as a barrier to successful marathon running. This experience might cause the runner to reconsider marathon running as a hobby, in the future. This example is representative of the culture in certain academic disciplines and provides a picture of the challenges and resulting turmoil that graduate students often face when they voluntarily go against the cultural norms of their chosen discipline.

The culture across many academic disciplines in doctoral producing, tier one institutions suggests that research performed by faculty members is more highly valued and rewarded over teaching. This conception likely exists because the ability to measure research performance exists through means such as the peer review process; however, no such mean exists for teaching. As a result, faculty members spend more of their time doing research and developing their research skills in an effort to achieve greater

rewards. "The scholarship of discovery and publications provide the primary basis for the allocation of rewards in the academic profession. At the institutional level, these rewards include tenure, promotion, and salary" (Braxton, Luckey, & Helland, 2002, p. 77). This situation is shared across most academic disciplines including the science, technology, engineering, and mathematics (STEM) academic disciplines. According to a respondent in a study conducted by Serow (2000), "when asked if teaching received adequate recognition, a senior engineering faculty said, 'Only if it's not very good'" (p. 453). Consequently, graduate programs in the STEM disciplines of research-focused institutions of higher education typically focus on developing the research, rather than teaching, skills of their graduate students.

Many STEM graduate students desire to pursue an academic teaching career although socialized into an academic research career. For those graduate students, this practice of training graduate students to be effective researchers may not adequately be preparing them to be effective college teachers. Because this choice goes against the norm of the STEM academic disciplines, students finding themselves in this predicament of competing cultures, as depicted in the previous example, often experience resistance or less support from their department or faculty in the development of their teaching skills and subsequently become less motivated to become effective teachers. "Graduate students often must find their way through the obstacles of graduate education with minimal guidance from faculty" (Wulff, Austin, Nyquist, & Sprague, 2004, p. 62). "Spending more time on classroom teaching remains negatively related to pay" (Fairweather, 2005, p. 417); so why spend time on teaching-related activities? With little

or no support from their department or faculty, due to the academic culture and a lack of incentive, if STEM graduate students desire to become effective teachers and have a successful academic teaching career, how then are they supposed to do so? What tools do STEM graduate students possess or have access to that might be effective for developing their teaching skills?

Future faculty preparation programs (FFPPs) are resources that students can utilize to aid in the socialization and progress toward a successful academic career. FFPPs, like graduate programs, help prepare or socialize graduate students for academic careers. Likewise, with regard to graduate students who choose to pursue an academic teaching career, a teaching-focused FFPP can aid in the socialization and progress toward a successful academic teaching career. The socialization process, according to Staton and Darling (1989), involves learning about academic values, attitudes, knowledge, skills, and expectations. In other words, when one is socialized, they learn the ways of a particular role, typically the role of the person they aspire to be. As STEM graduate students are socialized into the academic profession, they are taught the existing cultural norm, valuing research over teaching, resulting in a personal conflict for teaching focused students. With minimal or no tangible reward or incentive to develop teaching skills, like STEM faculty, this socialization process likely has a negative effect on or causes a reduction in the motivation of STEM graduate students to spend time developing their teaching skills. Wlodkowski (2008) argues that "feelings of cultural isolation often cause adult motivation to learn to deteriorate" (p. 126). If STEM graduate students are less socialized or motivated to become effective teachers, the results are less

FFPP participants and the production of more inadequately prepared future teaching faculty. Because competing cultures can have a negative impact on graduate student motivation to participate in FFPPs, attention should now turn to a review of motivation as a tool for enhanced socialization and teaching success.

This article examines motivation type and suggests its use by future faculty preparation programs as a tool for STEM graduate students who are interested in teaching as well as research, to use to more effectively go against the discipline norm and succeed at becoming an effective college teacher. It addresses the question of the type of motivation possessed by graduate student participants and whether the quality of motivation is affected by gender, program, or academic discipline. My thesis is that a more self-determined motivation type is necessary to effectively matriculate and be socialized into an academic teaching career and reduce the potential effects of going against the cultural norm. In the first section, I examine key points from the literature on the self-determination theory, pointing out the importance of a self-determined motivation type to affect participation in an FFPP. In the second and third sections, I provide an overview of Texas A&M's Graduate Teaching Academy and the University of Colorado-Boulder's Graduate Teacher Program. Here, a description of each program is provided to make program characteristics evident as program characteristics may have an effect on the quality of motivation. In the fourth section, I analyze the motivation scores of participating graduate students. I use quantitative data collected from the Graduate Teaching Academy and the Graduate Teacher Program participants, by the academic motivation scale, to discuss motivation types and contributing factors such as

gender and academic discipline. I conclude with a discussion of the data findings and

FFPP reform recommendations for facilitating a higher quality or more self-determined

motivation type than what currently exists.

In this context, FFPPs are considered the source from which the quality of

motivation or motivation type is developed or affected; therefore, an examination of the

motivation types of FFPP participants is warranted. This article contributes to the

literature on motivation through an understanding of how motivation type can be used as

a tool to enhance the socialization process and effectively go against the cultural norms

of an academic discipline to succeed at becoming an effective college teacher. The study

discussed in this article was guided by the tenets of the self-determination theory.

Self-Determination Theory

Self-determination theory (SDT) is a theory of motivation that focuses on type of

motivation versus amount of motivation. Its selection is appropriate for the study

discussed in this article because it enables the categorization of motivation by type or

quality; and quality of motivation is what I view as salient to enhancing the socialization

process and future teaching career success. SDT categorizes types of motivated behavior

into two categories, autonomous or controlled, and uses a third category, amotivation, to

describe a lack of motivation. SDT is concerned with "differentiating various types of

motivation to allow a refined analysis of the factors that facilitate versus diminish the

quality of motivated behavior. The most important distinction is whether a motivated

behavior is autonomous or controlled" (Deci, Kasser, & Ryan, 1997, p. 58).

An autonomous behavior orientation is characterized by having the ability to choose one's actions. Chosen actions are considered more self-expressive or representative of one's personal beliefs. "Autonomous, or self-determined, actions are freely chosen and experienced as emanating from oneself" (Deci, Kasser, & Ryan, 1997, p. 59). In contrast, a controlled behavior orientation is characterized by something having influence over one's actions. Controlled actions are less self-directed or self-determined. "Controlled actions, in contrast, are coerced or seduced by some force external to one's integrated sense of self. Such actions are accompanied by the experience of pressure or tension" (Deci, Kasser, & Ryan, 1997, p. 59). The third category, amotivation, represents the most nonself-determined behavior orientation as it is characterized by a lack of motivation or intention to act. SDT claims that it is better for a person to possess an autonomous or self-determined motivation type as this is associated with higher-quality functioning (Deci, Kasser, & Ryan, 1997).

According to self-determination theory, people possess innate psychological needs for competence, autonomy, and relatedness. SDT asserts that these psychological needs exist within every person and that in meeting a specific need, a certain type or quality of motivation is produced, resulting in action. These needs must be met in order for well being and psychological growth to remain. In facilitating a higher quality of motivated behavior, consideration for innate psychological needs is required as behavior and socialization are inextricably linked to the satisfaction of one or more of these needs. SDT maintains that people will behave in a manner to satisfy needs. "People will tend to pursue goals, domains, and relationships that allow or support their need satisfaction"

(Deci & Ryan, 2000, p. 230). In other words, a person displays a certain behavior in an attempt to satisfy a need and that behavior contributes to their socialization.

According to Deci and Ryan (2008), an autonomous orientation develops as a result of all three psychological needs being satisfied. The controlled orientation develops as a result of the competence and relatedness needs being somewhat satisfied, while at the same time, the satisfaction of the need for autonomy is neglected. Lastly, and in direct contrast to the autonomous orientation, neglecting or failing to satisfy all three psychological needs leads to the development of the amotivation orientation. Because the thesis of this study is that a more self-determined motivation type is necessary to effectively matriculate and be socialized into an academic teaching career, primary focus is not placed on the specific innate psychological needs of SDT but instead, is placed on the types of motivation that SDT asserts and is produced by the satisfaction of these needs. Consequently, focus is placed on the types of motivation possessed by graduate student participants in an effort to substantiate that work is needed to develop a more autonomous motivation type in FFPP participants.

SDT is best described as a continuum (see Figure 1). On a continuum, moving from right to left, SDT proposes two different types of motivation. They are (a) intrinsic motivation or motivation to behave for the sheer enjoyment or satisfaction of an activity itself and (b) extrinsic motivation or motivation to behave to attain an outcome separate of the activity itself. These types of motivation exist along the continuum with amotivation, which stands in direct contrast to motivation, to give reason for subsequent

behavior. Branching from the two types of motivation and amotivation are the regulatory styles associated with each motivation type.

Intrinsic regulation is the regulatory style associated with intrinsic motivation. Intrinsic regulation produces the most self-determined or autonomous form of behavior. "At the far right of the continuum is the classic state of intrinsic motivation, the doing of an activity for its inherent satisfactions. It is highly autonomous and represents the prototypic instance of self-determination" (Ryan & Deci, 2000, p. 72). It is directly linked to intrinsic motivation because it suggests that a person's behaviors have been internalized and are regulated by the self. "Internalization refers to people's 'taking in' a value or regulation…so that subsequently, it will emanate from their sense of self" (Ryan & Deci, 2000, p. 71). For example, a person donates time or money to a needy cause because they like to and believe in what they are doing. An individual possessing this regulatory style has completely internalized or fully accepts and believes in what he or she is a part of or is doing. Internalization as a fundamental aspect in socialization has been suggested by several theorists (Kelman, 1958; Lepper, 1983; Schafer, 1968).

There are four regulatory styles representative of extrinsic motivation. They are: (a) integrated, (b) identified, (c) introjected, and (d) external regulations. Like intrinsic motivation, integrated regulation is internalizing a behavior; however, the motivation for the activity does not come from within the self. Integrated regulation is "the fullest, most complete form of internalization of extrinsic motivation, for it not only involves identifying with the importance of behaviors but also integrating those identifications with other aspects of the self" (Deci & Ryan, 2000, p. 236). For example, recognizing

that an activity such as exercising is worthwhile, but doing it as a means to an end rather than for the inherent enjoyment of it. Identified regulation is consciously valuing a goal, causing the related action to be accepted, or made personally important. "By identifying with a behavior's value, people have more fully internalized its regulation; they have more fully accepted it as their own" (Deci & Ryan, 2000, p. 236). Furthering one's education because you personally see the value in it for your chosen career is an example of identified regulation.

Closer to the nonself-determined or less autonomous behaviors is the introjected regulatory style. Introjected regulation involves understanding the value of a behavior but not fully internalizing or believing in it. Ryan and Deci (2000) explain that with introjected regulation, "people are motivated to demonstrate ability (or avoid failure) in order to maintain feelings of worth" (p. 72). This person's behavior is regulated more by external causes than by internal causes. "Because introjected regulations have not been assimilated to the self, the resulting behaviors are not self-determined" (Deci & Ryan, 2000, p. 236). External regulation represents the most controlled form of extrinsic motivation. Behavior from this type of regulation is completely regulated by outside causes. Ryan and Deci (2000) describe it as "the classic case of extrinsic motivation in which people's behavior is controlled by specific external contingencies. People behave to attain a desired consequence such as tangible rewards or to avoid a threatened punishment" (p. 236). For example, a person does their homework in adherence to their parents' control to avoid punishment. Finally, non-regulation sits at the far left of the continuum, representing the most nonself-determined behavior category. Individuals

possessing a non-regulation style lack the intention to act or act impersonally. In other words, they act without a consideration for value, or just going through the motions.

Future Faculty Preparation Programs

For some students, future faculty preparation programs are part of their graduate school experience and thus a part of their socialization into an academic career. "The literature on socialization implies that an individual's understanding of the faculty career begins with the graduate school experience or even earlier, not with the first faculty position" (Austin, 2002, p. 96). The socialization process involves learning about and internalizing the values and expectations of a role or group, as well as developing a commitment to that role. In short, much of how a person feels about or carries out a role are the result of their socialization process. For this purpose, FFPPs are considered the source from which the quality of motivation or motivation type about the faculty role is developed or affected in graduate students. This study examined programs at two institutions: Texas A&M University and the University of Colorado at Boulder.

Texas A&M University: The Graduate Teaching Academy

The Graduate Teaching Academy (GTA) at Texas A&M University (TAMU) was founded in 1998 and is a teaching-focused future faculty preparation program that has as its goal the development of effective teaching practices to enhance the current and future experiences of graduate students interested in an academic teaching career. Sponsored by the Office of Graduate Studies (OGS) and the Center for Teaching Excellence (CTE), the GTA is a graduate student-led organization whose mission is to provide graduate students with professional development opportunities to better prepare

and equip them for a career in college teaching. Participation in the GTA is voluntary and thus free for all TAMU graduate students. The GTA is a one-year future faculty preparation program offering weekly seminars by professors recognized for their excellence in teaching, small group discussions, and practical exercises for artifact development. In a typical academic year, the GTA offers a combination of seminars, discussions, and movies approximately 11 to 13 times during the fall semester and approximately 8 to 10 times during the spring semester.

The GTA offers considerable flexibility in attendance; therefore, the program may be entered into at either the beginning of the fall or spring semester. Participants may participate in the GTA program by only attending a few seminars of personal interest or by investing more efforts toward completing specific program requirements necessary for the achievement of the "Fellow" certification designation. The specific program requirements that must be completed to achieve the certification designation cover seven areas. The seven areas are: participants must (a) attend or watch the seminar video, a total of 15 GTA seminars, panels, or movie discussion nights; (b) choose and meet with a faculty teaching mentor at least two times during the academic year; (c) conduct three classroom observations; (d) design a course syllabus; (e) participate in a professional service activity; (f) develop and write a philosophy of teaching statement; and (g) complete a program feedback survey at the end of each semester (Graduate Teaching Academy [GTA], 2010). Participating graduate students who successfully complete the one-year program and all certification requirements obtain a certificate of completion from the GTA and receive the designation of GTA Fellow. GTA Fellows

wishing to further their professional development beyond the Fellows program may participate in the GTA Senior Fellows Program (GTASF). The GTASF is an Inquiry-Based Learning Community (IBLC), sponsored by the GTA and the CTE, designed to teach future faculty how to infuse inquiry-based learning into their courses (Center for the Integration of Research, Teaching, and Learning (CIRTL) at Texas A&M University, 2009). The IBLC is a six session, semester-long workshop series and upon its completion GTA Fellows will receive the designation of Senior Fellow.

Program seminars and discussions focus on the development of knowledge and skills in four particular areas: (a) professional path, (b) course design, (c) assessment, and (d) pedagogy. These four areas are the stated program outcomes and are considered, among others, standard elements of knowledge for effective college teaching (Shulman & Shulman, 2004). The professional path component exposes participants to institutional differences and differences in faculty positions. This component helps students develop their professional path leading to their desired academic position. The course design component teaches participants about selecting course goals, learning outcomes, and appropriate teaching methods, as well as provides participants an opportunity to design a course syllabus. The assessment component exposes participants to both formative and summative assessment strategies. It teaches participants about context and assessment and, therefore, provides a description of differing assessment strategies for different types of courses. Finally, the pedagogy component offers an overview of different learning styles and effective teaching strategies for each style. In addition, this component shares ideas about creating an inclusive learning environment and teaching

with technology. For more details on the GTA program components and its effectiveness at addressing them, see Appendix A.

At the onset, the GTA organizational structure is somewhat unique when compared to other FFPPs. Its uniqueness primarily stems from one aspect; the GTA is a graduate student-led program. As depicted in Figure 2, the leadership hierarchy within the organization structure of the GTA includes: a GTA director; a GTA steering committee (GTASC) comprised of 10 assistant directors, 9 college liaisons, and 8 group leaders whose groups include approximately 8 to 10 members or GTA participants. The GTA director position is the only funded position within the structure; all other leaders are volunteers. Unless one is participating in the GTA program from a distance, all GTA participants are randomly assigned to a color-coded group, led by a group leader. All distance participants are assigned to the same group and group leader. GTA participants report directly to their assigned group leader on a weekly basis.
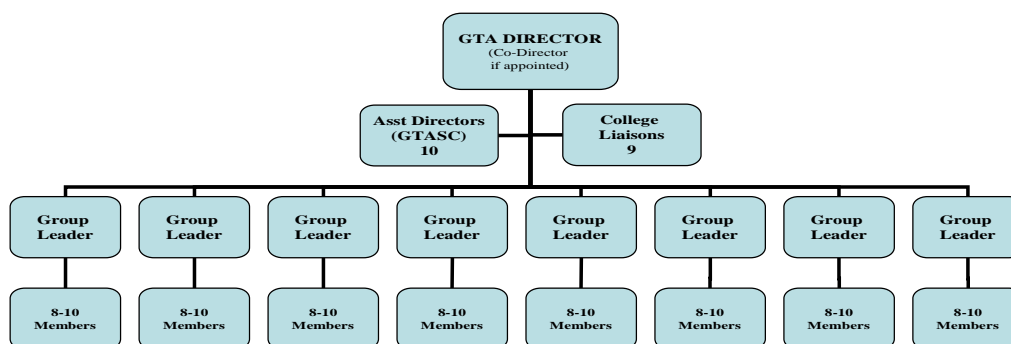

Figure 2. Graduate Teaching Academy Leadership Structure at Texas A&M University.

The GTASC is comprised of 10 assistant director positions, responsible for leading projects in one's assigned program area. Program areas associated with the 10 assistant director positions are: (a) assistant director of alumni programs, (b) assistant director of the awards banquet, (c) assistant director of communications, (d) marketing, (e) program evaluation, (f) program history, (g) program records, (h) speaker coordination, (i) technology, and (j) university affairs. During the summer, the GTASC meets weekly to plan and prepare for the upcoming program year; and during the academic year, the GTASC only meets monthly or as required by the GTA director. The college liaison is considered a part of the GTASC and networks with key college personnel to provide news and information on GTA offerings to graduate students in all colleges. With regard to group leader responsibilities, each week program participants attend a seminar, discussion session, or movie, and group leaders are responsible for recording the attendance of their group members. In addition to recording attendance in this manner, attendance is recorded as a result of completion of the satisfaction survey for each week's seminar. Group leaders are also responsible for collecting required assignments (e.g., teaching syllabus).

Conceptually, the organizational structure of the GTA is a traditional or top-down structure with directives being passed down by the GTA director to the GTASC, and subsequently to group leaders who pass down information to program participants. A traditional organizational structure implies inequality of leadership at different structural levels, or a hierarchy of authority. Fundamentally, in the traditional structure, emphasis is placed on the "downward flow of authority" (Kreitner, 2007, p. 256).

"According to traditional organization theory, if anything is to be accomplished through formal collective effort, someone should be given the authority to see that the intended goals are carried out effectively and efficiently" (Kreitner, 2007, p. 250). Although this structure is typical and effective for many organizations, it is likely ineffective for this FFPP because GTA leaders and participants, all being graduate students, in reality, are equal. Although one requirement of the GTA fellow certification is to meet at least twice with a faculty mentor during the academic year, this organizational structure does not contain a provision for regular, quality feedback and mentoring. Regular feedback and mentoring are essential in developmental settings such as graduate education and because GTA leaders and participants are graduate students and required meetings with mentors are minimal, more personal feedback on progress or assignments is needed. In a 1998 report by the Association of American Universities (AAU), mentoring and advising are two of seven elements described as best practices of graduate education. Austin (2002) supports the AAU's recommendations by suggesting that more attention to mentoring, advising, and feedback, among other things, is needed to improve graduate school as preparation for faculty careers. Other than feedback received as a result of the two required mentor meetings, participants may receive feedback from group leaders. It is likely that when feedback is provided to participants by group leaders, it might be devalued or viewed as inconsequential because group leaders are graduate students and, therefore, viewed as peers.

The University of Colorado at Boulder: The Graduate Teacher Program

Created in 1984, the Graduate Teacher Program (GTP) at the University of Colorado-Boulder (CU) is a voluntary future faculty preparation program whose mission is to improve graduate student performance as teaching assistants and part-time instructors and to assist graduate student teachers in their professional development as future professors. Under the umbrella of the GTP, several programs and activities are offered. This article's interest is specific to the graduate teacher certification program.

The Graduate Teacher Certification Program encourages graduate student teachers to examine their interest for teaching, to improve communication and teamwork skills, to understand various teaching and learning methods, and to develop as professionals in their fields. Through program participation, graduate students become eligible for certification. Similar to the GTA, specific requirements must be met in order to be certified as a college teacher. More specifically, seven requirements must be met to qualify for certification. These requirements are that participants: (a) must teach for two full semesters on the CU-Boulder campus; (b) attend 20 GTP workshops; (c) complete a minimum of 20 real-time hours of teacher training in their discipline; (d) participate in two videotape consultations; (e) be observed, evaluated, and recommended for certification by a home department faculty member; (f) prepare a teaching portfolio; and (g) complete an online GTP exit survey. Graduate teaching assistants and part-time instructors from other countries must meet two additional requirements for certification. They must attend at least one international graduate teacher cultural-intensive workshop or three international graduate teacher workshops during the academic year and take an

English language screening examination and be recommended for certification if English is not the participants first language. Upon successful completion of all program requirements and a final assessment by the director of the GTP, a participant will be awarded the certificate in college teaching (Graduate Teacher Program, 2010a). It is important to note that unlike the GTA, the GTP certificate completion is noted on the graduate students' official transcript (Graduate Teacher Program, 2010b). Completion of all certificate requirements involves a significant time commitment by program participants; therefore, it is recommended that GTP participants complete the requirements over a minimum of two or more years (Graduate Teacher Program, 2010a). To date, a total of 355 participants have completed the certificate.

Illustrated in Figure 3 is the leadership structure of the teaching-focused aspect of the GTP. Although the GTP is comprised of two aspects, teaching and professional development, the teaching aspect was most relevant to this study and, therefore, was the only aspect described. The GTP teaching-focused leadership structure is typical of the traditional organizational structure and includes: (a) a GTP director; (b) a GTP assistant director, and (c) two distinct areas of teaching focus, centralized and distributed. One focus is considered centralized because anyone can go to the GTP office for one-on-one assistance or to attend a workshop. The other focus is considered distributed because the lead graduate teachers go to those needing assistance to teach pedagogy courses or lead workshops outside the GTP office.
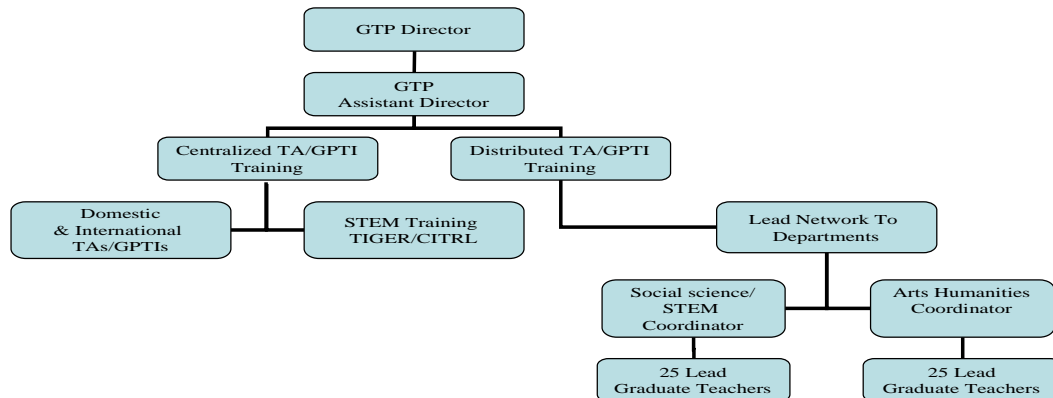
Figure 3. Graduate Teacher Program Leadership Structure at the University of Colorado-Boulder.

In the centralized focus area, two groups co-exist. They are (a) domestic and international teaching assistants (TA's) and graduate part-time instructors (GPTI) and (b) science, technology, engineering, and mathematics (STEM) training provided through the Teaching Institute for Graduate Education Research (TIGER) and the Center for the Integration of Research, Teaching, and Learning (CIRTL). These two groups typically go to a centralized location to receive teacher training.

The distributed focus area is comprised of the Lead Graduate Teacher Network. The network is divided into two academic disciplines: (a) social sciences and STEM and (b) arts and humanities. Each discipline is led by a lead coordinator and within each discipline are 25 lead graduate teachers, resulting in a total of 50 lead graduate teachers. The 50 lead graduate teachers report to their discipline-specific lead coordinator. Although not equal, the assistant director and the two discipline-specific lead

coordinators all receive direction from and report directly to the GTP director. GTP certificate participants can consult with lead graduate teachers but report to lead coordinators and the program director. Since no leadership level exists between participants and the director, GTP participants are responsible for tracking their own attendance and progress toward certificate completion.

Resembling the GTA, GTP workshops are teaching-focused and designed to advance knowledge in multiple areas of college teaching. Workshop topics range from: (a) general pedagogy, (b) course design, (c) assessment, (d) academic policies, (e) the scholarship of teaching and learning, and (f) teaching as research. Although similarities between the program structures of the GTA and the GTP exist, many differences in organizational structure subsist. Organization structural differences include: (a) GTP participants report to superiors, not peers; (b) GTP leader positions are funded; and (c) regular feedback and mentoring are incorporated into the program structure. These differences may or may not have an effect on the quality of participant motivation.

The organizational structure of the GTP likens itself to that of the GTA in that the traditional or top-down structure exists; however, unlike the GTA, the salient characteristic in the traditional structure of inequality of leadership at different structural levels is present in the GTP. Essentially, GTP participants receive direction from and report to superiors, not equals. Direction and feedback from someone viewed as superior may likely be perceived as more valid and valuable from that of a peer. With regard to the second structural difference, given that GTP leaders are paid, there is likely more stability and quality in program leadership. Because the GTA is voluntary and student-

led, leadership changes may be so frequent that stability in leadership becomes a program aspiration. In addition, the quality of leadership in the GTP will be greater than that in the GTA as these leaders are experienced professionals, working in the field of future faculty preparation. One final difference in organizational structures is that feedback is programmatically incorporated into the GTP certificate program. GTP leaders are required to observe, consult on, and/or evaluate participants in three of the seven certification requirement areas. With each of these areas, leaders either make recommendations for certification or for improvement prior to certification. This feedback provides GTP participants with guidance for improvement in weak areas. Because GTP leaders are considered superiors, participants are required to make suggested corrections, unlike GTA participants receiving feedback from peers.

Methods

This study took place at Texas A&M University (TAMU), which is a large, land grant, research intensive institution in south central Texas. TAMU is a member of the Center for the Integration of Research, Teaching, and Learning (CIRTL) Network whose purpose is the advancement of teaching practices and learning in the STEM disciplines, in higher education, for successful professional careers. TAMU is one of six CIRTL network institutions. Other network institutions include the University of Wisconsin at Madison; the University of Colorado at Boulder (CU-Boulder); Michigan State University; Howard University; and Vanderbilt University. This study utilized data from two CIRTL network institutions: TAMU and CU-Boulder.

My thesis is that a more self-determined motivation type is necessary to effectively matriculate and be socialized into a successful academic teaching career. In addition, my thesis suggests the use of motivation type as a tool to stabilize the STEM graduate student socialization process during FFPP participation when students are faced with competing cultures. This idea implies that a more self-determined motivation type is preferred in order to enhance future faculty preparation and produce more adequately prepared college teachers. To adequately assess my thesis, an examination of the quality of motivation in current FFPP participants is required.

To answer the research questions and gain a more comprehensive view of motivation type, I utilized a non-experimental, quantitative research methodology. The purpose of this study was to address four research questions related to motivation type. Specifically,

1. What is the range of types of motivation, as defined by self-determination theory (SDT), possessed by graduate student participants at TAMU and CU, who have completed an FFPP designed to improve teaching skills in higher education?

2. Does graduate student motivation in an FFPP differ by gender?

3. Does graduate student motivation in an FFPP differ by program characteristics/type?

4. Does graduate student motivation in an FFPP differ by academic discipline?

Sample

As my primary source of data, I used GTA Fellows and GTP teacher certificants, for both the 2008-2009 and 2009-2010 academic years. This population was targeted because I wanted to gain an understanding of motivation type from graduate students who had successfully completed all requirements of an FFPP certification program. It was assumed that as a result of persistence in effort, these participants' motivation type was already somewhat self-determined in nature. Participants were both male and female graduate students, ages 18 and over, and of diverse racial and academic groups. The sample size for this study consisted of 41 graduate students: n=29 for TAMU and n=12 for CU-Boulder. Because both programs were voluntary and because participants were graduate students, academic requirements took priority over research participation, likely resulting in an impact on the sample size.

Data Collection and Analysis

I utilized a survey design approach of inquiry and collected data through the use of a modified, predetermined survey instrument. More specifically, I collected data through the Academic Motivation Scale (AMS) – Future Faculty Preparation Program (FFPP) Version (see Appendix B for complete survey). The AMS-FFPP is a 28-item, closed-ended, Likert-like survey, similar to Vallerand and colleagues' Academic Motivation Scale (AMS) – College (C) Version.

The AMS was designed to assess types of motivation or motivational constructs definitive of SDT. The seven constructs of motivation, according to the AMS are: (a) intrinsic motivation to know – acting for the pleasure or satisfaction experienced while

learning; (b) intrinsic motivation toward accomplishment – acting for the pleasure or satisfaction experienced in an attempt to accomplish something; (c) intrinsic motivation to experience stimulation – acting to experience stimulating sensations; (d) extrinsic motivation identified – acting because the act is valued or viewed as personally important; (e) extrinsic motivation introjected – acting because of internal pressures; (f) extrinsic motivation external regulation – acting because of external pressures; and (g) amotivation – the absence of intrinsic and extrinsic motivation (Vallerand et al., 1992). In short, the AMS assesses three types of intrinsic motivation, three types of extrinsic motivation, and amotivation. The AMS's internal consistency and construct have been proven both reliable and valid in measuring "the why of behavior" (Vallerand et al., 1992, p. 1016).

I administered the AMS-FFPP version survey, via email, to participating GTA fellows and GTP teacher certificate holders at the end of the 2009-2010 academic year. All GTA and GTP 2008-2009 and 2009-2010 program completers received the email describing the purpose of the study, what they would be asked to do, and any risks or benefits involved with participation in the study. In addition, they were advised that their participation was voluntary. A link to the AMS-FFPP instrument was included at the end of the email and those agreeing to participate clicked the link to launch the survey. The link redirected participants to the AMS-FFPP version survey that was housed in SurveyMonkey, an online survey tool. A total of 80 research participation requests were sent to GTA fellows, and a total of 41 were sent to GTP college teaching certificate holders. Response rate was average with 36% for TAMU (n=29) and 29% for CU-

Boulder (n=12). In determining the range of types of motivation possessed by TAMU and CU-Boulder graduate student participants, survey responses were scaled and categorized accordingly, through the use of inferential statistics. Specifically, I utilized the one-way analysis of variance (ANOVA) to categorize the 41 participants into seven groups of motivation type. I utilized the individual subscale score of each construct to determine type of motivation. Although a different version of the AMS was utilized for this study, the AMS-FFPP version, I used the same scaling and categorizing procedures put forth by the AMS-College version.

It is important to note that some categorical motivation headings differ between the AMS and the self-determination theory of motivation and do not directly correlate; however, the AMS is intended to reflect the nature of the determinants of motivation, as SDT does. The AMS, originally developed in France is named the Echelle de Motivation en Education (EME) and is based on the tenets of SDT (Vallerand et al., 1993). "It should be noted that these different forms of motivation are posited to lie on a self-determination dimension which ranges from amotivation, to external, introjected, and identified regulation, and finally to intrinsic motivation" (Vallerand et al., 1993, p. 161). Specific differences can be found within the intrinsic and extrinsic motivation types. SDT offers one category of intrinsic motivation (IM) whereas; the AMS subdivides IM into three types: (a) intrinsic motivation to know, (b) intrinsic motivation toward accomplishment, and (c) intrinsic motivation to experience stimulation, all of which represent self-determined behavior. With regard to extrinsic motivation, SDT subdivides extrinsic motivation into four categories: extrinsic motivation-integrated regulation;

extrinsic motivation-identified regulation; extrinsic motivation-introjected regulation; and extrinsic motivation-external regulation. The AMS subdivides extrinsic motivation into only three categories: (a) extrinsic motivation-identified, (b) extrinsic motivation-introjected, and (c) extrinsic motivation-external regulation. The behavior orientation of these motivational constructs varies along the SDT continuum, suggesting that some behavior determinants are more self-determined than others. With the exception of SDT's extrinsic motivation-integrated regulation category, all other SDT extrinsic motivation categories directly correlate to the AMS extrinsic motivation categories.

In addition to analysis using the AMS prescribed scale and categories for determining range of motivation types, I analyzed motivation type by the variables of gender, program, and by academic discipline to uncover potential differences in type of motivation possessed by participants as a result of each variable. To analyze these data, I used a two-way analysis of variance (ANOVA), enabling me to calculate motivation type mean scores for each group.

Findings

Research Question 1

What is the range of types of motivation, as defined by self-determination theory (SDT), possessed by graduate student participants at TAMU and CU, who have completed a future faculty preparation program designed to improve teaching skills in higher education?

Table 1 shows the descriptive statistics (number, mean score, and standard deviation for the seven motivational constructs) for the sample population (n=41). The

data show that the motivation type, extrinsic motivation identified, is the motivation type most representative of the sample population with a mean score of 5.26. The motivation type least representative of the sample population is amotivation, with a mean score of 1.51.

Table 1. Descriptive Statistics of GTA Fellows and GTP Teacher Certificants by Seven Motivational Types

Motivation Type	Mean	Standard Deviation	N
Intrinsic-to know	4.8600	1.40030	40
Intrinsic-toward accomplishment	4.4037	1.23765	40
Intrinsic-to experience stimulation	3.5162	1.42081	40
Extrinsic-identified	5.2627	1.55308	40
Extrinsic-introjected	3.7056	1.53626	39
Extrinsic-external regulation	3.5973	1.54058	40
Amotivation	1.5131	.98287	39
Total	3.8458	1.78408	278

Motivation scores were subjected to a one-way analysis of variance having seven levels of motivation type (Amotivation, Extrinsic – external regulation, Extrinsic – introjected, Extrinsic – identified, Instrinsic – to experience stimulation, Intrinsic – toward accomplishment, and Intrinsic – to know). The main effect was statistically significant at the .05 significance level.

Table 2 reports results of the one-way ANOVA. The data show that a significant difference existed somewhere between the motivation types in the population ($F_{6,271}$ = 30.26, p = .000). As a result, the decision was made to reject the null hypothesis of no

difference in motivational score, attributed to motivation type. In other words, it was inferred that one of the means in the population, from which these sample means was drawn, was different from at least one of the other means. Consequently, it was inferred that in the population from which this sample was drawn, the means of the motivation types are not the same. Hence, one type had a statistically higher score than at least one other. That is, some motivation types were higher or lower than the other types.

Table 2. Results of a One-Way ANOVA of the AMS Given to GTA Fellows and GTP Teacher Certificants

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	353.710	6	58.952	30.259	.000
Within Groups	527.966	271	1.948		
Total	881.676	277			

The ANOVA only tells us that a difference in means existed; however, it does not tell us where that difference was. To determine where the difference existed, a post hoc analysis was conducted. Table 3 shows the results of the post hoc analysis. The Scheffé post hoc indicated that three statistically different groups of motivation type existed within the population. The motivation types were clustered into three homogeneous subsets. The three groups were comprised of motivational types as follows: (a) Group 3 – The types 'Extrinsic – identified' ($M = 5.24$, SD = 1.57), 'Intrinsic – to know' ($M = 4.83$, SD = 1.41) and 'Intrinsic – toward accomplishment' ($M = 4.37$, SD = 1.23) were statistically the same with the largest means; (b) Group 2 – The

types 'Intrinsic – toward accomplishment' (M = 4.37, SD = 1.23), 'Extrinsic – introjected' (M = 3.67, SD = 1.54), 'Extrinsic – external regulation' (M = 3.55, SD = 1.53) and 'Instrinsic – to experience stimulation' (M = 3.45, SD = 1.38) were statistically the same and were in a second subset; and (c) Group 1 – The type 'Amotivation' (M = 1.53, SD = 0.99) was statistically smaller than all the other six types. The data indicated that the motivation types found within each group were the same; however, the motivation types between each group were statistically different. In other words, graduate students possessing motivation types found in Group 3 possessed a statistically higher motivational score than students possessing motivation types found in Groups 2 or 1. The post hoc analysis shows intrinsic motivation toward accomplishment to be statistically the same as the types in two groups, Group 2 and Group 3. Amotivation was significantly lower than all other types.

Table 3. Scheffé Post Hoc Analysis of the Seven Motivational Types Identified Through a One-Way ANOVA of the AMS Given to GTA Fellows and GTP Teacher Certificants

Motivation Type	Subset (Subset for alpha=0.05)			N
	1	2	3	
Amotivation	1.5131			39
Intrinsic-to experience stimulation		3.5162		40
Extrinsic-external regulation		3.5973		40
Extrinsic-introjected		3.7056		39
Intrinsic-toward accomplishment		4.4037	4.4037	40
Intrinsic-to know			4.8600	40
Extrinsic-identified			5.2627	40
Sig.	1.000	.240	.279	

Note. Means for groups in homogeneous subsets are displayed.

Research Question 2

Does graduate student motivation in an FFPP differ by gender?

The null hypothesis of this research question is: There is no impact on the motivation score of a graduate student who completed an FFPP based on his or her motivation type and/or his or her gender. The null hypothesis was analyzed using a two-way ANOVA. The descriptive statistics used by this analysis are presented in Table 4. It is followed by Table 5, which provides the two-way ANOVA results. Table 4 shows the descriptive statistics (number, mean score, and standard deviation for the seven motivational constructs by gender) for the sample population (n=41). This table contains all the mean scores for each type of motivation (the total value) and each gender.

Table 4. Descriptive Statistics of GTA Fellows and GTP Teacher Certificants by Seven Motivational Types as a Function of Gender

Motivation Type	Gender	Mean	Standard Deviation	N
Intrinsic-to know	Male	4.2506	1.53578	18
	Female	5.3281	1.09064	21
	Total	4.8308	1.40619	39
Intrinsic-toward accomplishment	Male	3.7300	1.38024	18
	Female	4.9171	.76924	21
	Total	4.3692	1.23416	39
Intrinsic-to experience stimulation	Male	3.1606	1.56856	18
	Female	3.7029	1.17738	21
	Total	3.4526	1.38033	39
Extrinsic-identified	Male	4.8406	1.85883	18
	Female	5.5776	1.20552	21
	Total	5.2374	1.56500	39
Extrinsic-introjected	Male	3.6183	1.68741	18
	Female	3.7070	1.42822	20
	Total	3.6650	1.53549	38

Table 4 (continued)

Motivation Type	Gender	Mean	Standard Deviation	N
Extrinsic-external regulation	Male	3.5072	1.62301	18
	Female	3.5838	1.48343	21
	Total	3.5485	1.52910	39
Amotivation	Male	1.9341	1.34770	17
	Female	1.1967	.33687	21
	Total	1.5266	.99240	38
Total	Male	3.5905	1.75454	125
	Female	4.0039	1.77465	146
	Total	3.8132	1.77419	271

Motivation scores were subjected to a two-way analysis of variance having seven levels of motivation type (Amotivation, Extrinsic – external regulation, Extrinsic – introjected, Extrinsic – identified, Instrinsic – to experience stimulation, Intrinsic – toward accomplishment, and Intrinsic – to know) and two levels of gender (male and female). Both main effects were statistically significant at the .05 significance level. The interaction effect was also statistically significant at the .05 significance level.

Table 5 presents the three elements that were compared in the two-way ANOVA: (a) the impact of motivation type, (b) the impact of gender, and (c) the interaction of the two. Each of the three components was examined. The main effect of levels of motivation type yielded an F ratio of $F_{6,257} = 29.15$, $p = .000$, indicating that the mean motivation score was significantly different within types; therefore, the decision was made to reject the null hypothesis of no difference in motivational score, attributed to motivation type. Consequently, it was inferred that in the population from which this

sample was drawn, the means of the motivation types are not the same. Hence, one type had a statistically higher score than at least one other. In other words, in the population, a statistical difference existed somewhere as some motivation types were higher or lower than the other types.

Table 5. Results of a Two-Way ANOVA of the AMS of Seven Motivational Types as a Function of Gender Given to GTA Fellows and GTP Teacher Certificants

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	377.147	13	29.011	15.771	.000
Intercept	3867.145	1	3867.145	2102.302	.000
Motivation Type	321.685	6	53.614	29.146	.000
Gender	12.134	1	12.134	6.596	.011
Motivation Type by Gender	25.775	6	4.296	2.335	.033
Error	472.747	257	1.839		
Total	4790.389	271			
Corrected Total	849.894	270			

Again, the ANOVA only tells us that a difference in means existed; it does not tell us where that difference was. To determine where the difference existed, a post hoc analysis was required. In Table 6, the Scheffé post hoc indicated that three statistically different groups of motivation type existed in the population. The motivation types were clustered into three homogeneous subsets. The three groups were comprised of motivational types as follows: (a) Group 3 – The types 'Extrinsic – identified' ($M = 5.24$, SD = 1.57), 'Intrinsic – to know' ($M = 4.83$, SD = 1.41) and 'Intrinsic – toward accomplishment' ($M = 4.37$, SD = 1.23) were statistically the same with the largest

means; (b) Group 2 – The types 'Intrinsic – toward accomplishment' ($M = 4.37$, SD =

1.23), 'Extrinsic – introjected' ($M = 3.67$, SD = 1.54), 'Extrinsic – external regulation'

($M = 3.55$, SD = 1.53) and 'Instrinsic – to experience stimulation' ($M = 3.45$, SD = 1.38)

were statistically the same and were in a second subset; and (c) Group 1 – The type

'Amotivation' ($M = 1.53$, SD = 0.99) was statistically smaller than all the other six

types. In other words, graduate students possessing motivation types found in Group 3

possessed a statistically higher motivational score than students possessing motivation

types found in Groups 2 or 1. Since Research Question 2 is an elaboration of Research

Question 1, this pattern was identical to the results reported for Research Question 1.

Table 6. Scheffé Post Hoc Analysis of the Seven Motivational Types Identified Through
a Two-Way ANOVA of the AMS Given to GTA Fellows and GTP Teacher Certificants

| | Subset | | | |
Motivation Type	1	2	3	N
Amotivation	1.5266			38
Intrinsic-to experience stimulation		3.4526		39
Extrinsic-external regulations		3.5485		39
Extrinsic-introjected		3.6650		38
Intrinsic-toward accomplishment		4.3692	4.3692	39
Intrinsic-to know			4.8308	39
Extrinsic-identified			5.2374	39
Sig.	1.000	.188	.248	

The main effect of gender yielded an F ratio of $F_{1,257} = 6.60$, $p = 0.011$,

indicating that the mean motivation score was significantly higher for females ($M = 4.00$,

SD = 1.77) than for males ($M = 3.59$, SD = 1.75). Therefore, the decision was made to

reject the null hypothesis of no difference in motivational score attributed to gender. As a result, it was inferred that in the population from which this sample was drawn, the means of the genders were not the same. That is, one gender had a statistically higher score than the other. Specifically, female graduate students possessed a higher level or quality of motivation than males, irrespective of motivation type.

From the procedure relating to the interaction between motivation type and gender, the interaction effect was also significant, $F_{6,257} = 2.34$, $p = 0.033$. As a result, the decision was made to reject the null hypothesis of no difference in motivational score attributed to the interaction between motivation type and gender as there is some type of interaction. Consequently, it was inferred that in the population from which this sample was drawn, the means of the two genders across the seven motivation types were different. Each motivation type had a statistically different score from the other within the two genders. In other words, male and female graduate student FFPP participants scored differently on motivation type, irrespective of gender. The means of the females, for the three highest motivation types, are higher than the corresponding male means. The mean of the females, for the bottom motivation type, was lower than the male mean. The means of the females, for the middle three motivation types, was virtually the same as the male means. Fundamentally, the females were more sensitive based on motivation type: (a) they scored higher in the top motivators, (b) lower on the bottom motivator, and (c) no differently on the mid-level motivators. Figure 4 depicts the interaction.
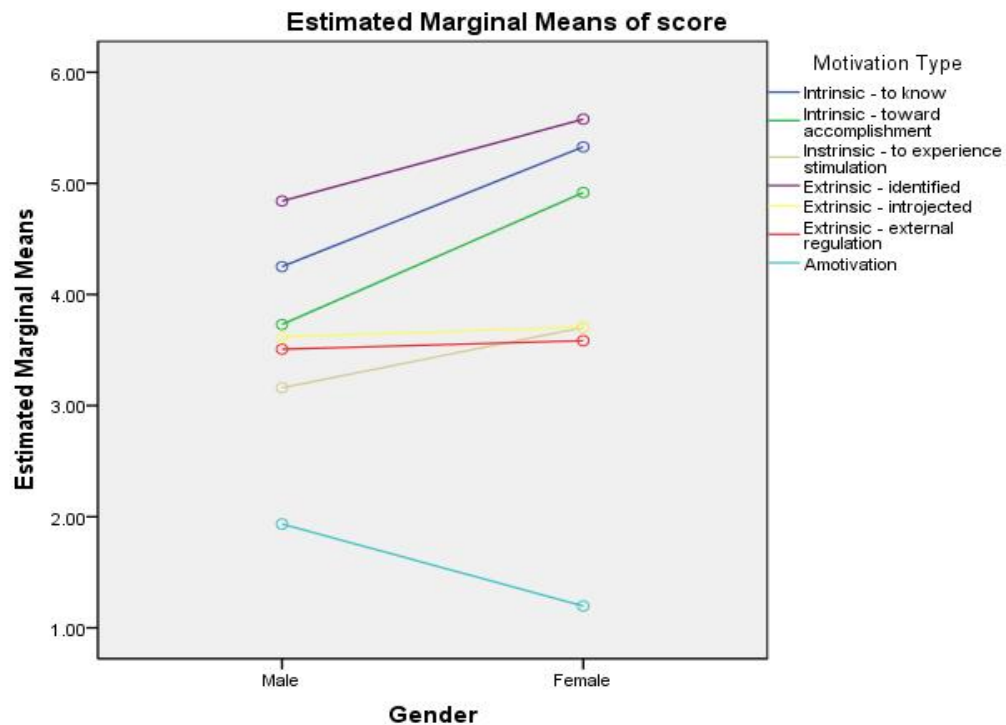
Figure 4. Interaction Between Motivation Type and Gender.

Research Question 3

Does graduate student motivation in an FFPP differ by program characteristics/ type?

Similar to Research Question 2, the null hypothesis of this research question is: There is no impact on the motivation score of a graduate student, who completed an FFPP, based on his or her motivation type and/or the location of his or her FFPP. The null hypothesis was analyzed using a two-way ANOVA. The descriptive statistics used by this analysis are presented in Table 7. It is followed by Table 8, which provides the two-way ANOVA results. Table 7 shows the descriptive statistics (number, mean score, and standard deviation for the seven motivational constructs by institutional program)

for the sample population (n=41). This table contains all the mean scores for each type

of motivation and each program by institution.

Table 7. Descriptive Statistics of GTA Fellows and GTP Teacher Certificants by Seven
Motivational Types as a Function of Institution (Location)

Motivation Type	Institution (Location)	Mean	Standard Deviation	N
Intrinsic-to know	CO	4.8409	1.30993	11
	TAMU	4.8672	1.45539	29
	Total	4.8600	1.40030	40
Intrinsic-toward accomplishment	CO	4.2045	1.05959	11
	TAMU	4.4793	1.30807	29
	Total	4.4038	1.23765	40
Intrinsic-to experience stimulation	CO	2.8182	1.02525	11
	TAMU	3.7810	1.47387	29
	Total	3.5162	1.42081	40
Extrinsic-identified	CO	5.2727	1.02136	11
	TAMU	5.2590	1.72830	29
	Total	5.2627	1.55308	40
Extrinsic-introjected	CO	3.0500	1.61933	10
	TAMU	3.9317	1.46753	29
	Total	3.7056	1.53626	39
Extrinsic-external regulation	CO	3.3636	1.59829	11
	TAMU	3.6859	1.53749	29
	Total	3.5973	1.54058	40
Amotivation	CO	1.2250	.62860	10
	TAMU	1.6124	1.06967	29
	Total	1.5131	.98287	39
Total	CO	3.5767	1.72618	75
	TAMU	3.9452	1.79898	203
	Total	3.8458	1.78408	278

Motivation scores were subjected to a two-way analysis of variance having seven

levels of motivation type (Amotivation, Extrinsic – external regulation, Extrinsic –

introjected, Extrinsic – identified, Instrinsic – to experience stimulation, Intrinsic –

toward accomplishment, and Intrinsic – to know) and two levels of university location

(CO and TAMU). Both main effects were statistically significant at the .05 significance

level. The interaction effect was not statistically significant at the .05 significance level.

Table 8 presents the three elements that were compared in the two-way ANOVA:

(a) the impact of motivation type, (b) the impact of location or program by institution,

and (c) the interaction of the two. Each of the three components was examined. The

main effect of levels of motivation type yielded an F ratio of $F_{6,264} = 25.34$, $p = .000$,

indicating that the mean motivation score was significantly different within types;

therefore, the decision was made to reject the null hypothesis of no difference in

motivational score, attributed to motivation type. Consequently, it was inferred that in

the population from which this sample was drawn, the means of the motivation types are

not the same. Hence, one type had a statistically higher score than at least one other.

That is, some motivation types were higher or lower than the other types.

Table 8. Results of a Two-Way ANOVA of the AMS of Seven Motivational Types as a
Function of Institution (Location) Given to GTA Fellows and GTP Teacher Certificants

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	369.438	13	28.418	14.646	.000
Intercept	3063.733	1	3063.733	1579.002	.000
Motivation Type	295.035	6	49.173	25.343	.000
Location	9.012	1	9.012	4.645	.032
Motivation Type by Location	6.905	6	1.151	5.93	.736
Error	512.238	264	1.940		
Total	4993.327	278			
Corrected Total	881.676	277			

The ANOVA only tells us that a difference in means existed; it does not tell us where that difference was. To determine where the difference existed, a post hoc analysis was run. Table 9 presents the Scheffé post hoc analysis. This post hoc analysis indicated that the pattern of differences in the population were identical to the pattern described in Research Question 1. The motivation types were clustered into three homogeneous subsets. The three groups were comprised of motivational types as follows: (a) Group 3 – The types 'Extrinsic – identified' ($M = 5.26$, SD $= 1.55$), 'Intrinsic – to know' ($M = 4.86$, SD $= 1.40$) and 'Intrinsic – toward accomplishment' ($M = 4.40$, SD $= 1.24$) were statistically the same with the largest means; (b) Group 2 – The types 'Intrinsic – toward accomplishment' ($M = 4.40$, SD $= 1.24$), 'Extrinsic – introjected' ($M = 3.71$, SD $= 1.54$), 'Extrinsic – external regulation' ($M = 3.60$, SD $= 1.54$) and 'Instrinsic – to experience stimulation' ($M = 3.52$, SD $= 1.42$) were statistically the same and were in a second subset; and (c) Group 1 – The type 'Amotivation' ($M = 1.51$, SD $= 0.98$) was statistically smaller than all the other six types.

Table 9. Scheffé Post Hoc Analysis of the Seven Motivational Types Identified Through a Two-Way ANOVA of the AMS Given to GTA Fellows and GTP Teacher Certificants

Motivation Type	Subset			N
	1	2	3	
Amotivation	1.5131			39
Intrinsic-to experience stimulation		3.5162		40
Extrinsic-external regulations		3.5973		40
Extrinsic-introjected		3.7056		39
Intrinsic-toward accomplishment		4.4038	4.4038	40
Intrinsic-to know			4.8600	40
Extrinsic-identified			5.2627	40
Sig.	1.000	.238	.277	

Note. Means for groups in homogeneous subsets are displayed.

The main effect of university location yielded an *F* ratio of $F_{1,264} = 4.65$, $p = 0.032$, indicating that the mean motivation score was significantly higher at TAMU ($M = 3.95$, SD = 1.80) than at Colorado ($M = 3.58$, SD = 1.73). Therefore, the decision was made to reject the null hypothesis of no difference in motivational score attributed to location. As a result, it was inferred that in the population from which this sample was drawn, the means of the institutions were not the same. That is, one campus had a statistically higher score than the other. Graduate students participating in an FFPP at TAMU possessed a higher level or quality of motivation than graduate students participating at CU-Boulder irrespective of motivation type.

From the procedure relating to the interaction between motivation type and location, the interaction effect was non-significant, $F_{6,264} = 0.59$, $p = 0.736$. As a result, the decision was made not to reject the null hypothesis of no difference in motivational score attributed to the interaction between motivation type and location. Consequently, it was inferred that in the population from which this sample was drawn, the means of the two locations across the seven motivation types were the same. Each motivation type had statistically the same score as the other within the two locations. In other words, graduate student FFPP participants at TAMU and CU-Boulder scored the same on motivation type, irrespective of location. Figure 5 depicts the absence of an interaction.
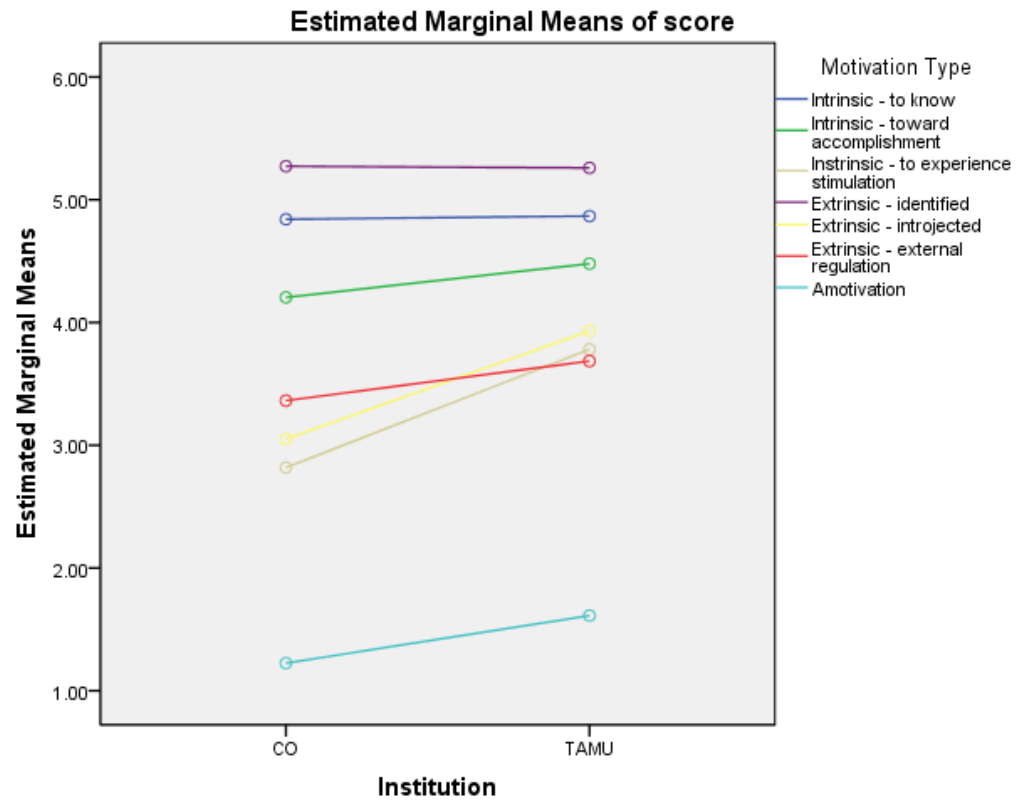
Figure 5. The Absence of an Interaction Between Motivation Type and Institution.

Research Question 4

Does graduate student motivation in an FFPP differ by academic discipline?

This research question hypothesizes that there is no impact on the motivation

score of a graduate student, who completed an FFPP, based on the motivation type

and/or their chosen academic discipline. A two-way ANOVA was used to analyze this

null hypothesis. Table 10 shows the descriptive statistics for the sample population

(n=41). This table contains all the number of students, the mean score, and the standard

deviation for each type of motivation by college.

Table 10. Descriptive Statistics of GTA Fellows and GTP Teacher Certificants by Seven Motivational Types as a Function of Academic Discipline (College)

Motivation Type	Academic Discipline (College)	Mean	Standard Deviation	N
Intrinsic-to know	Agriculture & Life Sciences	5.5163	1.34056	8
	Architecture & Engineering	4.8611	1.36423	9
	Education & Human Development	4.0760	1.17159	5
	Arts & Sciences/Graduate School	4.8136	1.19048	14
	Total	4.8792	1.28640	36
Intrinsic-toward accomplishment	Agriculture & Life Sciences	4.8763	1.15997	8
	Architecture & Engineering	4.6111	.70833	9
	Education & Human Development	4.2000	.87321	5
	Arts & Sciences/Graduate School	4.0093	1.29216	14
	Total	4.3789	1.10486	36
Intrinsic-to experience stimulation	Agriculture & Life Sciences	4.0938	1.30888	8
	Architecture & Engineering	3.0556	1.46190	9
	Education & Human Development	3.3020	1.24702	5
	Arts & Sciences/Graduate School	3.6257	1.44469	14
	Total	3.5422	1.38763	36
Extrinsic-identified	Agriculture & Life Sciences	6.0313	1.48467	8
	Architecture & Engineering	5.4444	.92515	9
	Education & Human Development	4.6760	1.35642	5
	Arts & Sciences/Graduate School	4.9021	1.72232	14
	Total	5.2572	1.48094	36
Extrinsic-introjected	Agriculture & Life Sciences	3.4388	1.23903	8
	Architecture & Engineering	3.4444	1.72200	9
	Education & Human Development	4.5760	1.26792	5
	Arts & Sciences/Graduate School	3.5677	1.42053	13
	Total	3.6506	1.43718	35
Extrinsic-external regulation	Agriculture & Life Sciences	4.3288	1.21551	8
	Architecture & Engineering	4.1667	1.79844	9
	Education & Human Development	4.3500	1.03983	5
	Arts & Sciences/Graduate School	2.6343	1.27903	14
	Total	3.6322	1.55636	36
Amotivation	Agriculture & Life Sciences	1.3125	.43814	8
	Architecture & Engineering	1.3611	.82074	9
	Education & Human Development	1.5520	.47177	5
	Arts & Sciences/Graduate School	1.4423	.80463	13
	Total	1.4074	.67745	35
Total	Agriculture & Life Sciences	4.2282	1.84743	56
	Architecture & Engineering	3.8492	1.79130	63
	Education & Human Development	3.8189	1.43283	35
	Arts & Sciences/Graduate School	3.5929	1.71488	96
	Total	3.8314	1.73569	250

Motivation scores were subjected to a two-way analysis of variance having seven levels of motivation type (Amotivation, Extrinsic – external regulation, Extrinsic – introjected, Extrinsic – identified, Instrinsic – to experience stimulation, Intrinsic – toward accomplishment, and Intrinsic – to know) and four levels of academic discipline (Agriculture and Life Sciences, Architecture and Engineering, Education and Human Development, and Arts and Sciences/Graduate School). Both main effects were statistically significant at the .05 significance level. The interaction effect was not statistically significant at the .05 significance level.

Table 11 presents the three elements that were compared in the two-way ANOVA: (a) the impact of motivation type, (b) the impact of college or academic discipline, and (c) the interaction of the two. Each of the three components was examined.

Table 11. Results of a Two-Way ANOVA of the AMS of Seven Motivational Types as a Function of Academic Discipline (College) Given to GTA Fellows and GTP Teacher Certificants

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	387.610	27	14.356	8.791	.000
Intercept	3289.262	1	3289.262	2014.232	.000
Motivation Type	291.089	6	48.515	27.709	.000
College	15.342	3	5.114	3.132	.026
Motivation Type by College	37.299	18	2.072	1.269	.210
Error	362.528	222	1.633		
Total	4420.122	250			
Corrected Total	750.139	249			

As previously reported, the main effect of levels of motivation type yielded an F ratio of $F_{6,222} = 27.71$, $p = .000$, indicating that the mean motivation score was significantly different within types; therefore, the decision was made to reject the null hypothesis of no difference in motivational score, attributed to motivation type. It was consequently inferred that in the population from which this sample was drawn, the means of the seven motivation types or constructs were not the same. One type had a statistically higher score than at least one other. In short, in the population, some of the motivation means were significantly different from the others.

Because mean scores for motivation and for college were found to be statistically different, it was necessary to conduct a post hoc analysis to determine which means were different from which other means. With regard to motivation, Table 12 presents the Scheffé post hoc analysis indicating that the pattern of differences in the population was identical to the pattern described in Research Question 1. The motivation types were clustered into three homogeneous subsets. The three groups were comprised of motivational types as follows: (a) Group 3 – The types 'Extrinsic – identified' ($M = 5.26$, SD = 1.48), 'Intrinsic – to know' ($M = 4.88$, SD = 1.29) and 'Intrinsic – toward accomplishment' ($M = 4.38$, SD = 1.10) were statistically the same with the largest means; (b) Group 2 – The types 'Intrinsic – toward accomplishment' ($M = 4.38$, SD = 1.10), 'Extrinsic – introjected' ($M = 3.65$, SD = 1.44), 'Extrinsic – external regulation' ($M = 3.63$, SD = 1.56) and 'Instrinsic – to experience stimulation' ($M = 3.54$, SD = 1.39) were statistically the same and were in a second subset; and (c) Group 1 – The type

'Amotivation' ($M = 1.41$, SD $= 0.68$) was statistically smaller than all the other six

types.

Table 12. Scheffé Post Hoc Analysis of the Seven Motivational Types Identified
Through a Two-Way ANOVA of the AMS Given to GTA Fellows and GTP Teacher
Certificants

| | Subset | | | |
Motivation Type	1	2	3	N
Amotivation	1.4074			35
Intrinsic-to experience stimulation		3.5422		36
Extrinsic-external regulations		3.6322		36
Extrinsic-introjected		3.6506		35
Intrinsic-toward accomplishment		4.3789	4.3789	36
Intrinsic-to know			4.8792	36
Extrinsic-identified			5.2572	36
Sig.	1.000	.270	.213	

Note. Means for groups in homogeneous subsets are displayed.

The main effect of college yielded an *F* ratio of $F_{3,222} = 3.13$, $p = 0.026$,

indicating that the mean motivation score of the colleges were not the same. That is, at

least one college had a significantly higher score than at least one of the other colleges.

Therefore, the decision was made to reject the null hypothesis of no difference in

motivational score attributed to college. It was inferred that in the population from which

this sample was drawn, the means of the colleges were not the same. Because the

Scheffé *post hoc* analysis is very conservative, the initial printout suggested no

difference. However, the ANOVA procedure had determined that one existed.

Therefore, in accordance with the ANOVA, it was determined that the two colleges with

the highest and lowest means were statistically different. The colleges in the middle

were statistically the same. Therefore, students in Agriculture and Life Sciences had a

significantly higher level of motivation, irrespective of type, than students in the Arts

and Sciences/Graduate School category. The graduate school category is comprised of

departments and programs within the College of Arts and Sciences. Table 13 shows that

motivational scores were the same irrespective of college.

Table 13. Scheffé Post Hoc Analysis of the Two-Way ANOVA Results of the AMS as a
Function of Academic Discipline (College) Given to GTA Fellows and GTP Teacher
Certificants

	Subset	
College	1	N
Arts & Sciences/Graduate School	3.5929	96
Education & Human Development	3.8189	35
Architecture & Engineering	3.8492	63
Agriculture & Life Sciences	4.2282	56
Sig.	.082	

From the procedure relating to the interaction between motivation type and

college, the interaction effect was non-significant, $F_{18,222} = 1.27$, $p = 0.210$; therefore, the

decision was made not to reject the null hypothesis of no difference in motivational

score attributed to the interaction between motivation type and college. As a result, it

was inferred that in the population from which this sample was drawn, each motivation

type has statistically the same score as another within the four colleges. Again, Table 13

shows that motivational scores were the same irrespective of college. Figure 6 illustrates
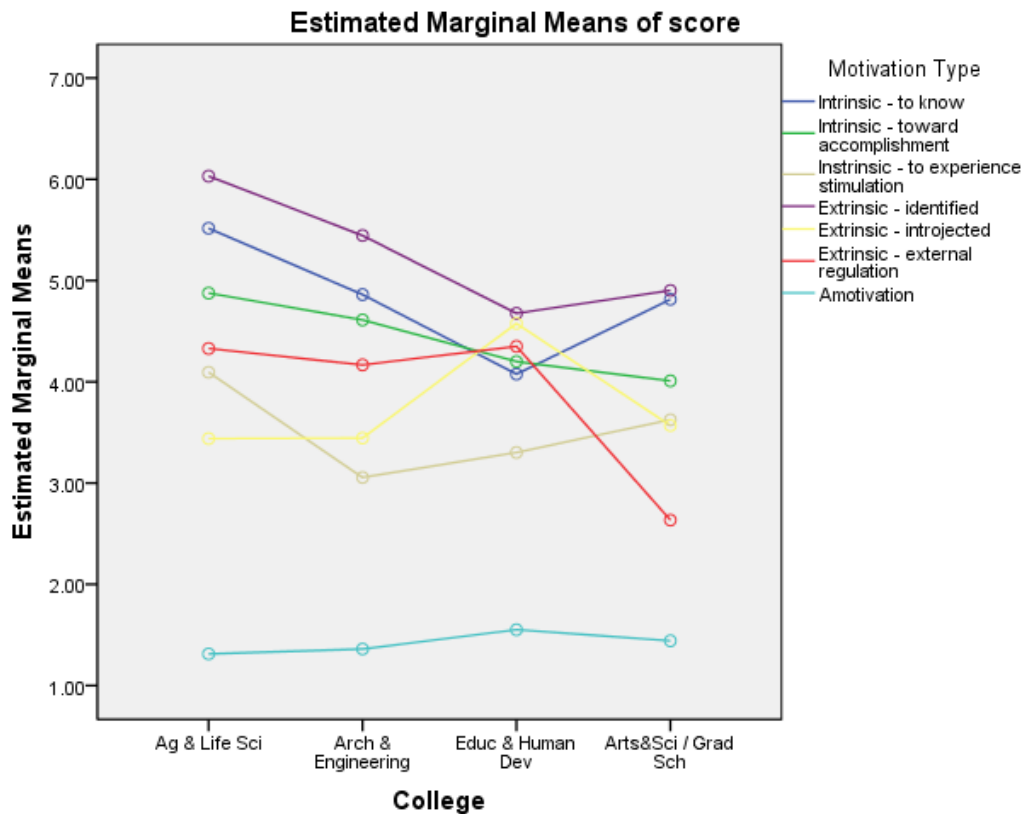
the absence of an interaction.

Figure 6. The Absence of an Interaction Between Motivation Type and College.

Discussion/Recommendations

The thesis of this article is that possessing a more autonomous motivation type

will enable graduate students to become effective college teachers even when they are

socialized as researchers. The use of motivation as a tool to succeed at becoming an

effective college teacher is fitting as motivation is linked to persistence. According to a

review by Guay, Ratelle, and Chanal (2008), "the more students endorse autonomous

forms of motivation, the higher their grades are, the more they persist, the better they

learn, and the more they are satisfied and experience positive emotions at school" (p. 237). Research using the AMS has established that the quality of motivation possessed by the population, partially developed through participation in an FFPP, is sufficient to prompt and maintain graduate student behavior to participate in and complete a teaching-focused FFPP. However, it reveals an opportunity for the development of a more autonomous motivation type to increase and likely guarantee participation in a teaching-focused FFPP, in an effort to effectively socialize graduate students as teachers and produce more adequately prepared future faculty members. Further, it delineates differences in participant motivation types, as well as the relationship between motivation type and a variety of factors such as gender, location (institution), and academic discipline (college).

The findings show that graduate students who participate in and complete a teaching-focused future faculty preparation program possess a fairly high quality of motivation – extrinsic motivation identified. Considering that all participants in this study are program completers and could be considered overachievers, and considering that participation in an FFPP is typically voluntary, possessing a fairly high quality of motivation is in line with what one might assume with regard to the motivation type of these graduate students. According to SDT, this motivation type involves a more autonomous behavior orientation than some other extrinsic motivation types; however, this motivation type also suggests there is room for improvement or for the development of a more autonomous behavior orientation.

The development of an autonomous or self-determined motivation type involves internalization and is vital for effective socialization. As stated by Deci and Ryan (2000),

> The degree to which people are able to actively synthesize cultural demands, values, and regulations and to incorporate them into the self is in large part a function of the degree to which fulfillment of the basic psychological needs is supported as they engage in the relevant behaviors….It appears that conditions providing supports for psychological need satisfaction tend not only to promote more internalization but also to ensure that the internalization will be integrated. (p. 238)

In other words, graduate students will more likely participate in and complete a teaching-focused FFPP that cultivates an autonomous or self-regulated behavior orientation, likely resulting in an enhanced teaching-focused socialization process and successful academic teaching career.

With respect to differences in gender, female participants possessed a higher quality of motivation than male participants. These results support the 2009 National Center for Education Statistic's (NCES) data reporting, in 2008, a higher percentage of enrollment in college for women (57.1) than for men, suggesting that females, for various reasons, are more academically motivated than males (U.S. Department of Education, 2009). In other words, more women are seeking learning opportunities than men. Naturally, this notion can be attributed to women's desire for career status or higher paying jobs; however, this notion can also be attributed to women's desire for relatedness. "Recent feminist conceptualizations of human motivation link achievement, affiliation, and power as mutually reinforcing motives" (Glazer, 1997, p. 44). As a result of their research findings, Spittle, Jackson, and Casey (2009) support the notion of

relatedness or affiliation to give reason for the quality of motivation being higher in females than males.

Women characteristically desire relationship or connection with others. Women may view college or learning opportunities such as an FFPP as a means to satisfy this need. Viewing an FFPP as an opportunity to satisfy the need for relatedness, women will possess a higher quality of motivation than men. This implies that FFPP designers can likely have more of a positive impact on the socialization of female future faculty members than males, by incorporating activities designed to foster relationship. In addition, the findings imply that designers should consider exercising greater efforts at reaching men to affect their motivation to participate.

Differences in quality of motivation were also seen in relation to the second factor, institution (location). The results show that TAMU participants had a higher quality of motivation than CU-Boulder participants. Although the leadership structure of the CU-Boulder FFPP (hierarchical) is considered more typical than the TAMU FFPP structure (lacking hierarchy), it is likely that the TAMU FFPP participants maintained a higher quality of motivation than the CU-Boulder participants because they experienced less stress and more comfort in their program as a result of the lack of hierarchy in leadership structure.

Fundamentally, although accountability existed in the TAMU FFPP structure, feelings of anxiety were lessened given that those to whom the TAMU FFPP participants were accountable were peers versus superiors. CU-Boulder participants were accountable to superiors, likely creating additional anxiety or stress with regard to

meeting program requirements. In short, more structure may mean more accountability, and greater accountability likely requires more engagement. Level of engagement may diminish with less structure. Depending on the personal characteristics of the participants, some may not be willing to take on the extra demands required of a voluntary FFPP and, therefore, may feel less motivated to participate in such a program. According to Antony and Taylor (2004), "social psychologists have long been discussing the connection between context-derived anxiety and its deleterious impact on achievement" (Antony & Taylor, 2004, p. 93).

With regard to the third factor, academic discipline (college), differences in quality of motivation were again observed as FFPP participants from the Agriculture and Life Sciences colleges possessed a higher quality of motivation than participants from the Arts and Sciences/Graduate School colleges. With the exception of the College of Education, these results support the conclusions of the NCES survey data. In accordance with NCES data, STEM majors are currently the most popular majors for college students, suggesting increased interest in these fields (U.S. Department of Education, 2009). Increased interest is perhaps a consequence of personal desires and/or an increased social need. In short, an increase in interest is linked to an increase in attention and engagement, which likewise, is linked to intrinsic motivation. "The emotion of interest is intrinsically motivating….When learning activities evoke and sustain interest, adults willingly participate" (Wlodkowski, 2008, pp. 229 & 249).

In addition to an increase in interest, STEM graduate students likely begin their teaching-focused professional development with a higher quality of motivation than Arts

and Sciences graduate students because of the existing faculty-student advising relationship that exists within the STEM disciplines. Research suggests that the faculty-student advising relationship in the hard sciences is more interactive and, therefore, fosters connectedness. The faculty-student advising relationship in the humanities disciplines is less collaborative and interactive, often leaving students with a felt sense of disconnection or isolation. Through research, a correlation between the faculty-student advising relationship and the time to degree completion has been made. This correlation reveals that students in the hard sciences typically have a shorter time to degree completion than students from the humanities. In other words, a close faculty-student relationship likely fosters participation and completion of a program, more so than a distant faculty-student relationship. These findings suggest that the faculty-student advisor relationship has an impact on the quality of motivation of students and serves to substantiate the findings.

These findings initiate the development of a description of graduate students likely to possess a higher quality of motivation and a description of the design of an FFPP likely to aid in the development of a more autonomous or self-determined motivation type, to be used as a tool in becoming an effective college teacher. According to the findings, females in Agriculture and Life Sciences colleges maintained higher motivational scores and are, therefore, behaving more autonomously in their participation in an FFPP than males in the Arts and Sciences and Graduate School colleges. In addition, although a hierarchical, top-down leadership structure is typical in most organizations, the findings suggest that a more linear structure of equal or shared

governance facilitates a motivation that is more self-determined due to less accountability, engagement, and stress.

Given these findings, a reform in FFPP design should be considered to affect socialization. FFPPs should be designed in a way that requires active or participatory learning, and accountability, while reducing or eliminating anxiety during the developmental process. Ensuring accountability can be done through equality in leadership; by creating a community structure versus a superior and subordinate structure. In addition, in an effort to increase participation numbers, FFPPs should market themselves to STEM graduate students as "gap fillers" given that a need for more training in teaching exists in the absence of departmental or college training opportunities. Finally, FFPP designers should become knowledgeable of mechanisms to achieve autonomous behavior orientations and incorporate them into FFPP designs to enhance participants' socialization and ensure a successful academic teaching career. Traditional congruence and assimilation socialization practices must give way to a reformed socialization process, the utilization of motivation as a tool to enhance the teaching skills of future faculty.

Essentially, without the development of a higher quality of motivation being one objective of FFPPs, FFPPs are missing an opportunity to more adequately prepare future faculty. Using motivation as a tool and making the development of a higher quality of motivation a program objective, participants will develop a greater commitment to the FFPP, will more deeply buy-in to the ideas and suggestions made by the FFPP for improving teaching skills and will become engaged enough to navigate through the

developmental process, in spite of cultural obstacles, to succeed at becoming an effective

college teacher.

CHAPTER III

ENHANCING FUTURE FACULTY PREPARATION THROUGH

MOTIVATION AND THE SATISFACTION

OF PSYCHOLOGICAL NEEDS

Introduction

Becoming a professor in higher education is a common aspiration for many college students. Consequently, many of these students seek out professional development offerings designed to prepare them for a career as a college professor. Such offerings are often referred to as future faculty preparation programs (FFPPs). In some academic disciplines, the availability and quality of such offerings is significant and programs are more formalized and fully developed; whereas in other disciplines, availability is scarce and structure is less formal. Still, there are other non-discipline specific offerings designed to serve the general population of students interested in an academic teaching career. The point here is that if students are interested in developing their teaching skills and becoming effective college teachers, development programs exist and are available to them. Getting them to participate in and complete such programs is a separate but important issue, which functions as a catalyst for the study discussed in this article.

Participation in a teaching focused FFPP is important because it not only hones the teaching skills of future faculty but inculcates in them what it means to be an effective college teacher. The FFPP concept is accurately described by the nationally known preparing future faculty (PFF) program initiative. The PFF initiative explains that

PFF programs provide doctoral students, as well as some master's and postdoctoral students, "with opportunities to observe and experience faculty responsibilities at a variety of academic institutions with varying missions, diverse student bodies, and different expectations for faculty" (Council of Graduate Schools & Association of American Colleges & Universities, 2001, p. 3). In other words, PFF programs provide opportunities, for graduate students interested in becoming professors, to cultivate career development. This development description closely aligns with what is known as socialization to a profession.

"Socialization refers to the process by which persons acquire the knowledge, skills, and dispositions that make them more or less able members of their society" (Brim, 1966, p. 3). Utilizing the foundational work of Brim (1966), Weidman, Twale, and Stein (2001) later suggested that socialization is more than knowledge and skills and that to fully understand it, consideration must be given to the affective experiences of graduate students. Brim (1966) contend that in so doing, the results will yield "development of commitments to and identification with a particular profession, including its ethical practice" (p. 5). The socialization of graduate students is important in the development of effective college teachers as it is through this process that future faculty not only become faculty, but where the foundation for a successful teaching career is laid. "Beginning in the late 1970s and continuing to the present, researchers of faculty work were realizing that the faculty career begins with the socialization process that occurs during the graduate experience" (Austin & Wulff, 2004, p. 8). For participating students, FFPPs are responsible, in large part, for their socialization and

adequate preparation as effective college teachers. Understanding the importance of the socialization process in producing effective college teachers and that FFPPs are a large part of that socialization process, requires that we turn our attention to increasing participation in and completion of teaching-focused FFPPs and to the enhancement or improvement of the FFPP experience. Essentially, the alignment between the goal of an FFPP and the meaning of socialization warrants further examination, as enhancing the FFPP experience equates to enhancing the socialization process, which subsequently produces more effective and adequately prepared college teachers, leading to a successful academic teaching career.

In reference to the availability and quality of professional development activities or FFPPs, the amount and comprehensiveness of offerings within an academic discipline is often dependent upon the culture of that discipline. Specifically, when a discipline's culture values research over teaching, teaching-focused professional development activities are likely limited and/or less comprehensive, causing students from these disciplines to personally seek opportunities outside their discipline for professional development. The culture found in the science, technology, engineering, and mathematics (STEM) academic disciplines is an appropriate example.

The culture across the STEM disciplines in higher education suggests that research performed by faculty members is more highly valued and rewarded over teaching; therefore, faculty members spend more of their time doing research and developing their research skills in an effort to achieve greater rewards. According to a response by a natural scientist, in a study conducted by Serow (2000), "anyone not doing

the right type and amount of research would 'never be accepted as a legitimate, card-carrying member of the faculty'" (p. 453). As described by Braxton, Luckey, and Helland (2002), "the scholarship of discovery and publications provide the primary basis for the allocation of rewards in the academic profession. At the institutional level, these rewards include tenure, promotion, and salary" (p. 77). Considering these perspectives, it is easy to perceive why less effort is placed on the development of teaching skills in the STEM disciplines, why teaching-focused professional development opportunities may appear scarce, and why STEM students interested in a college teaching career must seek teaching development opportunities outside their discipline.

According to the self-determination theory (SDT) of motivation, STEM students desiring a teaching-focused academic career, like students of disciplines whose culture equally values teaching and research, seek teaching-focused professional development opportunities, whether discipline or non-discipline specific, because they are innately motivated to satisfy psychological needs created by their desire to become an effective college teacher. In short, because of a desire to satisfy a need, students are motivated to seek out and participate in an FFPP. "Self-determination theory (SDT) maintains that an understanding of human motivation requires a consideration of innate psychological needs" (Deci & Ryan, 2000, p. 227). These needs exist and require satisfaction because students deem them relevant to career success. A student may choose a particular FFPP because it is the only option available or, when other options exist, because an FFPP is designed with certain characteristics believed to satisfy their needs. Regardless of the reason, FFPPs should be designed to address and satisfy participant needs to affect

motivation type and ensure participation in and completion of teaching-focused FFPPs, and the subsequent development of better socialized and more adequately prepared future college teachers.

Accepting the role that FFPPs play in the development and socialization of future faculty makes looking for and finding ways to enhance the FFPP experience vital. This article introduces one such way. In review of needs, this article explores the satisfaction of innate psychological needs, according to self-determination theory, as a mechanism to enhance the FFPP experience of graduate students. Specifically, through the use of participant perspectives, this article examines the characteristics of an FFPP to reveal the presence or absence of program characteristics designed to satisfy innate psychological needs. It addresses the question of why graduate students participate in and complete a future faculty preparation program and whether the FFPP was designed with characteristics to satisfy specific innate psychological needs. My thesis is that a graduate student will be more motivated to participate in and complete an FFPP that is comprised of characteristics designed to satisfy innate psychological needs, ultimately enhancing the socialization process and producing a more adequately prepared generation of future faculty.

In the first and second sections of the article, I examine key points from the literature on self-determination theory and socialization. With regard to self-determination theory, I point out the theory's claim regarding the existence of innate psychological needs and the importance of satisfying these needs to affect behavior or in this case, participation in an FFPP. In reference to the literature on socialization, I focus

on the role of socialization, as well as the stages in the socialization process, in the development of future faculty. In the third section, I provide an overview of the relevant FFPP, Texas A&M University's (TAMU) Graduate Teaching Academy (GTA). Here, a description of the program is provided to make program characteristics evident, as the satisfaction of innate psychological needs is directly related to program characteristics. In the fourth section, I analyze and discuss the verbal responses of participating graduate students. I use qualitative data collected from GTA program participants during focus group interviews to discuss participant needs and whether the GTA program aided in the satisfaction of their needs. I conclude with a discussion of the study's findings and make recommendations for FFPP reform to better satisfy needs and enhance the socialization process.

Self-Determination Theory

Self-determination theory (SDT) is "an empirically based theory of human motivation, development, and wellness that focuses on types, rather than just amount of motivation" (Deci & Ryan, 2008, p. 182). SDT asserts that certain psychological needs exist within every person and that in meeting a specific need, a certain type of motivation is produced, resulting in action. According to Deci and Ryan, those innate psychological needs are the need for competence, relatedness, and autonomy.

As previously stated, a consideration for innate psychological needs is required in order for one to develop an understanding of human motivation and behavior. Behavior is inextricably linked to the satisfaction of one or more of these needs. Basically, a person displays a certain behavior in an attempt to satisfy a need. "Need

satisfaction is a process of replenishing deficiencies; and the purpose of behavior is need

satisfaction" (Deci & Ryan, 2000, p. 230). In describing the different psychological

needs, Ryan and Deci (2002) explain that competence is not "an attained skill or

capability, but rather is a felt sense of confidence and effectance in action" (p. 7). Here,

effectance refers to competence which can be further defined as a feeling of

effectiveness when one is given an opportunity to exhibit aptitude (Deci & Ryan, 2000;

Ryan & Deci, 2002). "The need for competence leads people to seek challenges that are

optimal for their capacities and to persistently attempt to maintain and enhance those

skills and capacities through activity" (Ryan & Deci, 2002, p. 7).

   The innate need for relatedness refers to the desire to feel connected to others, to

care for and be cared for by others, and to have a sense of belongingness with others and

with the community (Baumeister & Leary, 1995; Bowlby, 1979; Harlow, 1958; Ryan,

1995). Relatedness is, therefore, concerned with the satisfaction of the psychological

need to be with or to connect with others, as opposed to the attainment of a certain

outcome (Ryan & Deci, 2002). Because relatedness is not directly linked to an outcome,

some may tend to diminish its criticality in relation to socialization; however, its

importance remains.

> Indeed, it is out of the desire to be related to others, to feel part of a family,
> group, or social order, that individuals are inclined to take on the values, beliefs,
> and behaviors that are endorsed by those others. (Vansteenkiste, Lens, & Deci,
> 2006, p. 21)

   The final innate psychological need identified in SDT is the need for autonomy.

Autonomy refers to volition or a self-endorsement of one's own actions (Deci & Ryan,

2000). Autonomy, as intended within the SDT framework, is not about independence but

rather about integration. Individuals connect with or integrate either intrinsic or extrinsic reasons for their behavior, which results in action. "When autonomous, individuals experience their behavior as an expression of the self, such that, even when actions are influenced by outside sources, the actors concur with those influences, feeling both initiative and value with regard to them" (Ryan & Deci, 2002, p. 8). According to Deci and Ryan (2000), "autonomy concerns the experience of integration and freedom, and it is an essential aspect of healthy human functioning" (p. 231).

In satisfying these three needs, people act or behavior is produced. SDT uses two categories to describe behavior. They are (a) self-determined or autonomous behavior and (b) nonself-determined, or regulated or controlled behavior. An autonomous behavior orientation is characterized by having the ability to choose one's actions. Chosen actions are considered more self-expressive or representative of one's personal beliefs. "Autonomous, or self-determined, actions are freely chosen and experienced as emanating from oneself" (Deci, Kasser, & Ryan, 1997, p. 59). In contrast, a controlled behavior orientation is characterized by something having influence over one's actions. Controlled actions are less self-directed or self-determined. "Controlled actions, in contrast, are coerced or seduced by some force external to one's integrated sense of self. Such actions are accompanied by the experience of pressure or tension" (Deci, Kasser, & Ryan, 1997, p. 59). To enhance the socialization process, the goal is for behavior to be self-determined or autonomous.

Within the SDT framework, the type of behavior or behavior orientation is related to the type of psychological need requiring satisfaction. According to Deci and

Ryan (2008), an autonomous or self-determined behavior orientation develops as a result of all three psychological needs being satisfied. The controlled or non-self-determined behavior orientation develops as a result of the competence and relatedness needs being somewhat satisfied, while at the same time, the satisfaction of the need for autonomy is neglected. The degree to which a need is satisfied is depicted on a continuum showing the associated type or quality of motivation and its related regulatory style (See Figure 1).

Moving from right to left, SDT proposes two different types of motivation facilitating behavior. They are (a) intrinsic motivation or motivation to behave for the sheer enjoyment or satisfaction of an activity itself and (b) extrinsic motivation or motivation to behave to attain an outcome separate from the activity itself. These types of motivation exist along the continuum with amotivation, which stands in direct contrast to motivation, to give reason for subsequent behavior. Amotivation is the lack of intention to act or behave. Branching from the two types of motivation and amotivation are the regulatory styles associated with each motivation type. According to the continuum, people who are intrinsically regulated develop an intrinsic motivation type, which results in a more self-determined or autonomous behavior orientation. In reference to this study, it is important for an FFPP to facilitate an intrinsic regulatory style in order to produce behavior that is more autonomous to ultimately influence the quality of motivation and the effectiveness of the FFPP experience. This study correlates to SDT's notion of an autonomy-supportive environment.

SDT suggests that context is important in relation to behavior orientation. Some environments support autonomy or self-determination, whereas other environments support control. SDT researchers describe an autonomy-supportive context as one that provides a personally meaningful rationale for why self-regulation or willingness to behave is important, acknowledges the learners' perspective, and utilizes a style that minimizes pressure and conveys choice (Deci, Eghrari, Patrick, & Leone, 1994). An FFPP possessing an autonomy-supportive environment is preferred and is what this study recommends to affect FFPP participation and completion numbers. The possession of and the degree to which such autonomy-supportive characteristics are present fosters internalization which, according to SDT, will result in participant behavior that exhibits persistence, flexibility, and vitality (Ryan & Deci, 2002).

Deci, Eghrari, Patrick, and Leone (1994) argue that internalization takes two forms:

> Self-determination theory uses the concepts of introjection and integration to describe two different types of internalization that result in different qualities of regulation. Introjection refers to partial or suboptimal internalization resulting in internally controlling regulation, and integration refers to optimal internalization resulting in self-determined behavior. (p. 120)

Internalization, as described by Schafer (1968), involves a conversion of regulatory processes from external to internal processes, a person becomes internally regulated versus externally regulated. In other words, people's actions are the result of what they (internally) want, not the result of what something or someone external to them wants. The degree of internalization or synthesis is represented along the SDT continuum (see Figure 1) with greater internalization of a regulation moving one's motivation type along

the SDT continuum from a non-self-determined or controlled behavior orientation (left)

toward a more self-determined or autonomous behavior orientation (right). "To integrate

the regulation of a behavior, people must grasp its meaning for themselves personally,

and they must synthesize that meaning with other aspects of their psychic makeup"

(Ryan & Deci, 2002, p. 20). According to Williams (2002), "because the regulation has

been integrated into individuals' sense of self, they will feel volitional in carrying out the

behavior; so more positive outcomes would be expected" (p. 237).

As proposed by the literature, once internalization of or buy-in to a teaching-

focused FFPP's objectives is achieved by an FFPP participant, socialization toward an

effective teaching career is advanced.

> According to SDT, the more autonomy-supportive the social context the more it
> maintains or enhances intrinsic motivation and the more it facilitates the
> internalization and integration of extrinsic motivation because such contexts tend
> to satisfy rather than thwart the learners' basic psychological needs.
> (Vansteenkiste, Lens, & Deci, 2006, p. 22)

Ensuring that the design of FFPPs include characteristics that address and satisfy innate

psychological needs is salient to the development of an autonomy-supportive

environment and to the development of internalization, through which a self-determined

behavior orientation is achieved.

Socialization

The socialization process, according to Bragg (1976), "is the process by which an

individual achieves his [or her] identity within the group. The end product of the

socialization process is the incorporation of group values and norms into the individual's

self-image" (p. 6). Dunn, Rouse, and Seff (1994) later define socialization as "the

process by which individuals acquire the attitudes, beliefs, values and skills needed to participate effectively in organized social life" (p. 375). Essentially, the socialization process likens to a makeover or transformation process where individuals develop or morph into something more refined or new. As people are socialized, they begin to accept the beliefs and behaviors of a particular group, which in turn moves them from outsider to insider, in relation to that group. In short, people gradually become who they aspire to be.

Socialization is a developmental process and one often referred to by researchers as the process of role acquisition. Specifically, socialization occurs over time; in the case of future professors, it begins even prior to participation in an FFPP or graduate program and continues beyond the start of professional practice. "Identity with and commitment to a professional role are not accomplished completely during professional preparation but rather continue to evolve after novices begin professional practice" (Weidman, Twale, & Stein, 2001, p. 11). It is comprised of two dimensions believed essential to the development of and commitment to role identity. They are curricular and normative dimensions. The curricular dimension is concerned with acquiring the knowledge and skills needed to perform a particular role, whereas, the normative dimension refers to the acquisition of the personality or dispositions of a certain role. Within these two dimensions, according to Weidman, Twale, and Stein (2001), knowledge acquisition, investment, and involvement are considered core elements essential to identification with and commitment to a role.

As previously stated, socialization or role acquisition is considered a developmental process, which implies the existence of stages of progression throughout the process. Thornton and Nardi (1975) further explicate the existence of stages in the socialization process and suggest that each stage reflects a more intense level of role commitment or internalization. They suggest four stages of role acquisition to include: (a) anticipatory, (b) formal, (c) informal, and (d) personal stages. The concept of stages of socialization or role acquisition has been recognized and utilized by several scholars to include: Clark and Corcoran (1986), Sheehy (1977), and Staton and Darling (1989).

The anticipatory stage is the first stage of role acquisition. It is the stage where awareness of role expectations is gained and where social and psychological adjustments to a role begin (Thornton & Nardi, 1975). In this stage, "an individual becomes aware of the behavioral, attitudinal, and cognitive expectations held for a role incumbent. This stage covers the preparatory and recruitment phases as the student enters graduate and professional programs with stereotypes and preconceived expectations" (Weidman, Twale, & Stein, 2001, p. 12). Here, prior to formal training, personal conceptions of a role are developed and maintained, whether valid or invalid until information acquired during formal training reveals inconsistencies with current expectations. Merton (1957) also described this stage as a preparatory stage where those seeking membership into a group begin to adopt idealized group values in preparation for future transition into that group. According to Thornton and Nardi (1975), "role conceptions formed in this phase are often incomplete….Therefore, anticipation may not be congruent with what will actually be experienced" (pp. 874-875).

The second stage of role acquisition is the formal stage which, in this context, is where future faculty actually participate in a teaching-focused FFPP and receive formal instruction on established role expectations. "In the second phase of role acquisition the individual, now in a social position, experiences the role as an incumbent and shifts from viewing it from an outside perspective to viewing it from inside" (Thornton & Nardi, 1975, p. 876). During this stage, incumbents are introduced to the industry's formalized and agreed upon knowledge and skill requirements for a role that provokes a re-evaluation of conceived expectations, inciting assessment of their degree of personal fitness with that role (Clark & Corcoran, 1986). Because consensus has been achieved with regard to expectations, modification to them is unlikely, resulting in an FFPP participant conforming or making the necessary social adjustments to acquire a role. "They tend to adjust socially by meeting the requirements rather than modifying them, partly because formal requirements are open to little modification and partly because they are merely getting a feel for the role at this time" (Thornton & Nardi, 1975, p. 877). To be more fully socialized, participants need not only be aware of curricular requirements, they must also become aware of the normative requirements of a role.

The informal stage is the third stage of role acquisition. During this stage, future faculty learn of informal role expectations, which tend to be more attitudinal and cognitive (normative) versus curricular. Informal role expectations are acquired by way of interactions with others and are typically implicit rather than explicit. For example, an informal role expectation enables a new employee to know how many times they can be late for work before being reprimanded. In addition, it is during this stage that future

faculty become aware of the flexibilities associated with carrying out a role. "In this stage there tends to be less consensus among the various expectations encountered than in the prior stage" (Thornton & Nardi, 1975, p. 878). Flexibility likely exists as a result of the implicit nature of informal expectations. Because of this, "individuals begin to place greater weight on their own role expectations" (Thornton & Nardi, 1975, p. 878).

> The informal stage of role acquisition is the period during which the final phases of adjustment begin….Final social adjustment thus commences, and one begins to finalize his [or her] own techniques of handling the social requirements of the role. Psychological adjustment as well begins in earnest at this point. Through the freedom allowed, one can start to formulate his [or her] own meanings for a role and its performance. (Thornton & Nardi, 1975, p. 879)

Essentially, internalization begins because this stage addresses and fosters the satisfaction of the needs for competence, relatedness, and autonomy; therefore, it is here where the socialization process can be enhanced. At this stage, future faculty have more experience and have begun to feel competent and more professional in their role, have interacted with and developed relationships with peers, resulting in a personal community of support, and are more assertive in and value the development of personal role expectations.

The fourth and final stage of socialization or role acquisition is the personal stage, where internalization occurs. During this stage, "individuals and social roles, personalities and social structures become fused" (Thornton & Nardi, 1975, p. 880), resulting in role internalization. Internalization is fostered because "students form a professional identity and reconcile the dysfunction and incongruity between their previous self-image and their new professional image as they assume their new role" (Weidman, Twale, & Stein, 2001, p. 14). Staton (1990) suggests that as students become

more deeply involved in their program, they mature and integrate the values and attitudes of that program, they develop more freedom (autonomy) and higher expectations of themselves, and eventually become the role, or the effective college teacher, they aspire to be.

This concept of stages is particularly important to this and similar studies related to the socialization of future faculty because it establishes the developmental nature of the socialization process and elucidates the part in the process where FFPP restructuring is most salient. Akin to the effect that context can have on the development of a more autonomous or self-determined behavior orientation, as discussed in the previous section, context also plays a role in the socialization process. "Just as individuals may become differently socialized because of differences in past experience, motivations, and capacities, so may they become differently socialized because of differences in the structure of the social settings in which they interact" (Wheeler, 1966, p. 54). In other words, the design of an FFPP can enhance or weaken the socialization experience of future faculty; therefore, if an FFPP lacks elements considered to enhance socialization, restructuring of that FFPP is suggested.

Maccoby (1968) explains that "one of the objectives of the socialization process is to produce individuals who will not only conform to the socially prescribed rules of conduct but will, as members of society, accept them as their own values" (p. 230). This statement suggests that socialization is achieved when a person's beliefs and behaviors conform to the norms of a particular social group but does so as a result of personal buy-in versus some external control or regulation. Fundamentally, personal buy-in produces

self-regulated or autonomous behavior, and because people are behaving in accordance with their personal desires, the socialization process is enhanced. According to SDT, "self regulation develops and people become autonomous through the processes of internalization" (Williams, 2002, p. 236).

The Graduate Teaching Academy

The Graduate Teaching Academy (GTA) at Texas A&M University (TAMU) was founded in 1998 and is a teaching-focused future faculty preparation program that has as its goal the development of effective teaching practices to enhance the current and future experiences of graduate students interested in an academic teaching career. The GTA positions itself as a learning community which, as described by the Center for the Integration of Research, Teaching, and Learning (CIRTL), is a process by which individuals share learning, discover, and generate knowledge. CIRTL also suggests that in a learning community, each individual take responsibility for learning and achieving learning goals (The Board of Regents of the University of Wisconsin System, 2010).

Sponsored by the Office of Graduate Studies (OGS) and the Center for Teaching Excellence (CTE), the GTA is a graduate student-led organization whose mission is to provide graduate students with professional development opportunities to better prepare and equip them for a career in college teaching. Participation in the GTA is voluntary and thus free for all enrolled graduate students at TAMU. The GTA is a one-year future faculty preparation program offering weekly seminars by professors recognized for their excellence in teaching, small group discussions, and practical exercises for artifact development. In a typical academic year, the GTA offers a combination of seminars,

discussions and/or movies approximately 11 to 13 times during the fall semester and approximately 8 to 10 times during the spring semester.

The GTA offers considerable flexibility in attendance; the program may be entered into at either the beginning of the fall or spring semester. Participants may participate in the GTA program by only attending a few seminars of personal interest or by investing more effort toward completing specific program requirements necessary for the achievement of the Fellow certification designation. The specific program requirements that must be completed to achieve the certification designation cover seven areas. The requirements are: (a) participants must attend or watch the seminar video, a total of 15 GTA seminars, panels, or movie discussion nights; (b) choose and meet with a faculty teaching mentor at least two times during the academic year; (c) conduct three classroom observations; (d) design a course syllabus; (e) participate in a professional service activity; (f) develop and write a philosophy of teaching statement; and (g) complete a program feedback survey at the end of each semester (Graduate Teaching Academy, 2010). Participating graduate students who successfully complete the one-year program and all certification requirements obtain a certificate of completion from the GTA and receive the designation of GTA Fellow. GTA Fellows wishing to further their professional development beyond the Fellows program may participate in the GTA Senior Fellows Program (GTASF). The GTASF is an inquiry-based learning community sponsored by the GTA and the CTE, designed to teach future faculty how to infuse inquiry-based learning into their courses (Center for the Integration of Research, Teaching, and Learning (CIRTL) at Texas A&M University, 2009). The inquiry-based

learning community is a six session, semester-long workshop series and upon its completion, GTA Fellows receive the designation of Senior Fellow.

Program seminars and discussions focus on the development of knowledge and skills in four particular areas: (a) professional path, (b) course design, (c) assessment, and (d) pedagogy. These four areas are the stated program outcomes and are considered among others, standard elements of knowledge for effective college teaching (Shulman & Shulman, 2004). The professional path outcome exposes participants to institutional differences and differences in faculty positions. This outcome helps students develop a personal professional path leading to their desired academic position. The course design outcome teaches participants about selecting course goals, learning outcomes, and appropriate teaching methods, as well as provides participants an opportunity to design a course syllabus. The assessment outcome exposes participants to both formative and summative assessment strategies. It teaches participants about context and assessment and, therefore, provides a description of differing assessment strategies for different types of courses. Finally, the pedagogy outcome offers an overview of different learning styles and effective teaching strategies for each style. In addition, this outcome shares ideas about creating an inclusive learning environment and teaching with technology. Although the program structure of the GTA might be considered typical for FFPPs, its organizational leadership structure is less prescribed than most.

At the onset, the GTA organizational structure is somewhat unique when compared to other FFPPs. Its uniqueness primarily stems from one aspect; the GTA is a graduate student led program. As depicted in Figure 2, the leadership hierarchy within

the organization structure of the GTA includes: (a) a GTA director; (b) a GTA steering committee (GTASC) comprised of 10 assistant directors; (c) nine college liaisons; and (d) eight group leaders whose groups include approximately 8 to 10 GTA participants. The GTA director position is the only funded position within the structure; all other leaders are volunteers. Unless one is participating in the GTA program from a distance, all GTA participants are randomly assigned to a group, led by a group leader. All distance participants are assigned to the same group and group leader. GTA participants report directly to their assigned group leader on a weekly basis.

The GTASC is comprised of 10 assistant director positions, responsible for leading projects in their assigned program area. Program areas associated with the 10 assistant director positions are: (a) assistant director of alumni programs, (b) assistant director of the awards banquet, (c) assistant director of communications, (d) marketing, (e) program evaluation, (f) program history, (g) program records, (h) speaker coordination, (i) technology, and (j) university affairs. During the summer, the GTASC meets weekly to plan and prepare for the upcoming program year but during the academic year, the GTASC only meets monthly or as required by the GTA director.

The college liaison is considered a part of the GTASC and networks with key college personnel to provide news and information on GTA offerings to graduate students in all colleges. With regard to group leader responsibilities, each week program participants attend a seminar, discussion session, or movie, and group leaders are responsible for recording the attendance of their group members. In addition to recording attendance in this manner, attendance is recorded as a result of completion of a

satisfaction survey for each week's seminar. Group leaders are also responsible for collecting required assignments (e.g., teaching syllabus).

Conceptually, the organizational structure of the GTA is a traditional or top-down structure with directives being passed down by the GTA director to the GTASC, and subsequently to group leaders who pass down information to program participants. A traditional organizational structure implies inequality of leadership at different structural levels, or a hierarchy of authority. Basically, in the traditional structure, emphasis is placed on the "downward flow of authority" (Kreitner, 2007, p. 256). "According to traditional organization theory, if anything is to be accomplished through formal collective effort, someone should be given the authority to see that the intended goals are carried out effectively and efficiently" (Kreitner, 2007, p. 250). Although this structure is typical and effective for many organizations, it is likely ineffective for this FFPP because GTA leaders and participants, all being graduate students are, in reality, equal. In addition, although one requirement of the GTA fellow certification is to meet at least twice with a faculty mentor during the academic year, this organizational structure does not contain a provision for regular, quality feedback and mentoring.

Regular feedback and mentoring are essential in developmental settings such as graduate education; however, because GTA leaders and participants are graduate students and required meetings with mentors are minimal, personal feedback on progress or assignments is limited. In a 1998 report by the Association of American Universities (AAU), mentoring and advising are two of seven elements described as best practices of graduate education. Austin (2002) supports the AAU's recommendations by suggesting

that more attention to mentoring, advising, and feedback, among other things, are needed to improve graduate school as preparation for faculty careers. Other than feedback received as a result of the two required mentor meetings, participants may receive feedback from group leaders. It is likely that when feedback is provided to participants by group leaders, it might be devalued or viewed as inconsequential since group leaders are graduate students and, therefore, viewed as equal peers. Conceptually, the GTA's program design appears to lack some characteristics deemed to enhance the socialization process; however, an inside view, from the perspective of its participants, is needed to reveal actual characteristics and their effect on socialization.

Research Design

The purpose of this qualitative study was to examine the characteristics of a teaching-focused future faculty preparation program to reveal the presence or absence of program characteristics designed to satisfy innate psychological needs. Four research questions guided this study:

1. Why did graduate students participate in and complete a teaching-focused future faculty preparation program?

2. Do the characteristics of the GTA FFPP at TAMU attend to the satisfaction of the innate psychological need for competence?

3. Do the characteristics of the GTA FFPP at TAMU attend to the satisfaction of the innate psychological need for relatedness?

4. Do the characteristics of the GTA FFPP at TAMU attend to the satisfaction of the innate psychological need for autonomy?

Sample

My primary source of data consisted of GTA Fellows from the 2009-2010 academic year. Participants were both male and female graduate students, ages 18 and over, and of diverse racial and academic groups. This sample was purposefully selected in an attempt to gain a more accurate conception of existing GTA program characteristics. It was assumed that a more accurate conception of existing program characteristics could be acquired from those having the most experience with the program (a.k.a., program completers). In the case of this study, GTA Fellows are those possessing the most experience with the program.

Participants were recruited through email. An initial email was sent to 49 potential GTA Fellows approximately three weeks prior to the anticipated interview date (see Appendix C for initial email). A subsequent, reminder email was sent to potential GTA Fellows approximately one week prior to the anticipated interview date (see Appendix C for reminder email). A list of potential GTA Fellows was developed in collaboration with group leaders. Through interaction and conversation with group members who expressed their interest and plan to become a GTA Fellow, and through review of attendance data, group leaders identified group members they felt were on track to achieve the GTA Fellow designation. Those identified were labeled potential GTA Fellows.

Of the 49 potential GTA Fellows, only 35 actually achieved the GTA Fellow designation. Of the 35, only 29 consented to participate in the research study. The research study consisted of two components, the quantitative and the qualitative

components. Although the study consisted of two components, only one consent request was disseminated to participants. As a result of participation being voluntary, participants had the option to not participate in the research study, to participate in only one of the research components, or to participate in both of the research components. Of the 29 consenting participants, only 10 agreed to participate in the qualitative or focus group interview component of the study. As a result, the sample size for this study consisted of 10 TAMU GTA Fellows.

Data Collection and Analysis

I conducted focus group interviews to collect data. I interviewed 10 TAMU GTA Fellows in two small groups, for one hour, in a classroom on the TAMU campus. Six GTA fellows were in attendance during the first focus group interview and four attended the second interview session. I asked a series of pre-established, open-ended questions designed to explore participant's conceptions of existing program characteristics and to understand participant needs and reasons for participating in the GTA. Specific interview questions were:

1. Please describe what you feel a learning community (LC) is.

2. Based on your descriptions of a LC, do you feel the GTA is representative of a LC? Why or why not?

3. Did the GTA program meet your needs? (What were your needs?)

4. Being aware of the program outcomes and GTA Fellow requirements, do you feel the program outcomes were achieved? (Which, if any?)

5. Why did you participate in the GTA?

6.   What are some suggestions you have for improving the program?

Each semi-structured focus group interview was audio recorded for later transcription

(see Appendix B for Interview Protocol).

Data were collected in order to understand how participants perceived the

program, in an effort to determine the presence or absence of program elements designed

to address and satisfy innate psychological needs. Data were analyzed using the constant

comparative method. The constant comparative method involved repeated readings of

each transcript and the development, refinement, and use of coding categories around

themes that not only emerged inductively from the data but are pre-existing and

developed from prior research. Merriam (1998) suggests that categories, which reflect

the purpose of the study, often answer the research questions.

After transcribing the data, I organized it utilizing pre-existing themes. The pre-

existing themes were derived from the self-determination theory of motivation and are

identified as innate psychological needs. The three prior-research driven themes are (a)

competence, (b) relatedness, and (c) autonomy. After multiple, subsequent transcript

readings and further analysis of the data, other themes began to emerge. Utilizing an

inductive approach, themes within themes began to emerge. In other words, I began to

see categories emerge from the overarching SDT themes. The constant comparative

method helped reveal participants' needs and as a result, helped inform my conclusions

regarding whether psychological needs were met. Validity of inferences was verified

through triangulation.

Findings

Research Question 1

Why did graduate students participate in and complete a teaching-focused future faculty preparation program?

The findings for this research question are directly linked to the focus group interview question #5, "Why did you participate in the GTA?" Interview data reveal that graduate students participate in a teaching-focused FFPP primarily to develop their teaching skills. Participants expressed a lack of formal opportunities to develop teaching skills, particularly in the STEM disciplines and, therefore, sought such opportunities. One Engineering participant explained,

> I participated because I'm in uh, the department of Engineering and there, we have a lot of researchers, and that is the focus of the whole Ph.D. program so I really felt a need to get something on teaching. I wish that there was more focus on teaching because the doctoral program is mostly, highly research based.

Another STEM participant expressed a similar sentiment,

> Similarly uh, I was interested in learning some teaching strategies and uh, and there are, uh, there is definitely not a lot of focus uh, on teaching in our doctoral program uh, and knowing that uh, I'm going to be teaching this fall, I think also, just trying to decrease my anxiety level a little bit and, you know, feel like I have some specific strategies uh, to, you know, use when I, when I start doing it, you know, when I'm writing on my syllabus.

The data show that development, according to participants, refers to the acquisition of more effective teaching strategies and techniques. Participants view improvement in this area essential to decreasing anxiety about teaching and acquiring the role of or becoming an effective college teacher.

The data show another, less dominant, reason for participation in the GTA as being for credentialing purposes. Participants expressed the need to be more competitive in the job market and a belief that the certification as a "GTA Fellow" might serve as evidence of experience with and commitment to the profession. As explained by one male participant, from one of the STEM disciplines, "It's something to put on my CV, and to say you know that I do have an interest in teaching and a commitment to it."

In relation to SDT, these findings suggest that graduate students participated in the GTA to satisfy a need for competence in the development of a successful college teaching career and perceive a teaching-focused FFPP, such as the GTA, as one way to satisfy that need. These findings imply that either participants view teaching skills as the most salient role function of a college teacher or that they view their current skill level as insufficient. In reference to the former and according to socialization theory, these preconceptions of a role are common and expected during the anticipatory and formal stages of socialization; however, it is important to reiterate that preconceptions may not accurately define formalized role expectations or requirements. Inconsistencies that exist between preconceived and formal role expectations are identified during the formal stage of socialization, leading to the re-evaluation of expectations. Subsequent research questions and an evaluation of the effectiveness of the GTA was also addressed in the quantitative part of this study to help reveal that in this context the graduate students' notion about the GTA with regard to satisfying the need for competence is accurate.

Research Question 2

Do the characteristics of the GTA FFPP at TAMU attend to the satisfaction of the innate psychological need for competence?

Competence, as previously defined, "is not an attained skill or capability, but rather is a felt sense of confidence and effectance in action" (Ryan & Deci, 2002, p. 7). Competence is one of the three innate psychological needs described by SDT as necessary for understanding human motivation and affecting behavior. SDT purports that in satisfying psychological needs, people are motivated to behave. In an effort to influence participation in and completion of a teaching-focused FFPP, to more adequately prepare future faculty program characteristics designed to satisfy innate psychological needs should be present.

In determining whether such characteristics were present in the GTA program, two questions became relevant. I asked, "Did the GTA meet your needs?" and "Do you feel the GTA program outcomes were achieved?" I asked the first question to encourage participants to reflect on and state their personal reasons or needs for participating in the GTA. I asked the second question to promote the exploration of program outcomes by program participants, as program outcomes significantly impact program design or characteristics. In review, the GTA is designed to achieve four program outcomes: (a) course design, (b) assessment, (c) pedagogy, and (d) professional path. It is important to note that these outcomes are curricular in nature, thus directly relating to skills and competence. Understanding this, if program outcomes specifically address skills, as do

the GTA program outcomes, it is likely that the psychological need for competence will be satisfied. In becoming an effective college teacher, the interview data reveal that participants possessed a strong desire or need for instrumental or practical teaching skills, which directly correlate to the program outcomes or the need for competence. In other words, with regard to the satisfaction of the need for competence in teaching, participants were in the right place. Relating to competence, participants articulated three aspects: (a) practical teaching skills, (b) knowledge of the professional path, and (c) resources.

Practical Teaching Skills

Participants largely discussed the need for instrumental or practical skills. For example, participants often mentioned the need for knowledge of instructional strategies and classroom management techniques. A female participant stated, "Some of the needs that I had were practical tips on how to take care of certain situations. Like how to maybe deal with trouble makers or like a very rude class." In addition, some international participants expressed a need to develop their skills in teaching a course comprised of American students. One international female participant articulated a need, "to understand the way the American student learns…that's really something that's very important to international students…because we are trained foreign." Fundamentally, these students' conception of teaching is based on the academic culture that exists in their country; therefore, a need exists for them to learn about and conceive teaching from the perspective of the academic culture present in America.

Participants used words such as practical and realistic to describe this need and suggested that this need was met. A female participant from Agriculture and Life Sciences said, "I think what I got most from the GTA is the practical skills in teaching….That's the part I was very satisfied with, with the GTA program." With curricular program outcomes such as course design, assessment, and pedagogy, all of which relate to skills, it is easy to conceive that the GTA possesses program characteristics designed to satisfy the need for competence. More specifically, program elements such as seminar topics and practical exercises related to these outcomes aided in the satisfaction of the need for competence. Although this dominating aspect of competence was extensively met, according to participants, a second aspect of competence was inefficiently taken into account.

Knowledge of the Professional Path

The professional path refers to the path that future faculty should follow in order to have a successful teaching career. Participants regarded the professional path as being of greatest interest to them; however, they felt more emphasis was needed in this area. One female College of Education participant described the interest with the statement, "That [professional path] specifically is of high interest to almost everybody that would be attending." In another statement, one female international student from the area of Agriculture and Life Sciences described the lack of emphasis in this area in the statement, "And for the professional path, I think we talked about this topic at the beginning of the GTA, but I'm thinking that I would like to hear more about this

professional path. I mean more specifics, more detail." In agreement with this participant's perspective, one male international participant from the College of Education stated, "But I do agree that it [professional path] could be uh, it could be more."

Although the professional path was included as one of the GTA program outcomes, it appears that participants were left wanting more. Participants suggested not having enough seminars on the professional path topic and the quality of the speaker(s) (e.g., a panel) as reasons for the program failing to meet this need. A female College of Education student said, "I know that with the professional path one, it had a lot to do with the, with the actual composition of the panel…I would've liked to have seen it again maybe with a different group or a different panel." These findings are consistent with the findings reported in Appendix A, confirming no change in level of participant understanding in the majority of categories, with regard to the professional path, from one semester to another. Specifically, participant's level of understanding remained consistent at "moderate change in my understanding" from one semester to another implying that more emphasis is needed in this area.

Resources

The final area of competence identified by participants as a need was resources. Resources refers to electronic or paper materials that can be used in the future as a source to refer to for teaching tips, advice, techniques, or strategies. A majority of the participants expressed that their need for resources was not met by the GTA program. A

female Engineering student best described the need and the lack of satisfaction of the

need in a statement.

> Several times the presenters told us specifically that they were going to give us
> their PowerPoint presentation that had links to, to different things so that's, in
> some ways, where I felt the Graduate Teaching Academy fell short, because now
> I can't go access those links and they were never posted somewhere; other than
> going and looking at, you know, a long video versus being able to go directly to a
> link on uh learning styles and their surveys with learning styles, so that was one
> need I felt that was unfulfilled.

A male Geosciences participant expressed a similar sentiment.

> Yeah, I would definitely agree with both those points. That in the posting of
> things online because that's kind of one of my worries right now is that I did
> learn all these things but, and I tried to take good notes during the talk, but I kind
> of worry that I'm, I'm just going to forget a lot of stuff and I don't have a
> reference to go back and look at and jog my memory and think, oh these were
> some of the different learning styles that one of the seminar speakers talked
> about.

It appears that participants viewed resources as significantly important tools in their

development and future practice and because the GTA fell short in meeting this need,

expressed sincere regret for what they considered the loss of valuable information.

According to SDT, it is likely that if resources had been provided, participants would

have, throughout the semester, achieved a higher quality of motivation, thereby fostering

a more autonomous behavior orientation to attend more seminars.

Research Question 3

Do the characteristics of the GTA FFPP at TAMU attend to the satisfaction of

the innate psychological need for relatedness?

This research question examined GTA program characteristics in relation to the

innate psychological need for relatedness. Relatedness refers to the desire to feel

connected to others, to care for and be cared for by others, and to have a sense of

belongingness with others and with the community (Baumeister & Leary, 1995; Bowlby,

1979; Harlow, 1958; Ryan, 1995). Relatedness differs from competence as it is not

concerned with an outcome.

> The need to feel oneself as being in relation to others is thus not concerned with
> the attainment of a certain outcome (e.g., sex) or a formal status (e.g., becoming
> a spouse, or a group member), but instead concerns the psychological sense of
> being with others in secure communion or unity. (Ryan & Deci, 2002, p. 7)

Based on these definitions, a felt sense of community is required in order to

satisfy the need for relatedness. The GTA was designed to provide this sense of

community to its participants and is, therefore, referred to as a learning community.

Learning communities, as described by the Center for the Integration of Research,

Teaching, and Learning (CIRTL) network, are "the process by which individuals come

together to achieve learning goals. These learning goals can be specific to individual

courses and activities, or can be those that guide an entire teaching and learning

enterprise" (The Board of Regents of the University of Wisconsin System, 2010, p. 1).

CIRTL suggests four core ideas that are central to the learning community process. They

are: (a) shared discovery and learning, (b) functional connections among learners, (c)

connections to other related learning and life experiences, and (d) inclusive learning

environment. In making a determination about the program characteristics of the GTA as

they relate to the satisfaction of the need for relatedness, two interview questions were

most relevant:

1. "Define a learning community as you see it."

2. "Do you feel the GTA is representative of a learning community?"

I asked participants to provide their personal definition of a learning community in an effort to explore personal conceptions of relatedness and what is required to satisfy such a need. This question also enabled a comparison to be made between conceived ideas about a learning community, at the anticipatory and formal stages of socialization, and the formal definition or expectations of a learning community as defined by CIRTL. I asked the second interview question to initiate participant reflection on GTA program characteristics, enabling the exploration of whether the program characteristics aided in the satisfaction of the need for relatedness. Interview data reveal that participants perceive a learning community as possessing three aspects: (a) a diverse group, (b) coming together, and (c) learning something. Fundamentally, these aspects imply the what or who, where, and how of a learning community, as perceived by the participants.

From the participant's perspective, a diverse group of people suggests what a learning community is or who is involved in a learning community. The "coming together" refers to where the diverse group of people comes together or meets. For example, a diverse group of people can meet face-to-face or electronically. And finally, the "learning something" refers to the nature of the learning, such as learning through feedback or learning from peers. A female international participant described a learning community as, "helping people from different backgrounds or in our case disciplines or departments, and sharing a common or commonality which will be learning and teaching." Similarly, a male participant described a learning community as, "a group of people that are coming together in order to learn." Another participant provided a more in-depth description of his or her perception of a learning community.

I'd say a place where or an opportunity to be collaborative, um and by that you share various ideas. It's a great place um or a great setting to get feedback on ideas or difficulties you might be having or to share successes so that someone else can possibly view those successes or adapt those successes, or adapt those ideas or something that they're currently doing. So, very collaborative!

A second female participant added to that description by suggesting, "I guess the only thing I would add to that is that you probably learn something focused or specific."

Comparing the responses of the first, relevant interview question with the responses of the second, relevant interview question revealed a few inconsistencies with regard to a learning community. The idea of diversity or the diverse group was a consistent response in both questions; however, no other ideas mentioned in the responses to the first question appeared in the responses to the second question. In other words, the "where" and the "how" were not mentioned as characteristics present in the GTA program. This inconsistency likely resulted in a discrepancy among participants as to whether the GTA was representative of a learning community.

Responses from two of the male participants make this discrepancy evident. One male College of Engineering participant stated,

I think that the GTA is [a learning community]. I was with the same people every week, you know, checking in with my group leader or discussion group every month, or whatever we had, so yes, like I said, the GTA is more or less of what I understand to be a learning group.

A second male College of Geosciences participant expressed his disagreement with the above participant's conclusion that the GTA is representative of a learning community, in the following response.

I would maybe differ a little bit because I think one of my complaints was that my group was not consistent throughout the entire term so there wasn't like a

> consistent community for me throughout the entire term…so there wasn't very much consistency. I didn't feel like it was very much of a community.

It is evident how such a discrepancy can affect the quality of motivation possessed by a participant if their experience compares to that of the second participant. This type of experience may lead a participant to feel a disconnection or isolation versus a relationship with a group. Fundamentally, a participant's motivation for attending a teaching-focused FFPP like the GTA will become more extrinsic, resulting in a behavior orientation that is less self-determined and more controlled.

The overall consensus of the group was that the GTA is representative of a learning community; however, after further analysis, it is evident that current GTA program characteristics capable of satisfying the need for relatedness need to be refined to include more consistency of participation within groups, and because it was not mentioned as a response to the second question, existing program characteristics need to be refined in such a way as to provide more feedback or become more interactive. According to participant responses, refinement or the addition of these characteristics is necessary for the satisfaction of the need for relatedness.

Research Question 4

Do the characteristics of the GTA FFPP at TAMU attend to the satisfaction of the innate psychological need for autonomy?

An examination of GTA program characteristics in relation to the satisfaction of the innate psychological need for autonomy was the purpose of Research Question 4. Autonomy refers to volition or a self-endorsement of one's own actions (Deci & Ryan, 2000). Autonomy, as intended within the SDT framework, is not about independence but

rather about integration. Individuals connect with or integrate either intrinsic or extrinsic reasons for their behavior, resulting in action. "When autonomous, individuals experience their behavior as an expression of the self, such that, even when actions are influenced by outside sources, the actors concur with those influences, feeling both initiative and value with regard to them" (Ryan & Deci, 2002, p. 8). According to Deci and Ryan (2000), "autonomy concerns the experience of integration and freedom, and it is an essential aspect of healthy human functioning" (p. 231).

Interview data revealed that due to the lack of statements concerning autonomy, either no such characteristics existed within the GTA program design or that participants had not yet achieved a stage (e.g., informal or personal stage) of socialization, bringing them into an awareness of the need for autonomy. Each conclusion is likely as autonomy is something that occurs as a result of internalization, and internalization, according to the stages of socialization, occurs either during the informal or personal stage. In review, socialization is an ongoing process. It begins prior to participation in an FFPP and continues well into the transition from future faculty-to-faculty. Because the GTA is a future faculty preparation program, led by graduate students, it is not surprising that its design would not include characteristics designed to satisfy the need for autonomy since this stage of socialization typically occurs late or after graduate school.

According to a study by Reeve (2002), instructional behaviors of teachers that are more supportive of autonomy include listening to students and giving students more time for independent work. In addition, conversational behaviors of teachers viewed as autonomy-supportive include giving praise to students for the quality of their

performance and asking questions of what the students want. These behaviors do not represent an all-inclusive list of autonomy-supportive behaviors but are provided as examples to gauge the existence of such behaviors within the current GTA program design.

At present, due to the lack of feedback as described by participants, listening to participants, giving praise to participants, and asking participants what they want are not feasible within the existing program design. Giving participants more time for independent work is, however, feasible. With an understanding of autonomy-supportive behaviors and the inability of the current program design to utilize these behaviors, it can be concluded that the GTA program characteristics did not attend to the satisfaction of the innate psychological need for autonomy.

Two additional ideas, worthy of discussion, were revealed by program participants during the focus group interviews. The first is the notion of a reflective practitioner. Basically, a reflective practitioner views teaching as a developmental process where one can learn and improve upon their teaching based on their prior experiences. One female College of Education participant described a reflective practitioner in the statement,

> After you have your evaluations, you begin to collect data on how you teach and the progress you make as you teach as far as impacting your students….It is an opportunity to reflect and then change, using those reflections, to change your teaching.

This idea is important and should be incorporated into FFPP characteristics because being a reflective practitioner fosters autonomous behavior, leading to the satisfaction of the need for autonomy.

The second idea worthy of discussion is the idea of discipline-specific seminars. Participants mentioned the value of learning from others as well as the value of learning from the perspective of a particular discipline. A female Agriculture and Life Sciences participant suggested that for the improvement of the GTA program, seminar panelist should be from different disciplines and at different stages in their career to foster interaction. "Maybe different disciplines and different cultures or younger faculty versus older faculty….I think it gives you more information than with just one speaker so I think it's more interactive." Conversely, a female Engineering participant suggested that for the improvement of the GTA program, seminar speakers should be from the same disciplines as participants to foster relevancy in learning.

> It may be good at some point to maybe have a session or some sessions geared toward people with specific majors. Discipline specific. Maybe, I'm not saying every lecture or every group but some of the discussions could be facilitated better especially when it's about teaching or designing stuff, if you're with people from your major to some extent for a period of time because then, it becomes more relevant.

Relevancy cultivates value, which promotes a more self-determined behavior orientation to participate in and complete an FFPP.

> Finding a purpose in what they are learning that is connected to their real world gives adult learners something to care deeply about and to work in common to achieve. This purpose has the potential to be a shared vision, one that inspires cohesion, participation, and action. (Wlodkowski, 2008, p. 158)

Conclusion/Recommendations

The purpose of this study was to examine the characteristics of a teaching-focused FFPP to reveal the presence or absence of characteristics designed to satisfy innate psychological needs. My thesis is that if characteristics designed to satisfy innate

psychological needs are present, the socialization of program participants will, through participation, be enhanced, making them more effective college teachers. This idea implies that FFPPs comprised of elements designed to address and satisfy innate psychological needs, as opposed to FFPPs not comprised of such elements, will improve the quality of participant motivation, generating a more autonomous behavior orientation to participate in and complete a teaching focused FFPP. Under the assertions of this premise, it is through the FFPP characteristics designed to satisfy innate psychological needs where the quality of motivation is affected, creating the desire to persist and complete a teaching-focused FFPP, and it is through the persistent participation in a teaching-focused FFPP, which resulted from a higher quality of motivation and more autonomous behavior orientation, that future faculty will be better socialized and more adequately prepared for a successful college teaching career.

The findings reveal that the GTA program, as currently structured, possesses program characteristics designed to somewhat satisfy the need for competence but only partially satisfy the need for relatedness. Changes in GTA program design are, therefore, recommended to more fully satisfy the need for relatedness. In addition, the findings reveal that with its current structure, the GTA program cannot feasibly satisfy participant's need for autonomy. As a result, new program characteristics designed to address participants' need for autonomy is necessary to enhance the socialization process.

One way for the GTA to better address and satisfy the need for relatedness is to consider a redesign of program characteristics, specifically the formation and structure

of groups, to foster continuity and a greater feeling of community among participants. If

group membership is decreasing in one group, the remaining group members should be

moved to another group in an effort to maintain or achieve a feeling of connectedness.

No one should be left with a feeling of isolation. In addition, group leaders should be

made aware that fostering a sense of community within the group is one of the duties of

a group leader. Significant improvements may be observed in this area simply by group

leaders being made aware that this is an essential duty of the position.

The need for autonomy can be addressed and likely satisfied through the

incorporation of a program characteristic that will improve communication and promote

feedback. Due to the stage of socialization in which a graduate student will participate in

the GTA program, it is unlikely that the need for autonomy could be fully satisfied

during participation; however, the FFPP environment can be structured to be more

autonomy-supportive. A more autonomy-supportive environment will provide

participants with not only mental but physical (i.e., resources) tools to use in the

development of their teaching skills.

These tools will enable participants to take more responsibility in their learning

because they will then be able to refer back to a topic when there is a greater readiness to

learn. In addition, more opportunities for discussion and feedback may help participants

better gauge their progress in the development of their teaching skills. For example, a

participant receiving feedback on a syllabus that he or she developed enables the

participant to see what areas he or she needs to work on or what areas he or she has

grasped. If improvement is needed in a particular area, feedback will enable the

participant to utilize the tools that he or she has been given through seminars to produce a more effective product. With feedback a participant is again, able to have more responsibility in learning. Additionally, it should be noted that it is likely that with program changes designed to more adequately satisfy the need for relatedness, the FFPP environment will consequently become more autonomy-supportive.

The findings of this study are important for affecting FFPP design and future faculty socialization; however, it is important to reiterate that findings are relevant to GTA Fellows and not GTA participants. In other words, a limitation of this study is that the sample can be considered biased since it is comprised of what can be regarded as the overachievers, the highly motivated individuals, or those who are more favorably inclined to the program. It is likely that GTA Fellows are somewhat different from other participants; therefore, these findings may be different for GTA participants. For example, due to the inconsistencies found among groups, it is likely that a GTA participant entered the program with aspirations of completing it and becoming a GTA Fellow; but because he or she was assigned to a group where relatedness was missing, his or her quality of motivation may have been insufficient to further his or her participation. In other words, GTA participants may view the current findings as inaccurate. Instead of finding that the need for relatedness was only partially satisfied, GTA participants may find that this need was in no way satisfied, implying the need for greater changes in the GTA program design to affect the quality of motivation and socialization.

The examination of teaching-focused FFPP characteristics is important to affect socialization as the satisfaction of the innate psychological needs for competence, relatedness, and autonomy affects participant motivation type and influences behavior, consequently, augmenting the significance of this study. According to SDT, as previously stated, the more autonomy-supportive the social context, the more it maintains or enhances intrinsic motivation and facilitates internalization, as such contexts tend to satisfy rather than thwart the learners' basic psychological needs (Vansteenkiste, Lens, & Deci, 2006). A need supportive versus a need thwarting environment is essential for optimal socialization and development. According to Deci and Ryan (2000), "need-thwarting conditions lead to specifiable patterns of behaviors, regulations, goals, and effects that do not represent the optimal development and well-being that would occur in supportive environments" (p. 254).

Because of my position as a research assistant and evaluation liaison for CIRTL, I worked closely with the GTA before and during this research study. It is my belief that my position afforded me the opportunity to achieve greater insight into participant experiences as I was accepted and viewed as an insider by GTA participants and leaders. Although the findings had no effect on my position, it is possible that my position affected the interpretation of findings. In addition, because this study was limited to GTA Fellows, much about participants and even non-participants is unknown, which could affect the findings. This program's design is likely sufficient to meet people's needs and have a positive effect on the quality of their motivation; however, changes in program design or characteristics are recommended. Recommendations include the

refinement of existing characteristics and/or the incorporation of new characteristics designed to address and satisfy innate psychological needs. To better understand and further the examination of the socialization of future faculty, in an attempt to enhance it and produce a generation of more adequately prepared college teachers, the full evaluation of multiple teaching-focused future faculty preparation programs, as well as each type of program participant is necessary.

CHAPTER IV

CONCLUSION

As described in Chapter I, the purpose of this study was two-fold. First, the purpose was to identify the specific types of motivation that graduate student certificate holders in both the GTA and GTP possess in the participation and completion of their respective FFPP and to identify what factors affect the motivation of those graduate students. Second, the purpose was to identify the presence or absence of an FFPP element designed to satisfy participant's innate psychological needs for competence, relatedness, and autonomy. An additional purpose of the study was to offer a suggestion for the design of FFPPs to include an element for the satisfaction of innate psychological needs, in an effort to influence motivation type, increase participation, and enhance the socialization and future practice of future faculty. My thesis is that a more adequately socialized and prepared generation of future college teachers can be produced through participation in and completion of a teaching-focused FFPP, as a result of the FFPP being structured to foster a more self-determined motivation type within its participants.

I examined the characteristics of two teaching-focused FFPPs and their participants in an effort to understand factors affecting the achievement of a more intrinsically regulated motivation type, which is deemed necessary for participation and program completion. Intrinsic motivation has been closely associated with improved performance, more persistence, and higher levels of satisfaction (Deci & Ryan, 1990). The findings of this study suggest that factors such as gender, location (institution), academic discipline (college), and the satisfaction of innate psychological needs have an

effect on the type or quality of motivation developed by program participants. FFPP developers should give consideration to these factors during program design.

Findings

This study's purpose was to identify motivation types, gain an understanding of factors that affect the motivation of graduate students and their participation in and completion of a teaching-focused FFPP, and to identify the presence or absence of an FFPP element designed to satisfy participant's innate psychological needs for competence, relatedness, and autonomy. Additionally, through an improved understanding of these factors, this study endeavored to offer a suggestion for the design of FFPPs to improve the quality of participant motivation, increase participation, and enhance the socialization of future faculty. Corresponding to the purpose, I used a mixed methods design consisting of both quantitative and qualitative inquires. The quantitative piece was utilized to reveal the current state of motivation among participants and to examine various factors believed to affect the quality of motivation. The qualitative piece focused on the satisfaction of psychological needs as an additional factor believed to affect the quality of participant motivation. Both components were utilized to make suggestions for a more effective FFPP design.

Quantitative Findings

The purpose of the quantitative component of this study was to explore the range of types or quality of motivation possessed by graduate student participants and to examine whether the quality of their motivation was affected by gender, program, or academic discipline. The specific research questions were:

1. What is the range of types of motivation, as defined by self-determination theory (SDT), possessed by graduate student participants at Texas A&M and the University of Colorado at Boulder, who have completed an FFPP designed to improve teaching skills in higher education?

2. Does graduate student motivation in an FFPP differ by gender?

3. Does graduate student motivation in an FFPP differ by program characteristics/type?

4. Does graduate student motivation in an FFPP differ by academic discipline?

The findings of this study suggest that motivation quality is affected by these variables.

Research Question 1

What is the range of types of motivation, as defined by self-determination theory (SDT), possessed by graduate student participants at Texas A&M and the University of Colorado at Boulder, who have completed an FFPP designed to improve teaching skills in higher education?

Findings suggest that extrinsic motivation-identified is the motivation type most representative of the sample population. This motivation type consists of a more autonomous behavior orientation than some other extrinsic motivation types; however, it is not the most autonomous form of extrinsic motivation. The credibility of these findings is likely high because of the voluntary nature of the FFPPs included in this study. The word volunteer, by definition, implies a willingness or zeal to serve. Graduate students volunteering to participate in a teaching-focused FFPP do so partially as a result

of an inherent zeal or motivation to participate, independent of coercion. Consequently, a

higher quality of motivation would exist within them. Understanding that FFPP

participants possess a high quality of motivation, based on the findings, FFPP

completers (i.e., GTA Fellows or GTP Teacher Certificants) and the factors that affect

their socialization should be targeted as these graduate students are characteristic of the

change agents needed to address challenges in higher education.

Research Question 2

Does graduate student motivation in an FFPP differ by gender?

The findings of this study show that female graduate students possess a higher

quality of motivation than male graduate students. These findings are supported by the

findings of Spittle, Jackson, and Casey (2009) in a research study exploring the

relationship between motivation and reasons for career choice. According to Spittle,

Jackson, and Casey, these findings are not easily explained but could be attributed to

females' desire for relatedness. Brown and Gilligan (1993) reaffirm that although the

desire for connection or relationship is distinctively human, it is the core of relationships

in women's psychological development. This suggests that as a result of their desire for

relations or relatedness, females are more likely than males to participate in an FFPP,

which suggests that FFPP developers may need to exercise greater efforts to attract a

greater number of male participants. Program developers should pursue common

interests of males and creatively incorporate them into FFPP design.

Research Question 3

Does graduate student motivation in an FFPP differ by program characteristic/ type?

Findings propose that TAMU participants had a higher quality of motivation than CU-Boulder participants. In relation to program characteristics or type, it can be inferred that differences in the quality of motivation may be attributed to a difference in program structure. In review of the program structure, the GTA's linear leadership structure may, in some way, minimize the degree of participant engagement. Because GTA leaders and participants are peers, the reliability of this point is enhanced. Akin to a friendship, GTA participants may feel more relaxed or experience a greater comfort while interacting with program leaders because their leaders are friends or classmates, which consequently may diminish accountability and level of engagement.

In contrast, because the GTP possesses a hierarchical leadership structure, the level of participant engagement may increase because participants are interacting with superiors. In other words, more structure likely cultivates greater accountability, leading to a higher level of engagement. A heightened sense of accountability may lead to feelings of stress or anxiety, which may affect motivation. The supervisor-employee relationship serves as a good example of the interactions between GTP leaders and participants.

These findings mean that FFPP developers need to be aware that program structure can have an effect on the motivation of participants to complete a program.

Program developers should be sensitive to the notion that too much structure may result in participants not completing a program and that a balance in the amount of structure is likely the best formula to improve the quality of participant motivation. Antony and Taylor (2004) substantiate the existence of the connection between context and program completion in a statement, "social psychologists have long been discussing the connection between context-derived anxiety and its deleterious impact on achievement" (p. 93).

Research Question 4

Does graduate student motivation in an FFPP differ by academic discipline?

Findings suggest that motivation quality differs in relation to the academic discipline of a participant. Specifically, participants identifying themselves as Agriculture and Life Sciences students possessed a higher quality of motivation than participants identifying themselves as Arts and Sciences or Graduate School students. It should be noted that participants identifying themselves as Graduate School students are from departments within the College of Arts and Sciences. Viewed as a corollary to the faculty-student advisor relationship, these findings are fitting. Barnes and Austin (2009) discuss the differences in the quality of this relationship from a disciplinary perspective. They contend that differences exist among different disciplines, in the degree of social connectedness and the style in which they socialize their students. Further, they assert that doctoral students in the hard sciences have more frequent interactions with their

advisors and tend to have more collaborative (i.e., co-authorship) relationships with them, than students in the humanities.

Several scholars have addressed the importance and impact of the faculty-student advisor relationship and stress the criticality of the quality of this relationship in regards to student socialization and program completion. According to the literature, the responsibility of the advisor is multifaceted and, therefore, can have a significant effect on several factors such as time to degree and overall program success. Responsibilities of the advisor include, "facilitating advisee's progress through graduate school as well as helping advisees with research requirements (e.g., thesis, dissertation), evolution as a practitioner, career guidance, and professional development" (Knox, Schlosser, Pruitt, & Hill, 2006, p. 490).

Researchers have discussed the correlation that exists between the quality of the faculty-student advisor relationship and time to degree. Specifically, the research findings of Girves and Wemmerus (1988) and Ferrer de Valero (2001) suggested that students having more interactions with their advisors or developing closer relationships with them were more likely to (a) complete their program and (b) have a shorter time to degree completion period, than students without a good relationship with their advisor. Figure 7 shows the 2008 average time to degree completion by discipline (Cohen, 2010), which could be indicative of the faculty-student advisor relationship. Students in the hard sciences who, according to research findings, have a close relationship with their advisor have a shorter time to degree completion time than students in the humanities

who typically have distant relationships with their advisors. These findings suggest that the faculty-student advisor relationship has an impact on the motivation of students and that particularly, a student's academic discipline, as a result of the advising culture, can have an impact on the motivation of a student to participate in and complete a teaching-focused FFPP. FFPP developers should consider this in program development by ensuring that programs are designed with elements to aid in the feeling and development of close relations, much like the faculty-advisor relationships in the hard sciences, in an effort to positively affect the quality of participant motivation.
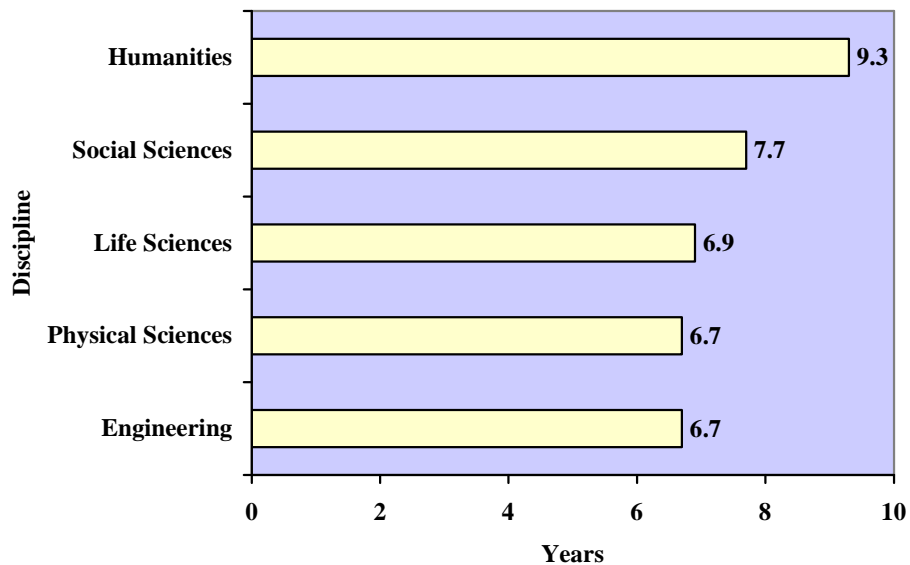
Figure 7. 2008 Average Time to Completion of Ph.D. Degree (Cohen, 2010).

Qualitative Findings

The purpose of the qualitative component was to examine the characteristics of a teaching-focused FFPP at Texas A&M University to reveal the presence or absence of program characteristics designed to satisfy innate psychological needs for competence, relatedness, and autonomy, all of which are deemed necessary to improve the quality of motivation and enhance socialization. "The concept of human needs turns out to be extremely useful because it provides a means of understanding how various social forces and interpersonal environments affect autonomous versus controlled motivation" (Deci & Ryan, 2008, p. 183). Findings suggested that overall, the Graduate Teaching Academy (GTA) program possesses some characteristics designed to satisfy the need for competence, with a few exceptions and only partially satisfies the need for relatedness. In addition, findings reveal that as currently structured, the GTA program cannot feasibly satisfy the need for autonomy because this stage of socialization typically occurs after graduate school.

With regard to competence, participants articulated three aspects of competence: (a) practical teaching skills, (b) knowledge of the professional path, and (c) resources. Participants stated that the first aspect of competence, practical teaching skills, was met; however, the GTA fell short in meeting the knowledge of the professional path and resources aspects of competence. A practical teaching skill refers to aspects that are directly related to the classroom, such as syllabus design or utilizing technology in the classroom. The majority of seminar topics offered during this GTA program year were practical in nature, corroborating the findings. Seminar topics included course design,

technology in the classroom, assessment, and syllabus design. These findings suggest that FFPP developers have correctly designed the program to satisfy the practical teaching skills aspect of the need for competence but should continue to work to find ways to satisfy the aspects of professional path and resources.

Conversely, the professional path and resources aspects of competence were not met. Findings with regard to professional path can similarly be attributed to the seminar topics offered during the academic year. As previously discussed, the majority of seminar topics focused on the development of practical teaching skills and addressed the professional path aspect only minimally. Failure to meet the resource aspect of the need for competence is related to either seminar speakers not having resources for participants, not providing copies of their speaking materials, such as their PowerPoint presentations, to the participants at the end of the seminar, or GTA leaders failing to make materials, utilized during a seminar, available to participants. As a result, a need for development in this area was identified.

These findings imply that teaching resources or materials are considered by participants to be a valuable part of their socialization. In fully meeting the need for competence, FFPP designers should ensure that participants walk away from each seminar with the ability to later refer back to information that was provided during a seminar. FFPP designers could consider making handouts a requirement of speakers or could create basic, foundational teaching tools handouts related to specific seminar topics for dissemination.

With regard to relatedness, the findings reveal that overall, the GTA's design is somewhat effective in satisfying this need; however, inconsistencies among participants were uncovered. Relatedness is concerned with a feeling of connection or belonging, which is characteristic of a learning community, as described by the Center for the Integration of Research, Teaching, and Learning (CIRTL) (The Board of Regents of the University of Wisconsin System, 2010). The GTA positions itself as a learning community. Participants described a learning community as possessing three characteristics: a diverse group of people, coming together, to learn something specific. Differing from this description, participants described that the GTA only possessed the diversity characteristic, leaving out the aspects of coming together and learning something specific aspects.

The aspects of coming together and learning something specific should be considered salient to satisfying the need for relatedness as these aspects yield a sense of community. The coming together is concerned with physically coming together or communing with others and the learning something specific implies solidarity in thinking or a sharing of mind. Some participants were able to achieve these ideals, while others were not; this suggests that in satisfying this need for all participants, program changes are necessary. Changes might include group work in the development of teaching artifacts such as a syllabus. This would enable group members to come together and learn through the sharing of seminar information and personal experiences, to develop something (the syllabus) specific.

In relation to the program structure, these findings are likely accurate. GTA participants are placed into groups that are led by group leaders who are also graduate student volunteers. Knowingly or unknowingly, as a result of their leadership position, group leaders carry the primary responsibility of facilitating that sense of community or relatedness. As a result of academic obligations, leadership abilities, or lack of training, among other possibilities, some group leaders may be more or less effective than others at leading, resulting in a different program experience for participants. This validates the inconsistencies found among participant experiences. Fundamentally, this means that a consistent sense of belonging is lacking within the GTA program and to satisfy the need for relatedness, the program structure should be modified to incorporate activities that promote community. For example, GTA participants could work collaboratively on a research project to produce a research study on a specified teaching topic or participants could work collaboratively on the development of a course. These activities would foster a sense of community and relationship because participants would be required to spend time together. Participants would be able to share and learn from each other while getting to know each other better. Likewise, greater consistency in effective leadership is needed.

Through further analysis, connections between findings can be made. A connection between the gender and academic discipline variables, found within the quantitative component, and relatedness, found in the qualitative component, was found. Participants articulated the importance of relatedness in the qualitative piece, while in the quantitative piece relatedness was cited as reason for findings. This connection

reveals the importance of relatedness or relationship in affecting motivation to participate in and complete an FFPP.

Although the need for autonomy was not feasibly satisfied, a connection between an autonomy-supportive environment (qualitative) and institutional program structure (quantitative) can be made. The quality of motivation possessed by Colorado program participants was found to be lower than that of Texas participants. The findings revealed that program structure, or in the case of the Colorado program, too much structure, may have minimized feelings of autonomy and subsequently reduced the quality of participant motivation. As with relatedness, this connection reveals the importance of autonomy or an autonomy-supportive environment in fostering a higher quality of motivation. These connections help address the stated purpose to better understand factors that affect the quality of motivation and by giving consideration to these factors, suggestions for FFPP design can be made.

In addition, qualitative findings are consistent with those of the GTA program evaluation findings (See Appendix A). GTA program evaluation findings suggest that more emphasis is needed in the professional path area as no noteworthy change in level of participant understanding with regard to the professional path was identified from one semester to another. In other words, participants' level of understanding remained consistent at "moderate change in my understanding" from one semester to another. These findings align with those of the qualitative portion of this study which indicates that the professional path aspect of the need for competence was not met. As previously stated, both findings can be attributed to a greater number of seminar topics being

focused on practical teaching skills than on the professional path. The greater emphasis on practical teaching skills likely fostered these results, implying that a balance of emphasis is needed in regard to seminar topic.

Implications

Several implications about the preparation of future faculty can be made as a result of the findings. One implication is that participation in a future faculty preparation program can be affected by certain personal characteristics. Another implication is that participation can also be affected by certain programmatic characteristics. Still, another implication is that internalization is important in affecting behavior.

Personal Characteristics

In relation to participant personal characteristics, the findings showed a higher quality of motivation in female participants than males, meaning that females are the more likely FFPP participants. My perception here is that because women possess a personal desire for relationship or relatedness, as described by Brown and Gilligan (1993), their participation in an FFPP is more likely. Women are more likely than men to seek out opportunities or avenues to satisfy their desire to belong or to feel connected. This suggests that if FFPPs are more appropriately designed to enhance the socialization of future faculty, more female future faculty will be adequately socialized into a successful academic teaching career.

In relation to participant's academic discipline, participants from the science, technology, engineering, and mathematics (STEM) disciplines possessed a higher quality of motivation than non-STEM participants. In short, this means that students

from the STEM disciplines are the more likely FFPP completers than students from non-STEM disciplines. I attribute this to the faculty-student advisor relationship experienced by STEM students. Again, in the STEM disciplines, this relationship is characterized as having greater interaction and guidance, as well as more collaboration, creating a sense of connectedness. This connectedness speeds up the buy-in or internalization process, which shortens the time to degree completion. Essentially, STEM students more actively pursue socialization and success.

As identified in the findings, programmatic characteristics can also affect FFPP participation. Distinctively, Texas A&M FFPP participants possessed a higher quality of motivation than the University of Colorado-Boulder FFPP participants. This has implications that for particular reasons, TAMU program characteristics are preferred by FFPP participants. In review of the program characteristics, the CU program appeared to have a higher degree of structure than the TAMU program. The degree of structure found in the CU program likely increases the level of accountability and participant engagement resulting in feelings of stress or anxiety, thereby diminishing motivation. On the other hand, the degree of structure in the GTA program is minimal, promoting a feeling of comfort and minimizing stress, ultimately increasing motivation. In short, more structure may foster greater accountability, which may result in more stress and a lower quality of motivation. Less structure may reduce or eliminate stress, resulting in a feeling of comfort which may foster a higher quality of motivation.

These FFPP participants are graduate students already carrying a great deal of accountability and stress with regard to their academic program. As a result of differing

personalities and/or level of commitment, some may not be as willing or motivated about taking on added responsibilities. This may also explain the lower quality of motivation found in CU participants. Because of the structure of the TAMU program, accountability may be lessened because participants are reporting to peers instead of superiors. If an FFPP program does not significantly increase the stress or anxiety level for graduate students, they may be more inclined or motivated to voluntarily participate.

Programmatic Characteristics

The socialization process is described as "the process by which an individual achieves his [or her] identity within the group. The end product of the socialization process is the incorporation of group values and norms into the individual's self image" (Bragg, 1976, p. 6). Weidman, Twale, and Stein (2001), using the foundational definition of Brim (1966) suggested that socialization is more than knowledge and skills and to fully understand it, consideration must be given to the affective experiences of graduate students. This consideration will result in the "development of commitments to and identification with a particular profession, including its ethical practice" (p. 5). These descriptions claim that the skills, values, and norms viewed essential to effective college teaching must be integrated into future faculty in order for them to become effective college teachers. Participation in and completion of a teaching-focused FFPP is one way to facilitate the incorporation of such skills, values, and norms. This description elucidates the criticality of integration and internalization in effective socialization. Internalization is key because, according to self-determination theory, it fosters self-

regulation, and a self-regulated or self-determined behavior orientation promotes a higher quality of motivation (Williams, 2002).

To achieve a higher quality of motivation, the design of FFPPs should incorporate elements intended to advance internalization. Utilizing the tenets of self-determination theory as a premise to improve the quality of motivation and enhance socialization, internalization can be advanced through the satisfaction of as many or all three innate psychological needs. To review, the three psychological needs are the need for competence, relatedness, and autonomy. Competence is a felt sense of confidence and effectiveness, relatedness is a sense of membership and belonging, and autonomy is a sense of choice and self-endorsement. The implications of this study's findings are that needs can be satisfied as follows and that in doing so will have positive effects on the motivation and socialization of FFPP participants.

1. To satisfy the need for competence, practical teaching or instructional strategies should be incorporated (i.e., classroom management techniques);

2. To satisfy the need for relatedness, continuity in group work or collaboration should be incorporated; and

3. In satisfying the need for autonomy, elements designed to improve communication and promote feedback are necessary.

These implications support the findings of several other researchers providing recommendations for FFPP design. Austin (2002) recommends five elements essential to improving the design of future faculty preparation programs. They are: (a) regular mentoring, advising, and feedback; (b) structured opportunities to observe, meet, and

talk with peers; (c) opportunities to participate in diverse, developmentally oriented teaching activities; (d) information and guidance on all aspects of faculty responsibilities; and (e) regular and guided reflection. In addition, Nyquist, Woodford, and Rogers (2004) make similar recommendations; they suggest that effective FFPPs should: (a) provide future faculty with a more realistic, versatile notion of the responsibilities of the academic profession; (b) examine and expose future faculty to academic career paths; (c) provide faculty-student mentorships; (d) provide teaching experiences; and (e) provide opportunities for future faculty to engage in professional self-assessment (p. 212).

Discussion

Like schools or academic programs, and other social contexts, FFPPs play an important role in the development of motivation quality. "Just as individuals may become differently socialized because of differences in past experience, motivations, and capacities, so may they become differently socialized because of differences in the structure of the social settings in which they interact" (Wheeler, 1966. p. 54). Fundamentally, the design of an FFPP can enhance or weaken the socialization experience of future faculty, making them more or less adequately prepared to experience success in their college teaching career. As demonstrated by this study, a main tool affecting the socialization experience is motivation since motivation affects behavior. Walker and Symons (1997) define motivation as "the conditions and processes that activate, direct, and sustain behavior" (p. 4). Motivation affects whether a student

will participate in and complete a teaching-focused FFPP and personally integrate endorsed effective teaching concepts.

This study enables the implicit interaction between the individual (program participant), the environment (FFPP design), and quality of motivation to be made explicit. This interaction is similar to Bandura's (1986) reciprocal interaction model and with minor adjustments can adequately be depicted as such. Bandura, considered the father of social cognitive theory (SCT), suggests that a reciprocal relationship exists between each component (cognition/personal, environment, and behavior) in his model and that each component affects the other two components (Alderman, 2008). Similarly, the interaction between the elements affecting socialization can be depicted (Figure 8).
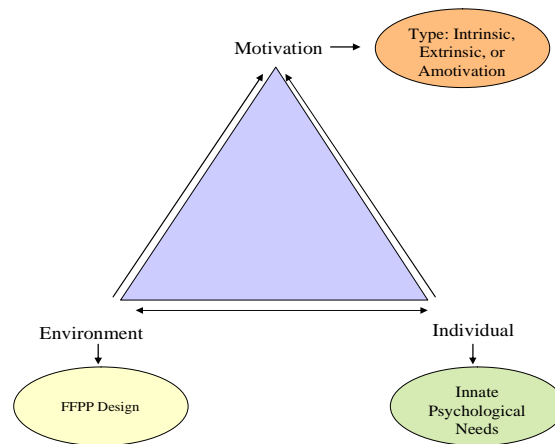
Figure 8. Reciprocal Interaction Model of Socialization (Revised From Bandura, 1986).

During this study, my thoughts about motivation and socialization evolved. In the beginning, my conception of how motivation type affected socialization could be

depicted in a linear fashion, which is quite different from my current conception.

Originally, my thoughts were simply that motivation type affects behavior, which

subsequently affects the socialization of future faculty (Figure 9). In other words,

relating to this study, a more autonomous motivation type leads to greater engagement

and participation in a teaching-focused FFPP. As a result of being more engaged,

socialization is enhanced and participants become more adequately prepared.

Motivation   ⟶   Behavior   ⟶   Socialization
of Future Faculty
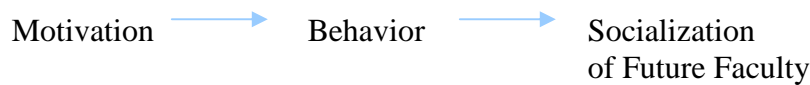
Figure 9. Beginning Conceptual Model of How Motivation Affects Socialization.

My original conception of how motivation affects socialization now appears

limited in that I now conceive motivation's effect on socialization in an iterative fashion.

Currently, understanding the importance of internalization and that environment or

context affects every aspect included in my beginning conceptual model, my current

thoughts should be depicted to include internalization (Figure 10).

Motivation ⟶ Internalization ⟶ Behavior ⟶ Socialization
of Future Faculty

Figure 10. Current Conceptual Model of How Motivation Affects Socialization.

My current thoughts are that the quality of motivation that an individual

possesses affects his or her ability to internalize, accept, or buy-in to new information.

That level of internalization affects type (action or inaction) and amount of behavior, which subsequently affects the socialization process. Relating my current conception to this study, if a teaching-focused FFPP participant develops an autonomous motivation type, he or she will more likely buy-in to or internalize the information that the FFPP is providing. As a result of internalization, an FFPP participant will likely become more engaged in the program, making program completion more likely. Completion of a teaching-focused FFPP implies that an individual will acquire more teaching tools and skills and develop a greater commitment to the teaching profession than non-completers of the program. Armed with more information, tools, and skills, these program completers are likely more adequately prepared and socialized as effective college teachers.

From my perspective, this process becomes iterative because as socialization, which is the last step in the process, is enhanced, quality of motivation, which is the first step in the process, is also enhanced. The cycle of affecting socialization begins again. As previously mentioned, context or environment is important to this process and can affect each element in the process. In other words, context or environment, which can be either internal or external, can influence each element directly or indirectly. Figure 11 more accurately and comprehensively depicts my current conception of how all process elements interact to affect other process elements.
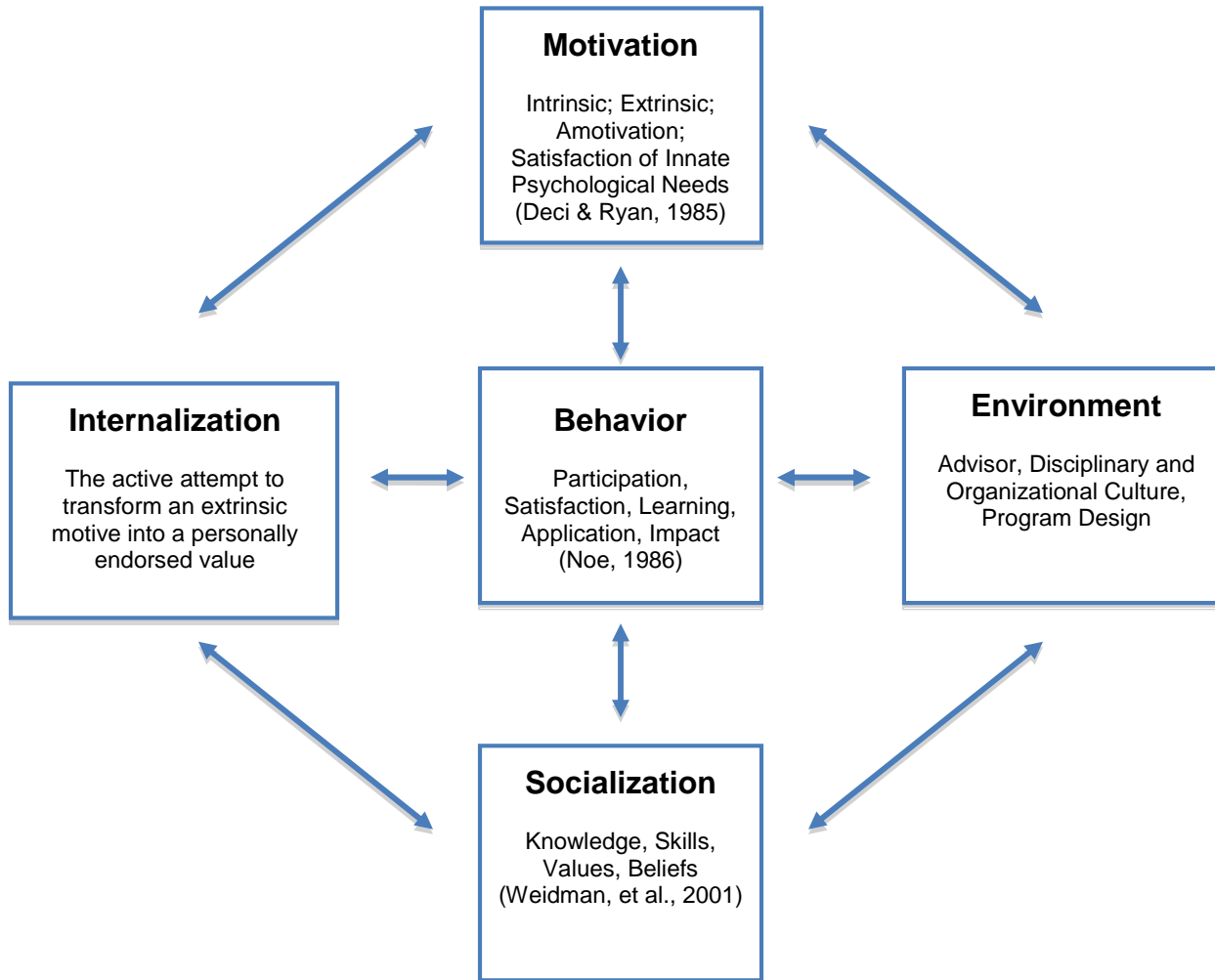
Figure 11. Comprehensive Conceptual Model of How Elements Interact to Affect Socialization.

The presence of elements designed to satisfy psychological needs produces personal buy-in (internalization) and personal buy-in produces self-regulated or autonomous behavior, which is comprised of a higher quality of intrinsic motivation. Through the incorporation of such elements, FFPP participants would be behaving or participating in accordance with their personal desires. In other words, people are doing what they personally want to do; they are behaving autonomously, and when personal desires and program goals align, the socialization process is enhanced. "When autonomous, people are fully willing to do what they are doing, and they embrace the activity with a sense of interest and commitment. Their actions emanate from their true sense of self, so they are being authentic" (Deci & Flaste, 1995, p. 2).

The implications of this study are especially important because they provide knowledge about the impact that motivation has on behavior and the socialization of future faculty, how an FFPP can affect that motivation, and how each play a part in the effectiveness of future practice.

> When decision makers understand that people can be motivated in either autonomous or controlled ways, and that systems, organizations, and individuals can promote motivation in either autonomy-supportive or controlling ways, they can create policies that are more oriented toward supporting autonomy than toward controlling behavior. Countless decisions get made, in the federal, state, and local governments, as well as in public and private corporations, that profoundly affect people's lives. By thinking about the issues from the perspective of autonomy support rather than control, the decisions will be different, and the effects on people's lives will be different as well. (Deci & Flaste, 1995, p. 60)

This study helps FFPP developers understand that in order for the valuable information provided by their programs to be heard, there must be participants. By thinking about the development of their program from the perspective of autonomy support rather than

control, FFPP developers should design programs differently to affect people differently (quality of motivation) and increase participation. Motivation is salient to socialization and should, therefore, be regarded as such. Alderman (2008) shows support for the importance and cultivation of motivation to affect socialization in the statement, "a primary assertion in this text is that motivation has to be explicitly addressed as part of instruction and socialization rather than treated as a by-product" (Alderman, 2008, p. 19).

An autonomy supportive environment is one that is characterized by responsibility and choice. According to Williams (2002), in an autonomy supportive environment, a teacher will interact more with a student, become aware of and give consideration to the perspective of the student, encourage a student to take responsibility for his or her learning, and will provide opportunities for choice with regard to learning. In creating an autonomy supportive environment, I recommend that FFPP developers fashion program aspects allowing participants to state their personal learning goals so that a plan for achieving those goals can be developed collaboratively by the participant and program leaders, diminishing the prescription-based learning model and permitting choice in the way goals are achieved. In addition, I recommend that FFPP developers include more opportunities for mentoring and feedback in FFPPs in an effort to heighten interaction, connection, and autonomy and to minimize feelings of disconnectedness.

In addressing the challenge to improve undergraduate education and to change the overall value perspective of teaching, the socialization of future faculty should be considered. Bess (1997) states, "in addition to changing the internal structure of colleges

and universities to reflect teaching needs, the degree requirements for becoming and remaining a teacher must be significantly revised, as must the patterns of socialization during graduate study" (p. 431). "How to break into the mutually reinforcing hold that culture, structure, and personality have on the traditional faculty member's orientation to teaching calls for an answer with which change agents in all environments continually struggle" (Bess, 1997, p. 436). This study provides a suggestion for answering this "how" question which is through motivation, adequate preparation, and enhanced socialization.

A result of an enhanced socialization process is the production of a generation of effective college teachers described by Bess (1997) as "individuals who are willing to take on this less socially rewarded role and who are likely to find satisfaction in it" (p. 432). It is predicted that these faculty members will possess experience with many innovative and effective teaching tools along with an internalized value for teaching. In addition, as a result of their success, these faculty members will be motivated to improve upon and perpetuate the effective socialization process they experienced, making them the change agents needed to meet higher education's existing challenge.

Recommendations for Further Research

I have two recommendations for further research. First, this study could be enhanced through a longitudinal research process so that participants can be followed through graduation and first career assignment, permitting the continued evaluation of participants beyond graduate school. This study would be important to assess the effectiveness of participants' socialization and success as a result of participation in a

teaching-focused future faculty preparation program adequately designed to satisfy innate psychological needs.

Second, this study could be replicated with an additional variable such as year in graduate school or number of graduate semesters completed to enable a comparison in motivation type between graduate students at the beginning and end of their academic program. This study would be important to aid in the further development of adequate teaching-focused future faculty preparation programs. This variable may reveal that to enhance the socialization process, certain program characteristics should only be provided to certain program participants during a certain time in their academic career. This concept is related to readiness to learn.

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APPENDIX A

GRADUATE TEACHING ACADEMY PROGRAM OVERVIEW

GRADUATE TEACHING ACADEMY FELLOW PROGRAM

SUMMARY OF EVALUATION FINDINGS

This document serves as the evaluation report for the Graduate Teaching Academy (GTA) program at Texas A&M University (TAMU). This document provides a description of the program being evaluated, the purpose of the evaluation, data collection and analysis methods, and evaluation results. This document also provides information on lessons learned.

This report is intended for organizations with a significant stake in the GTA, including the GTA's steering committee (GTASC), TAMU's Center for Teaching Excellence (CTE), and the Center for the Integration of Research, Teaching, and Learning at Texas A&M University (TAMU-CIRTL).

To achieve its program goals, TAMU-CIRTL collaborates several programs, one of which is the Graduate Teaching Academy that is sponsored by the Office of Graduate Studies (OGS) and the Center for Teaching Excellence. The GTA's design is that of a tiered approach, consisting of three levels: (a) the GTA Fellow Program level, (b) the GTA Senior Fellow Program level (a.k.a. the GTA II), and (c) the CIRTL Fellow Program level. This report focuses solely on the first level, the GTA Fellow Program, and its graduate student participants.

The Purpose of the Fellow Program (GTA I)

The GTA is a program focused on the development of effective teaching practices to enhance the current and future experiences of graduates-through-faculty. This one-year program includes a seminar series by professors recognized for excellence in teaching, hands-on seminars, and small group discussions. Participants may enter the GTA at the beginning of the fall or spring semester. Participants may participate in the GTA program by only attending a few seminars of personal interest or by investing more effort toward completing specific program requirements necessary for the achievement of the certification designation as a "GTA Fellow." For graduate students who recognize their future career will include teaching in a college or university setting, the GTA provides a first step toward the development and improvement of future practice.

During the summer of 2009, the GTASC assembled to develop GTA program outcomes for the 2009-2010 academic year. This was the first year that the GTASC structured and aligned the GTA program to achieve established program outcomes. During the 2009-2010 academic year, the TAMU-CIRTL team evaluated a 20 session (12 sessions during the fall semester and eight sessions during the spring semester), year-long seminar series designed to provide graduates-through-faculty an overview of both teaching practices and career development, in preparation for faculty work. Individual seminars included facets of professional or career development, course

design, assessment techniques, and pedagogical practices. The newly established program outcomes included the following:

1. **Professional Path**
   a. Participants shall identify professional paths leading to faculty (tenured) positions. This outcome will expose participants to:
      1. Differences by institution (e.g., Research extensive, community college, small liberal arts, etc.) and
      2. Differences by faculty position (e.g., Instructor, Professor-research intensive, Professor-teaching intensive, Clinical professor, etc.)
   b. Participants will also be able to map a personal, discipline-specific professional path, enabling them to:
      1. Identify strategies to maximize graduate school experiences to be well positioned for the job search and
      2. Identify tenure and promotion activities
2. **Course Design**
   a. Participants will select course goals and learning outcomes;
   b. Select a teaching method that is appropriate for a particular setting such as a lab, a course, or a recitation, and
   c. Design a syllabus
3. **Assessment**
   a. Participants shall describe formative assessment strategies;
   b. Describe summative assessment strategies;
   c. Describe how to assess different class types, such as a lab, an introductory class, an advanced class, etc., and
   d. Demonstrate an understanding of how context affects assessment (e.g., student learning style, student profile, discipline specific)
4. **Pedagogy**
   a. Participants will identify a learner's prior knowledge;
   b. Describe student learning styles;
   c. Describe different teaching strategies, such as group work, lecturing, or active learning;
   d. Describe how to create an inclusive environment, and
   e. Describe how to teach with technology (e.g., Vista course management system or clickers)

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Evaluation Purpose

</div>

According to one model (Connolly & Millar, 2006), the impact of a program on its participants can be measured at five different levels: ***participation, satisfaction, learning, application,*** and ***overall impact***. This evaluation focused on three levels of program impact data: (a) participation, (b) satisfaction, and (c) learning. The following evaluation questions were keyed to the levels of impact:

1. Who is participating in the GTA? *(Participation)*
2. What program experiences did participants like or dislike? *(Satisfaction)*
3. To what extent did participants' knowledge and understanding of GTA program seminar topics increase? *(Learning)*

In addition, this evaluation examined the degree to which newly developed and implemented GTA program outcomes were achieved during the 2009-2010 academic year.

Methods

During the 2009-2010 academic year, 20 program seminars/discussions were evaluated: 12 during the fall semester and 8 during the spring semester (see Workshop Topics and Dates).

Data Collection

To collect data that would address our evaluation questions, we developed two survey questionnaires containing Likert-like items: an 8-item questionnaire administered at the conclusion of each GTA-offered seminar/discussion, and a 24-item end-of-semester program survey administered at the end of each (fall and spring) semester (See Supporting Documents for instruments). The 8-item survey was developed by the evaluator in collaboration with the GTASC, and the 24-item end-of-semester program survey was developed by the researcher in collaboration with CIRTL Network leaders, TAMU-CIRTL leaders, the CTE, and the GTASC. Some survey items asked for a participant's self-report of gains in understanding and confidence in abilities with regard to teaching. Other survey items inquired about seminar content, participant satisfaction, race/ ethnicity, academic standing, and college/department enrolled. The 8-item, seminar survey was administered to all GTA seminar participants via eLearning. eLearning is the course management system adopted by TAMU. The 24-item, end-of-semester survey was administered to all GTA participants via SurveyMonkey, a user friendly, online survey tool. Attendance data were obtained from weekly attendance reports collected by the GTASC.

Data Sources

We used all eLearning registered GTA participants at TAMU in College Station, Texas. eLearning is the course management system adopted by TAMU. Sources were graduate students, both male and female, ages 18+, and of diverse racial and academic groups. Gender, age, race, and academic discipline were not factors in the selection of data sources, as GTA participation is voluntary and open to all TAMU graduate students.

Data Analysis

In keeping with the simplest approach to analyzing scaled data, the 8-item seminar survey data were extracted from eLearning and downloaded into an Excel spreadsheet. Survey responses were converted from text to the corresponding numeric value, enabling frequencies to be calculated. Data were exported from Excel into SPSS for calculation. The 24-item end of semester survey data were analyzed through the SurveyMonkey data analysis system. This system reports item frequencies, as well as descriptive statistics.

Findings

Level of Impact: Participation

In response to the first evaluation question, "Who is participating in the GTA?" that addresses the first or participation level of program impact, several observations were made. With respect to collective attendance for the year, we found that the fall workshops had 539 participants, and the spring events had 237 participants, for a total of 776. This total is comprised of 70 unique or different people attending 776 times collectively. Participant numbers per session ranged from 21 to 57.

Number of Session Participants by Semester:
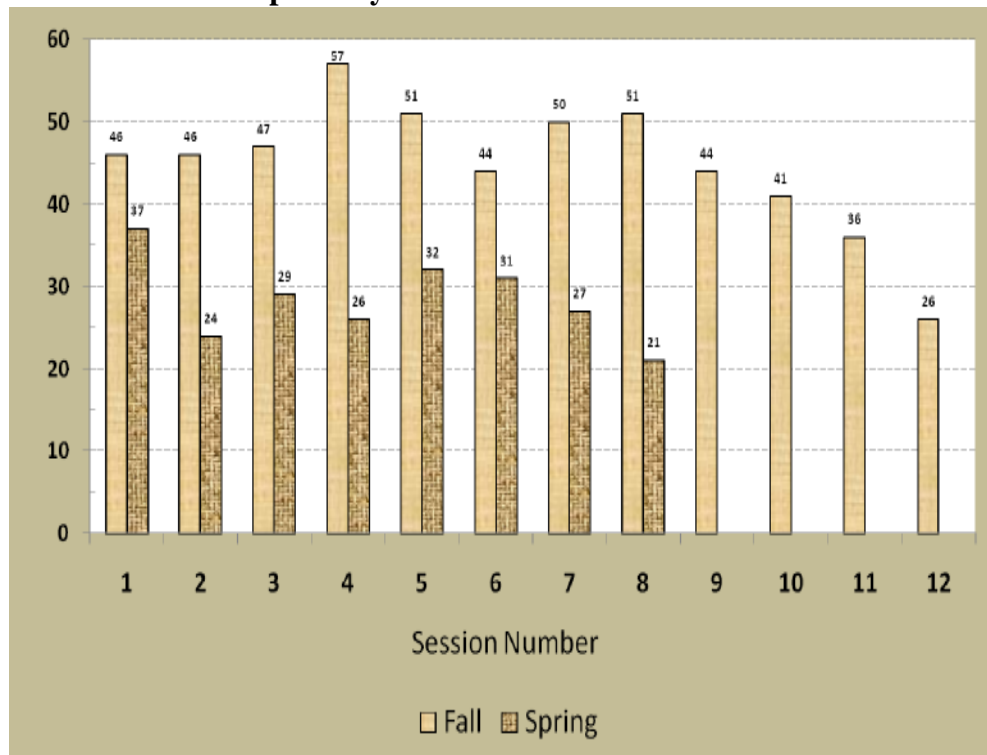
With respect to representation of TAMU colleges, we found that the majority of participants were Ph.D. students, primarily from three colleges; (a) Agriculture & Life Sciences, (b) Engineering, and (c) Education and Human Development. There were seven other colleges represented by GTA participants. In order of highest representation, they were (a) Geosciences; (b) Veterinary Medicine and Biomedical Science; (c) Liberal Arts; (d) Architecture; (e) Science; (f) Business; and (g) Government and Public Policy. In addition, as the findings indicate, participants were primarily from non-STEM academic disciplines (see STEM Disciplines at TAMU).

Participants by College (The Top Three):
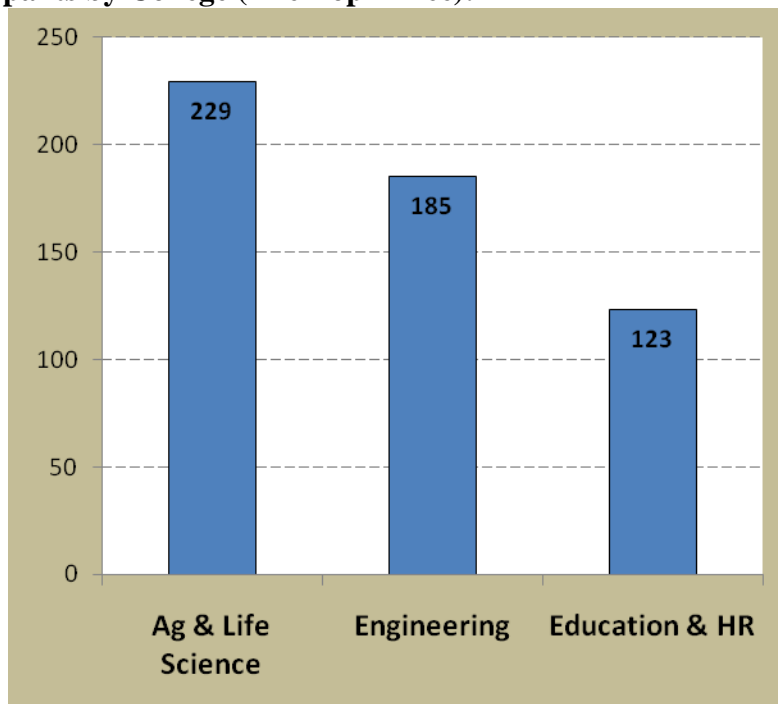
Participants by College (The Other Seven):
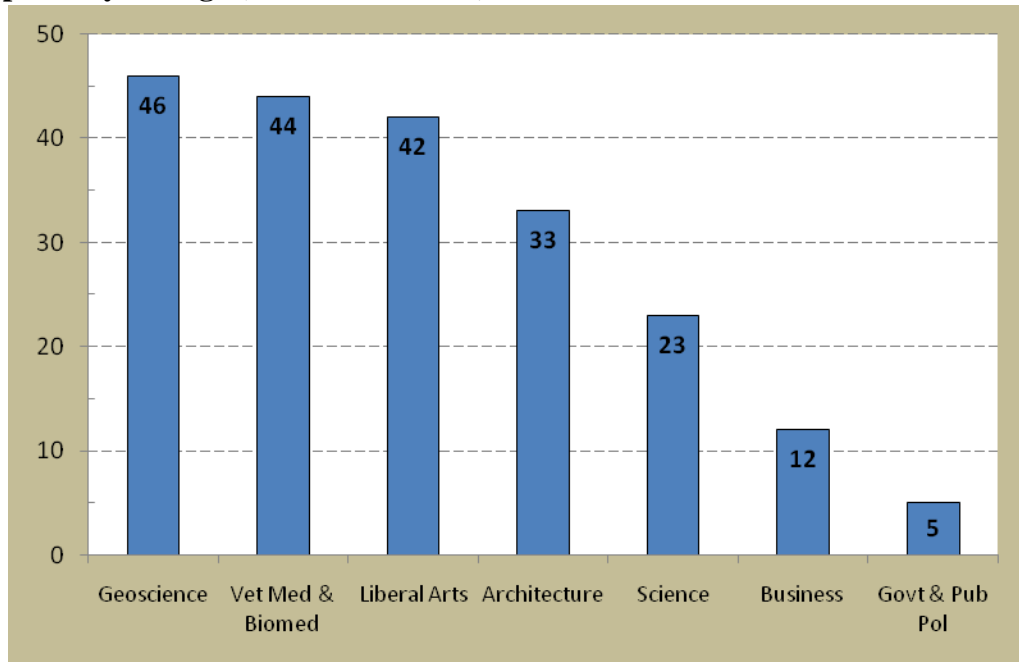
Participants by STEM Status:
(Agriculture and Life Sciences Not Included)
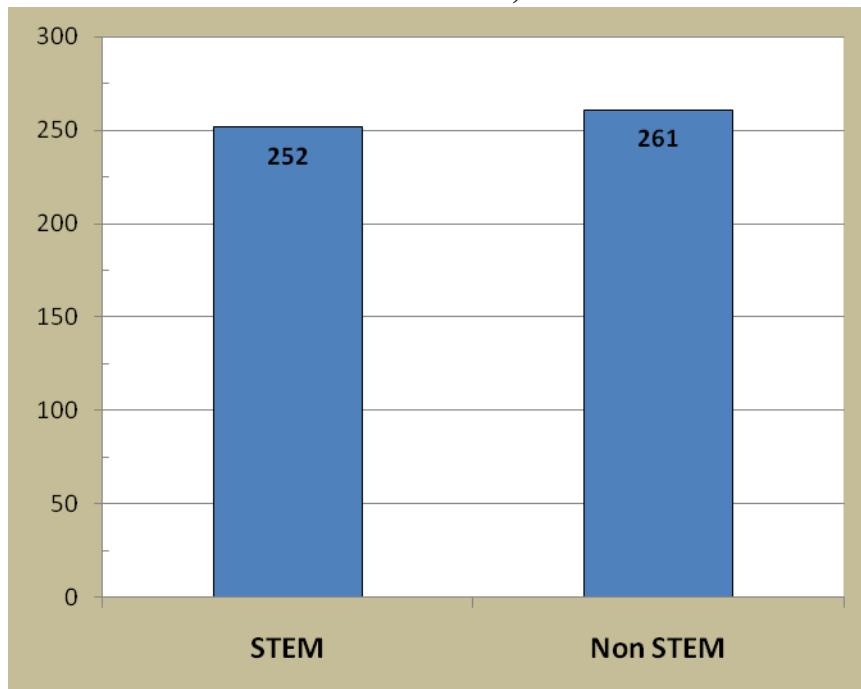
Participants by Academic Status:
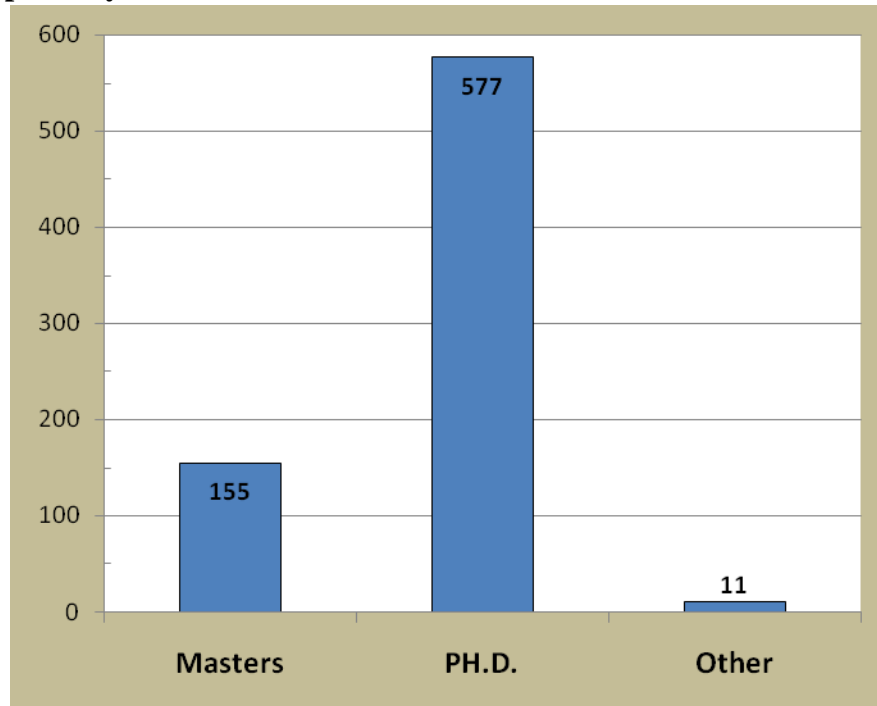
Level of Impact: Satisfaction

       Participant satisfaction data were collected from the 8-item questionnaire administered at the conclusion of each GTA-offered seminar or discussion. With regard to the second evaluation question, "What program experiences did participants like or dislike?" that addresses the second or satisfaction level of program impact, we found that overall, participants were satisfied (58%) with program seminars (Item #7 of the 8-item survey).

Overall Level of Satisfaction
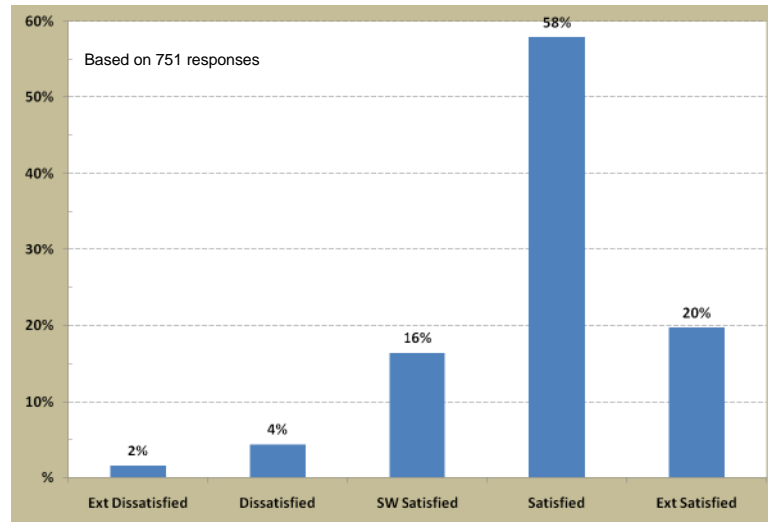
The data show that STEM students expressed greater satisfaction (61%) with seminars than non-STEM students (55%).

Overall Level of Satisfaction
(disaggregated by STEM status)
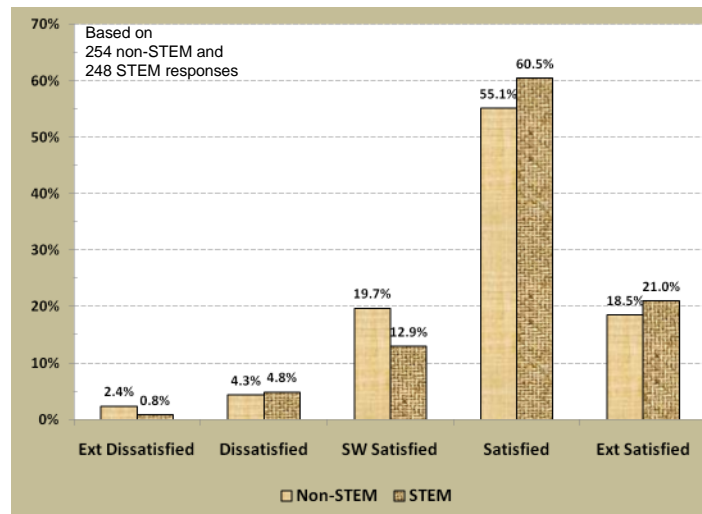
Chi- square analysis: No significant difference – Statistical Independence

Additionally, the data show that participants attending spring seminars were slightly more satisfied (59%) than those attending fall events (57%).
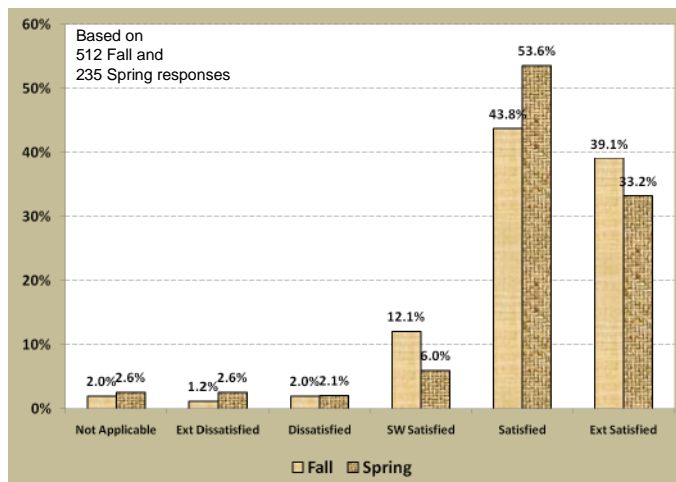
Overall Level of Satisfaction
(disaggregated by Semester)

Based on
517 Fall and
234 Spring responses

	Ext Dissatisfied	Dissatisfied	SW Satisfied	Satisfied	Ext Satisfied
Fall	0.021	0.046	0.161	0.574	0.187
Spring	0.004	0.038	0.171	0.59	0.197

□ Fall ▨ Spring
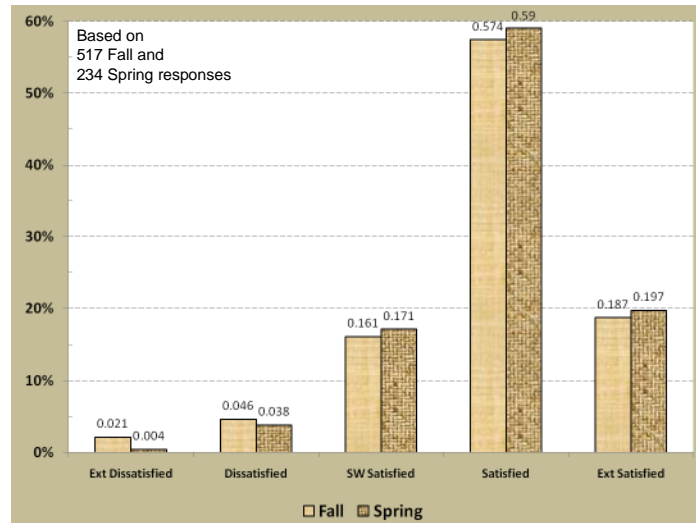
Chi- square analysis: No significant difference – Statistical Independence

In addition to overall participant satisfaction, we looked at participant satisfaction with certain seminar features, such as seminar location, content, materials, time/length of session, and activities. The data from item #6 of the 8-item survey show that participants were more satisfied with spring seminar location(s) (54%) than with the fall seminar location(s) (44%). This difference is likely the result of campus construction and seasonal weather.

Level of Satisfaction: Location
(disaggregated by Semester)

Chi- square analysis: Significant difference (*p < 0.023*) – Statistical Dependence

The data show that STEM students expressed greater satisfaction with the seminar location(s) (58%) than non-STEM students (41%).
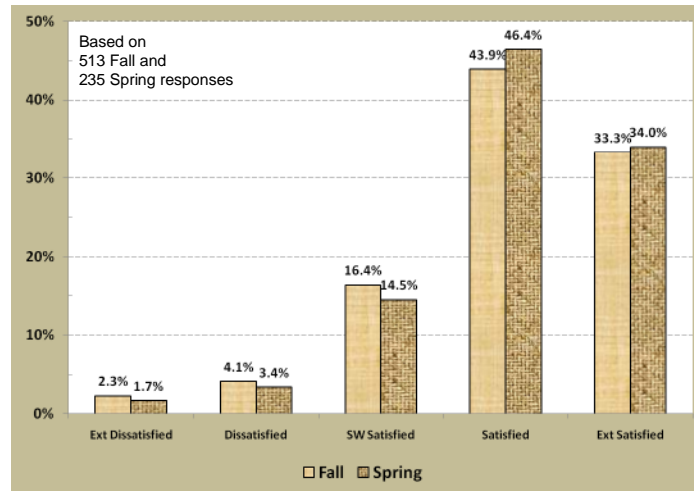
Level of Satisfaction: Location
(disaggregated by STEM status)
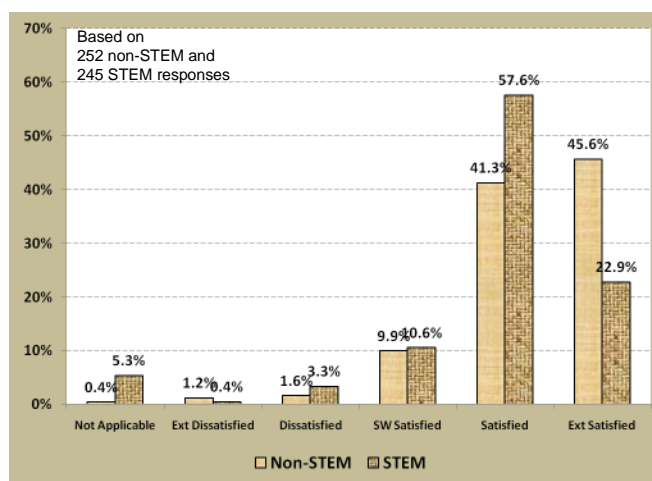
Chi- square analysis: Significant difference (*p < 0.001*) – Statistical Dependence

The data suggest that those attending spring semester seminars were more satisfied with seminar content (46%) than those attending fall semester events (44%).

Level of Satisfaction: Content
(disaggregated by Semester)

Chi- square analysis: No significant difference – Statistical Independence

In addition, the data suggest that STEM participants were more satisfied with seminar content (47%) than non-STEM participants (44%).

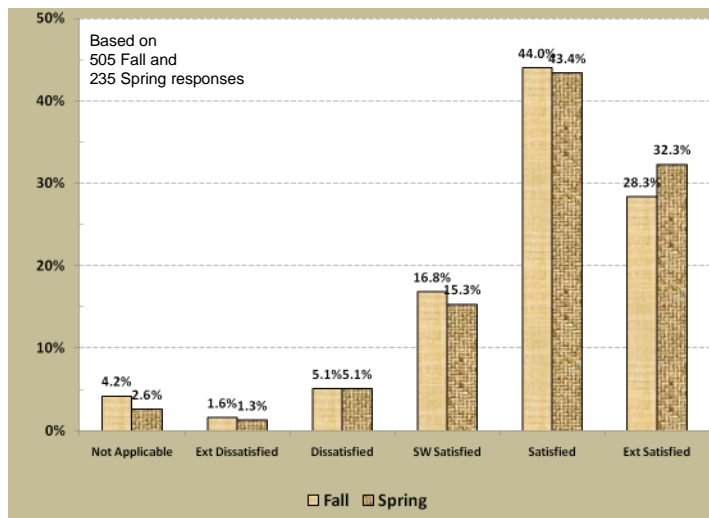## Level of Satisfaction: Content
(disaggregated by STEM status)
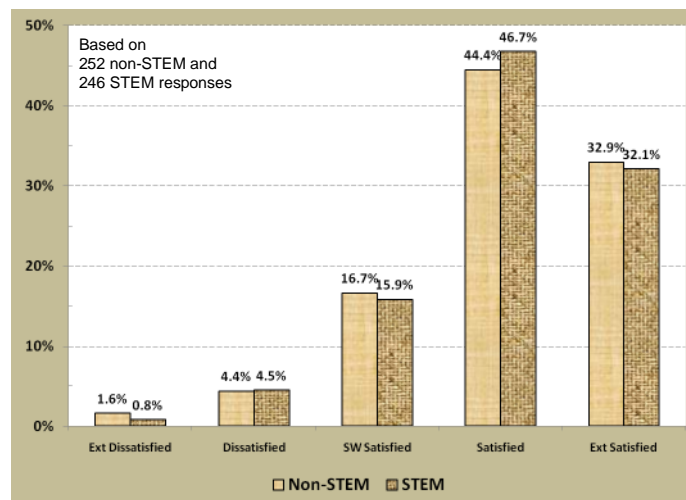
Chi- square analysis: No significant difference – Statistical Independence

According to the data, fall semester participants were slightly more satisfied with the seminar materials (44%) than spring semester participants (43%). This difference can

likely be attributed to the greater number of lecture-based seminars with reference materials during the fall semester versus the spring semester.
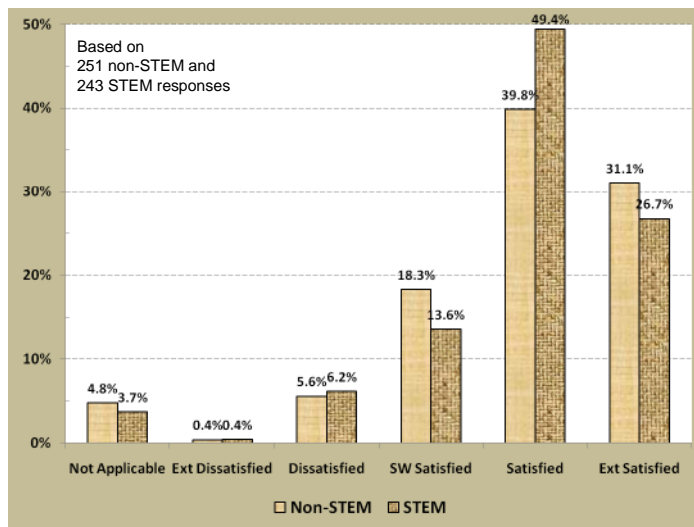
Level of Satisfaction: Materials
(disaggregated by Semester)

Chi- square analysis: No significant difference – Statistical Independence

The data show that STEM participants were more satisfied with seminar materials (49%) than non-STEM participants (40%).
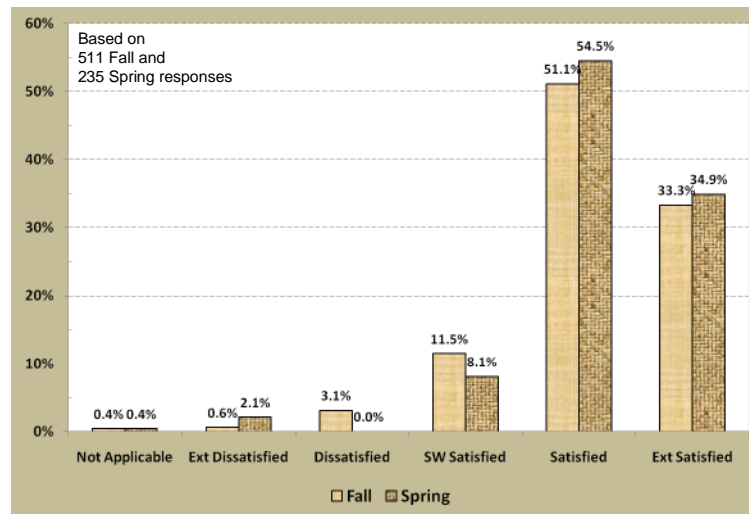
Level of Satisfaction: Materials
(disaggregated by STEM status)

Chi- square analysis: No significant difference – Statistical Independence

According to the data, participants attending spring seminars were more satisfied with seminar start time or seminar length (55%) than those attending fall events (51%).
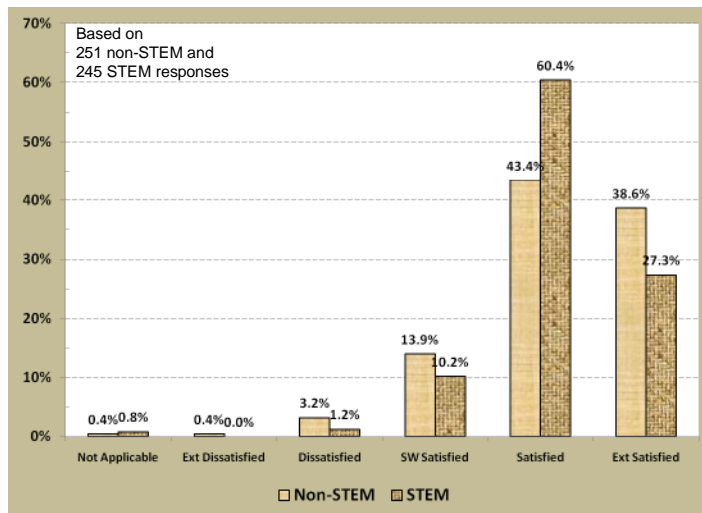
Level of Satisfaction: Time/Length of session
(disaggregated by Semester)

Chi- square analysis: Significant difference (*p=0.021*) – Statistical Dependence

Additionally, the data show that STEM students expressed greater satisfaction with seminar start time or seminar length (60%) than non-STEM students (43%).
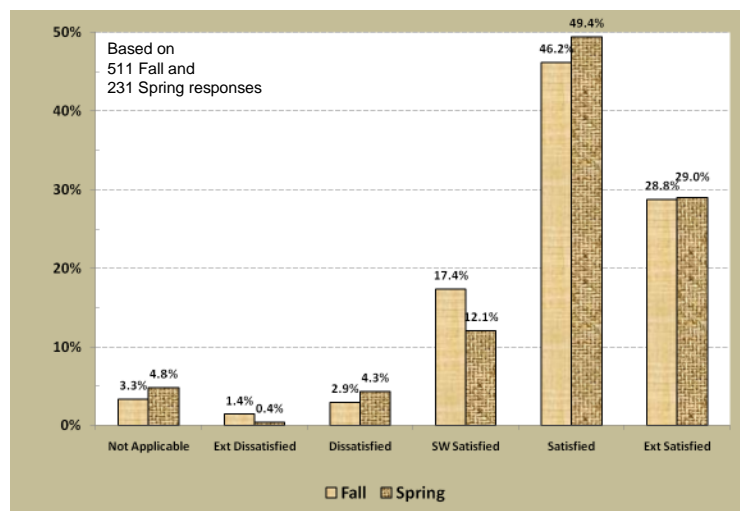
Level of Satisfaction: Time/Length of session
(disaggregated by STEM status)

Chi- square analysis: Significant difference (**p=0.005**) – Statistical Dependence

With regard to seminar activities, we found that those attending spring seminars were more satisfied with seminar activities (49%) than those attending fall seminars (46%). This is likely due to more spring semester activities being practical or hands-on versus lecture-based.
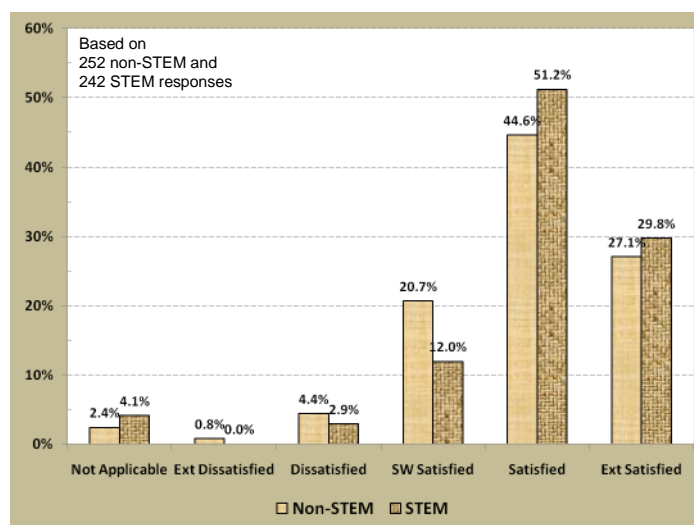
Level of Satisfaction: Activities
(disaggregated by Semester)

Chi- square analysis: No significant difference – Statistical Dependence

In addition, the data suggest that STEM participants were more satisfied with seminar activities (51%) then non-STEM participants (45%).

Level of Satisfaction: Activities
(disaggregated by STEM status)

Chi- square analysis: No significant difference – Statistical Dependence

The data indicate that as a whole, participants liked or were satisfied with each seminar aspect; but of these, participants were least satisfied with seminar materials. Participants, particularly STEM participants, showed a greater level of satisfaction with the GTA seminar series and specific seminar aspects during the spring semester in comparison to the fall semester. This small but significant increase in the level of overall satisfaction can be attributed to program changes resulting from participant feedback collected during the fall semester seminar series. Some program changes included more practical learning exercises during the spring semester, such as the development of a teaching philosophy, and a greater alignment with scheduled seminar topic and actual seminar speaker topic. As indicated in a separate report, this misalignment incited considerable frustration among participants with the program during the fall semester.

In further analysis of participant satisfaction, during the fall semester, we found that non-STEM participants were most satisfied with seminar session number 4 *(Course design),* reporting a mean score of 3.42 and STEM participants were most satisfied with seminar session number 11 *(Learning styles),* with a mean score of 3.30. Utilizing a Likert-like scale ranging from one (extremely dissatisfied) to five (extremely satisfied), participants described their level of satisfaction with these two seminars as "somewhat satisfied." Seminar session number 8 *(Summative assessment)* proved to be the least satisfying session of all fall seminars with a 2.12 mean score for non-STEM participants and a 2.00 mean score for STEM participants. Utilizing the same scale, this rating

average indicates that participants were "dissatisfied" with this seminar. As indicated in a separate report, participants reported a misalignment between scheduled seminar topics and what seminar speakers actually spoke on, as being the primary reason for a decline in satisfaction levels.

In review of the spring semester data, the non-STEM participants were most satisfied with seminar session number five *(Teaching philosophy)*, reporting a mean score of 3.50 while STEM participants were most satisfied with seminar session number 6 *(Curriculum vita)* with a mean score of 3.77. According to the satisfaction scale, these scores signify that participants described their level of satisfaction with these seminars as "somewhat satisfied." We also discovered that all participants were least satisfied with seminar session number 2 *(Class assessment)*. Non-STEM participants reported a mean score of 2.18 and STEM participants reported a mean score of 2.15 that equates to a "dissatisfied" level of satisfaction. Again, as indicated above, participants were dissatisfied with this seminar primarily for identical reasons reported for seminar session number 8 during the fall semester. It is important to note that mean scores do not include participants from the Agriculture and Life Sciences academic disciplines, as some departments are considered STEM and other departments are considered non-STEM disciplines.

Level of Impact: Learning

To determine participant learning gains, data were collected from both the 8-item questionnaire administered at the conclusion of each GTA-offered seminar or discussion session and the 24-item end-of-semester program survey administered at the end of each (fall and spring) semester. In response to the third evaluation question, "To what extent did participant's knowledge and understanding of GTA program seminar topics increase? that addresses the third or learning level of program impact, the data show that overall, participants learned quite a bit (53%) about seminar topics.

How much did you learn about the seminar topic?
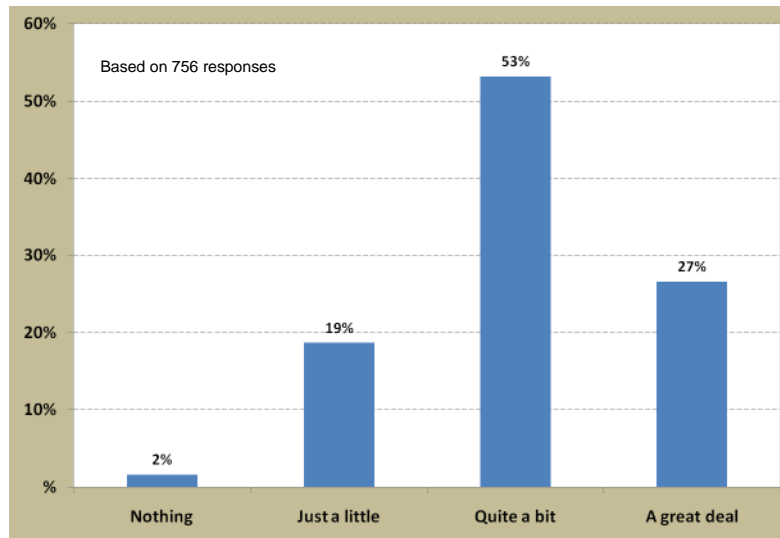
The data from item #2 of the 8-item survey show that 56% of spring participants reported they learned quite a bit about seminar topics, whereas fall participants reported 52%.

How much did you learn about the seminar topic?
(disaggregated by Semester)
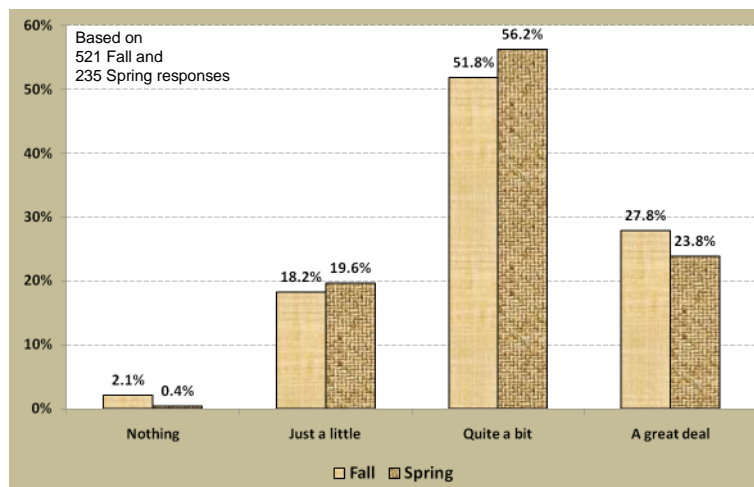
Chi- square analysis: No significant difference – Statistical independence

Disaggregated by STEM and non-STEM statuses, 56% of STEM classified participants and 50% of non-STEM classified participants reported they learned quite a bit about seminar topics.

How much did you learn about the seminar topic?
(disaggregated by STEM status)
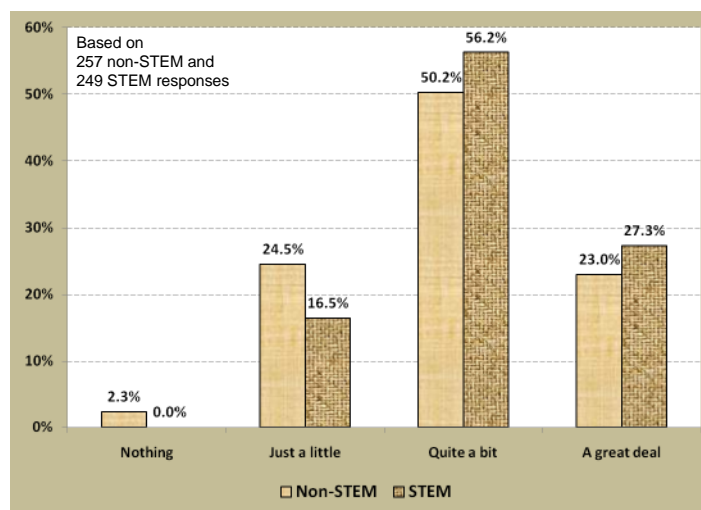
Chi- square analysis: Significant difference (*p = 0.009*) – Statistical Dependence

It is likely that because participants learned quite a bit about seminar topics, overall, they were able to achieve a fairly high level of understanding and confidence (53%) in explaining a seminar's teaching focus.

Understanding/confidence in explaining focus
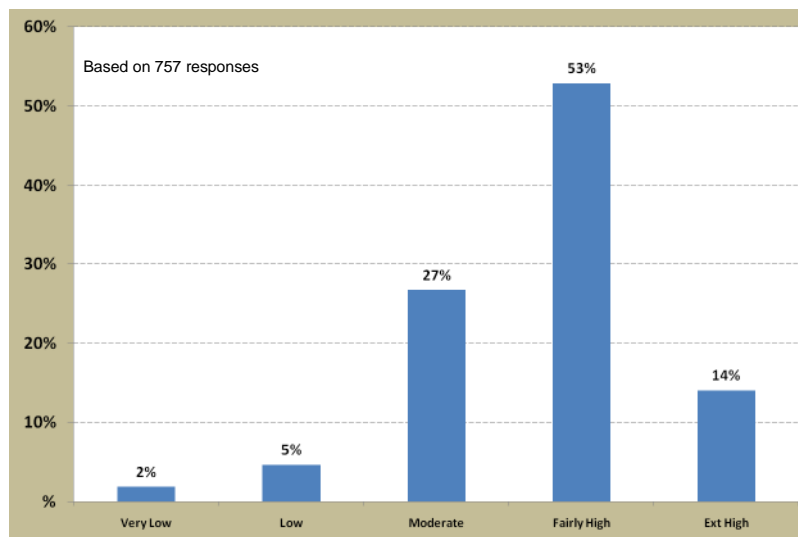
The data from item #3 of the 8-item survey show that 55% of spring semester participants reported a fairly high understanding of and confidence in explaining a seminars' teaching focus. The percentage slightly declines to 52% for fall semester participants.

Understanding/confidence in explaining focus
(disaggregated by Semester)
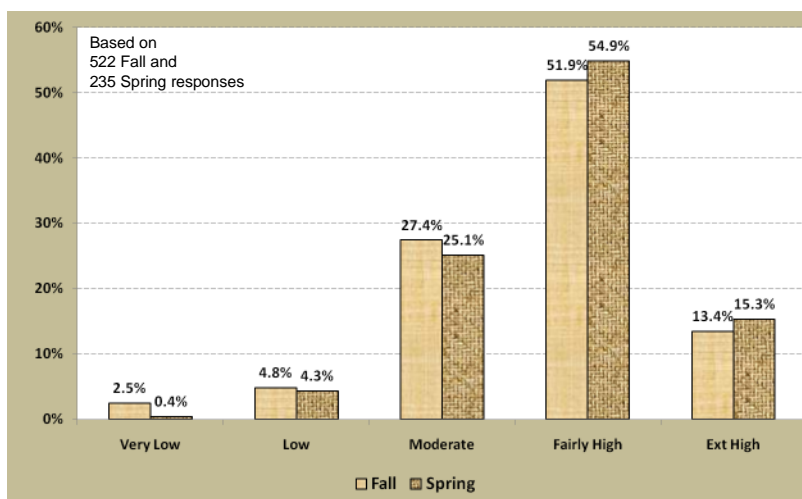
Chi- square analysis: No significant difference – Statistical independence

Disaggregated by STEM and non-STEM statuses, 57% of STEM classified participants reported a fairly high understanding of and confidence in explaining a seminars' teaching focus and non-STEM classified participants reported on the same at 44%.

Understanding/confidence in explaining focus
(disaggregated by STEM status)

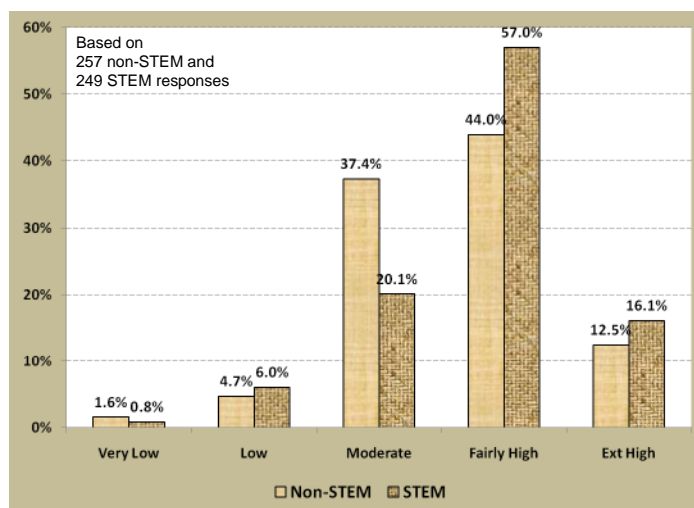Chi- square analysis: Significant difference (*p=0.001*) – Statistical Dependence

As previously mentioned, in addition to the three levels of program impact, this evaluation explored the degree to which newly developed and implemented GTA program outcomes were achieved during the 2009-2010 academic year. A total of 19 GTA participants responded to both end-of-semester surveys; 13 in the fall and 6 in the spring. In analysis of end-of-semester survey data exploring the achievement of program outcomes, and giving consideration to the low response rate and the fact that responder characteristics are likely different from the characteristics of non-responders, we discovered that the majority of participants felt that their understanding of program outcomes positively changed as a result of participation in the GTA program.

With regard to the professional path program outcome, we discovered, through item #5 of the 24-item survey, that change in level of understanding remained somewhat consistent between "minimal change in my understanding (1)" and "moderate change in my understanding (2)" from one semester to another. Three of six categories remained consistent between "minimal" and "moderate," while change in understanding about the remaining three categories (*distinguishing differences in types of academic positions, identifying the best work environment for you, and developing a teaching philosophy*) increased. Overall rating averages are higher in the spring than in the fall, with the exception of one topic area (*identifying common tenure and promotion expectations*). We attribute this decline in rating to the fact that a seminar on the topic of tenure and promotion was not offered during the spring semester.

Professional Path - Understanding

With respect to your professional path, please rate how much you UNDERSTAND about each of the following topics/area as a result of your participation in one or more of the GTA seminars:
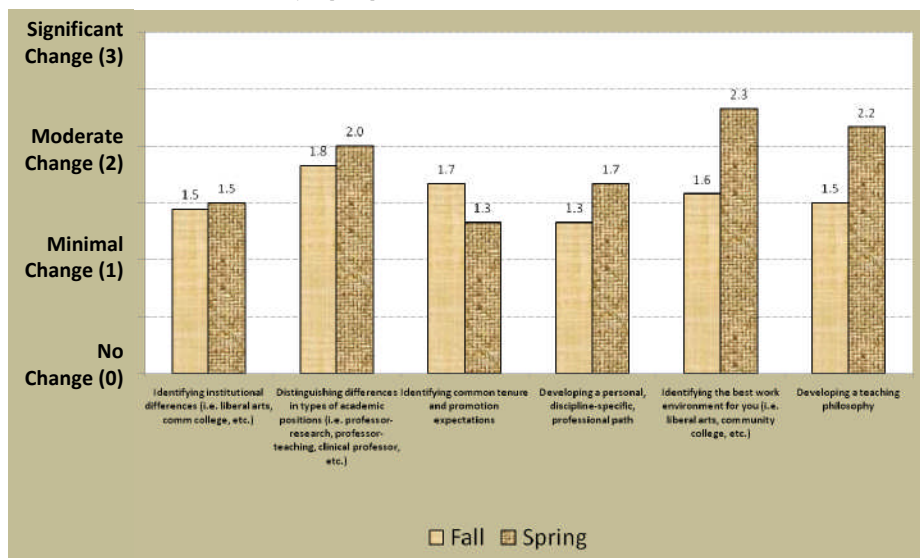
In contrast, the data from item #6 of the 24-item end-of-semester survey show that participant's confidence level in performing different professional path components changed from one semester to another. During the fall semester participants rated all seven component areas between "no change in my confidence (2)" and "somewhat increased my confidence (3)," whereas during the spring semester, 6 of 7 components were rated between "somewhat increased my confidence (3)" and "significantly increased my confidence (4)," with the remaining area *(identifying institutional differences)* retaining the same rating as that of the fall semester. Overall rating averages are higher in the spring than in the fall, indicating the higher confidence levels in performance during the spring semester. This is likely due to the reiteration of information leading to greater comprehension.

Professional Path – Confidence

With respect to your professional path, please indicate how your participation in one or more GTA seminars affected your
CONFIDENCE in performing the following:

Minimal changes were observed in understanding and confidence in designing a course over semesters. Level of change in understanding in all five categories during the fall semester was between "minimal (1)" and "moderate (2)" while participants described their change in understanding during the spring semester for all categories as being "moderate (2)." The rating average shows a consistent level of understanding, with only slight variations across topic areas, for each semester. Again, rating averages are higher in the spring than in the fall semester.
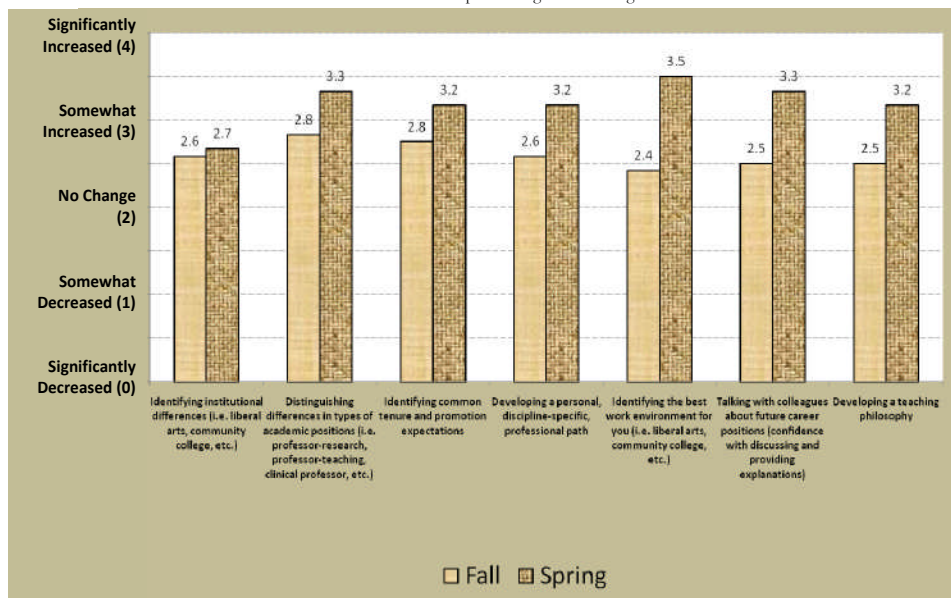
Course Design – Understanding

With respect to designing a course, please rate how much you UNDERSTAND about each of the following topics/areas as a result of your participation in one or more of the GTA seminars:

Confidence levels with designing a course resembled participant understanding with participants reporting that their level of confidence averaged at the high "no change (2)" level and low "somewhat increased (3)" level in all six categories during the fall semester and a "somewhat increased (3)" level in all categories during the spring semester. "Producing/Designing class materials" and "Creating an inclusive learning environment" remained at the "somewhat increased my confidence" level, over semesters. Again, rating averages are higher in the spring semester than in the fall, and similar to the levels of understanding, appear consistent in rating with slight variations, from one topic area to the next, for each semester. This outcome showed the greatest increases in understanding and confidence over other outcomes.
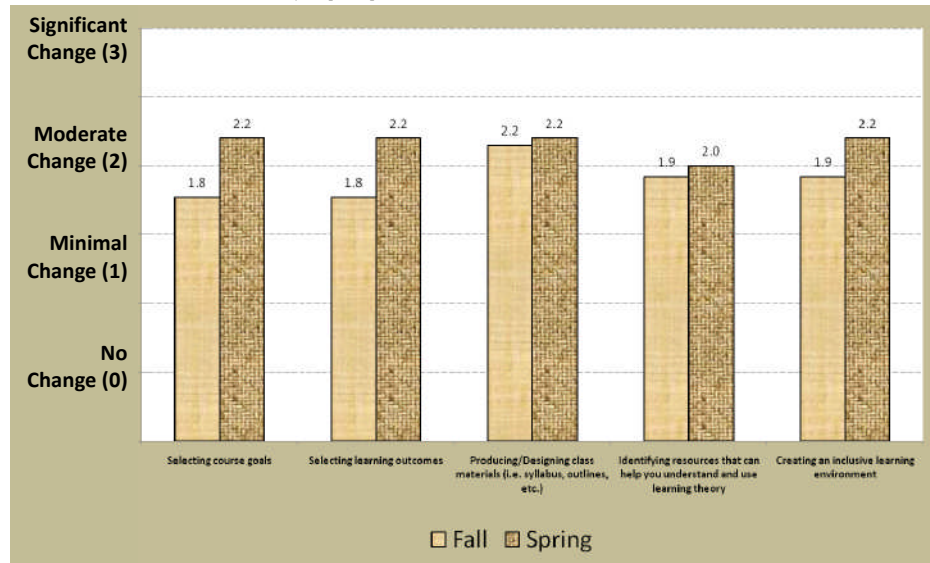
Course Design – Confidence

With respect to designing a course, please indicate how your participation in one or more GTA seminars affected your CONFIDENCE in performing the following:
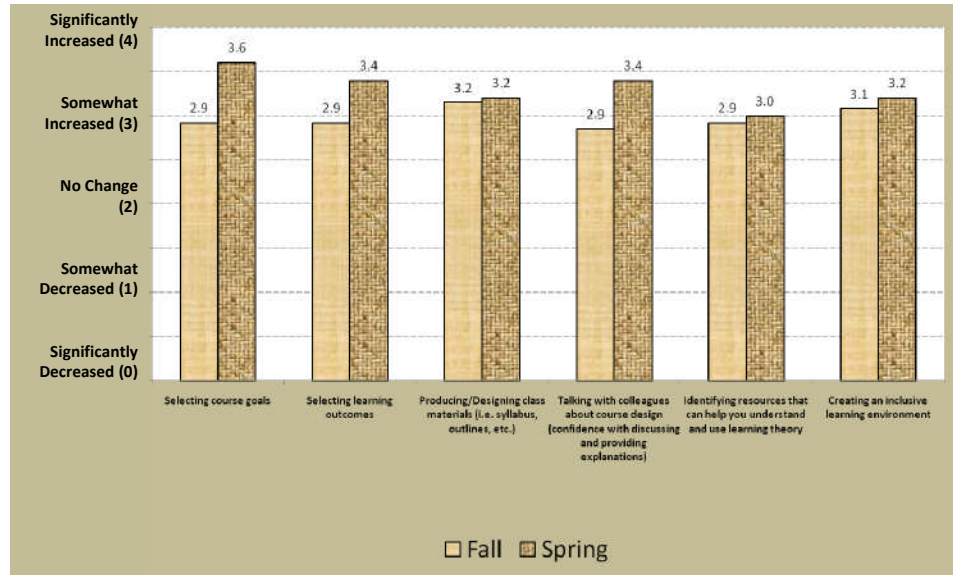
Assessing student learning is the third of four newly developed program outcomes for the 2009-2010 academic year. Comparing both academic semesters, we observed few differences in change in level of understanding among the different assessed elements associated with this outcome. Both fall and spring semesters reflect that participant's change in understanding was "minimal (1)" in all five assessed areas. In other words, when comparing participant's pre-GTA program participation assessment knowledge with post-GTA program participation assessment knowledge, there was minimal change in participant's understanding of assessing student learning.

Unlike preceding program outcomes, rating averages for this outcome are lower in the spring semester than in the fall, with one exception *(selecting appropriate assessment by course type)*. We attribute this overall difference in rating trend to a greater alignment between assessed areas and assessment focused seminar topics during the fall semester than in the spring.

Assessment – Understanding

With respect to assessing student learning, please rate how much you UNDERSTAND about each of the following topics/areas as a result of your participation in one or more of the GTA seminars:
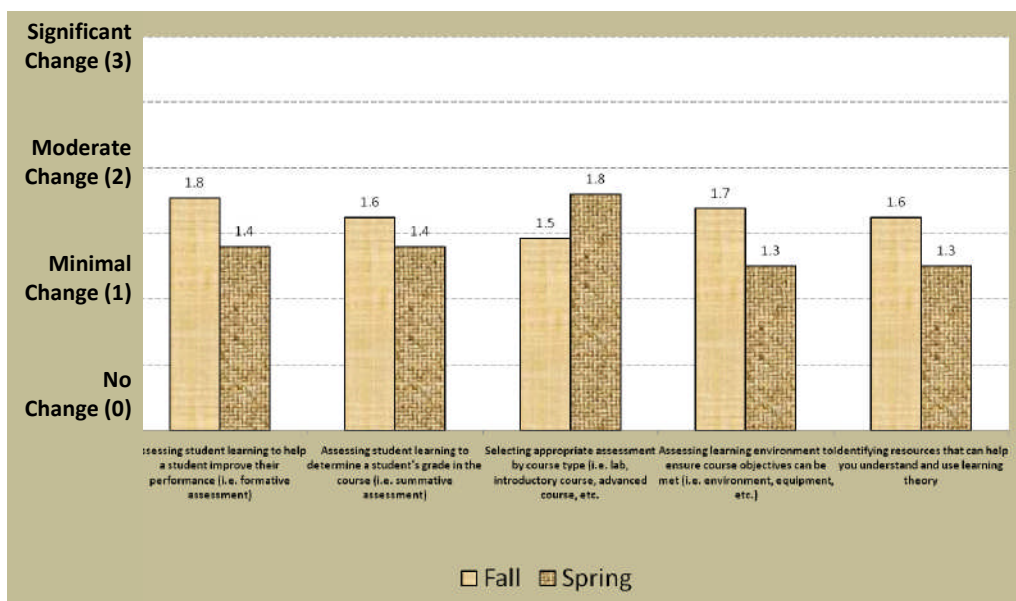
We found no noteworthy changes in participant's confidence in performing assessment-related tasks between semesters. In all six assessed areas, for both the fall and spring semesters, participants described, that their participation in a GTA seminar focused on assessing student learning produced "no change (2)" in their confidence in assessing student learning. Once again, rating averages were higher in the spring than in the fall semester in all topic areas with the exception of one (*assessing student learning to help a student improve their performance*). This decline in rating average may be due to less emphasis on formative assessment during the spring semester versus the fall semester.

Assessment – Confidence

With respect to assessing student learning, please indicate how your participation in one or more GTA seminars affected your
CONFIDENCE in performing the following:
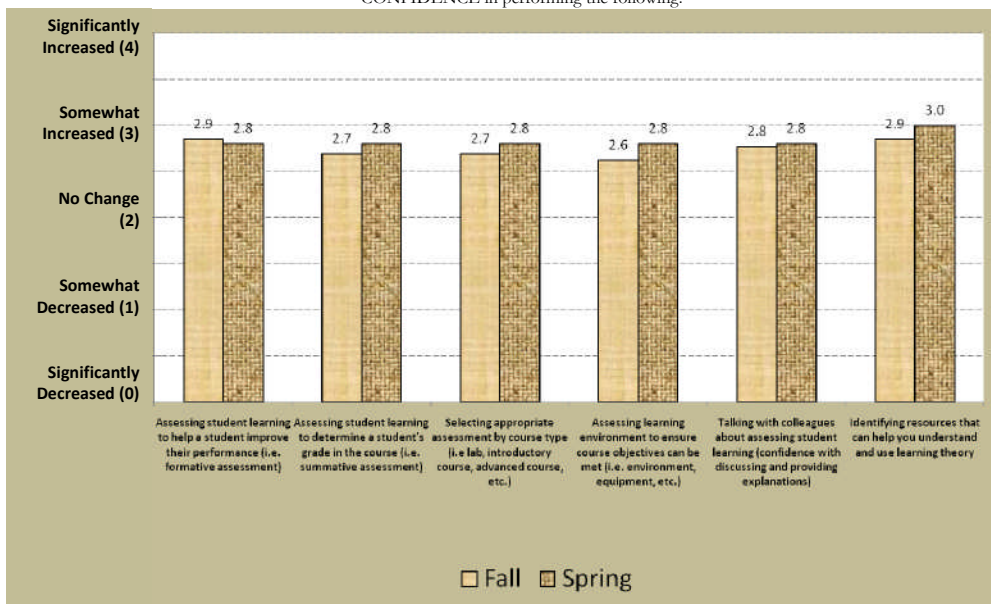
Pertaining to pedagogy, which is the fourth and final program outcome, participant understanding increased in five of eight areas from one semester to the other, while decreasing in the remaining three areas. The *"using inquiry in the classroom"* area saw the greatest decline in understanding from one semester to the other while the *"incorporating technology in the classroom"* area experienced the greatest increase in understanding throughout the academic year. Overall, rating averages fluctuated between topic areas, over semesters. As one explanation, we feel this may be due to the repetition of topic information versus the incorporation of additional information about a topic; resulting in the opinion that no additional learning gains were recognized during the spring semester, in comparison to the fall semester. Another explanation is that the subject of inquiry, considered a part of pedagogy or teaching methods, was more heavily addressed during the fall semester than during the spring, insinuating greater exposure during the fall than in the spring semester. In addition, in an effort to explain findings, the increase in understanding with regard to incorporating technology in the classroom is likely due to fact that more artifacts were developed during the spring semester than during the fall semester, and these artifacts were required to be submitted for review by way of eLearning which is the University's adopted course management system. Participants likely achieved a greater understanding of this element of technology due to more practical use.

Pedagogy – Understanding

With respect to the way in which you teach a course, please rate how much you UNDERSTAND about each of the following topics/areas as a result of your participation in one or more of the GTA seminars:
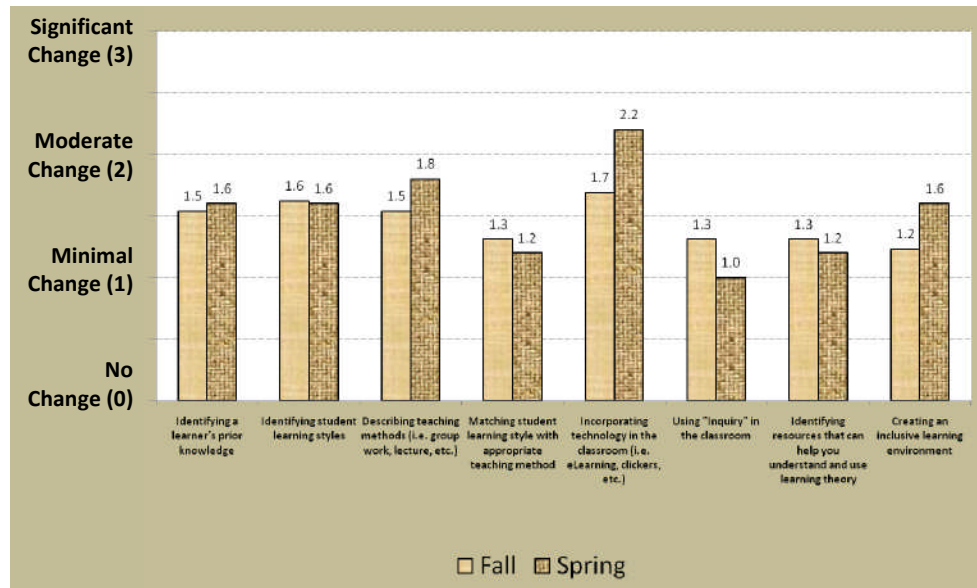
In reference to performance confidence levels across semesters, we found that confidence remained relatively the same across semesters, in the majority of assessed areas. Performance confidence level for the "using inquiry in the classroom" area moved from a high "no change(2)" level to a low "no change (2)" level from the fall to the spring semester. As previously reported, this indicates that the institutional initiative concerning inquiry was likely not explored as much during the spring semester seminar series as it was during the fall semester seminar series. Rating averages reflect the trend of higher averages in the spring semester than in the fall in all but three topic areas (*using inquiry in the classroom, identifying student learning styles,* and *identifying resources that can help you understand and use learning theory*). Similar to "using inquiry in the classroom," "identifying student learning styles" was not a topic offered during the spring seminar series; therefore, exposure to this topic's information was less than exposure to other areas. With regard to the "identifying resources that can help you understand and use learning theory" area, we attribute this decline in performance confidence to individuals not being provided resources for the development of required artifacts.

Pedagogy – Confidence

With respect to the way in which you teach a course, please indicate how your participation in one or more GTA seminars affected your CONFIDENCE in performing the following:
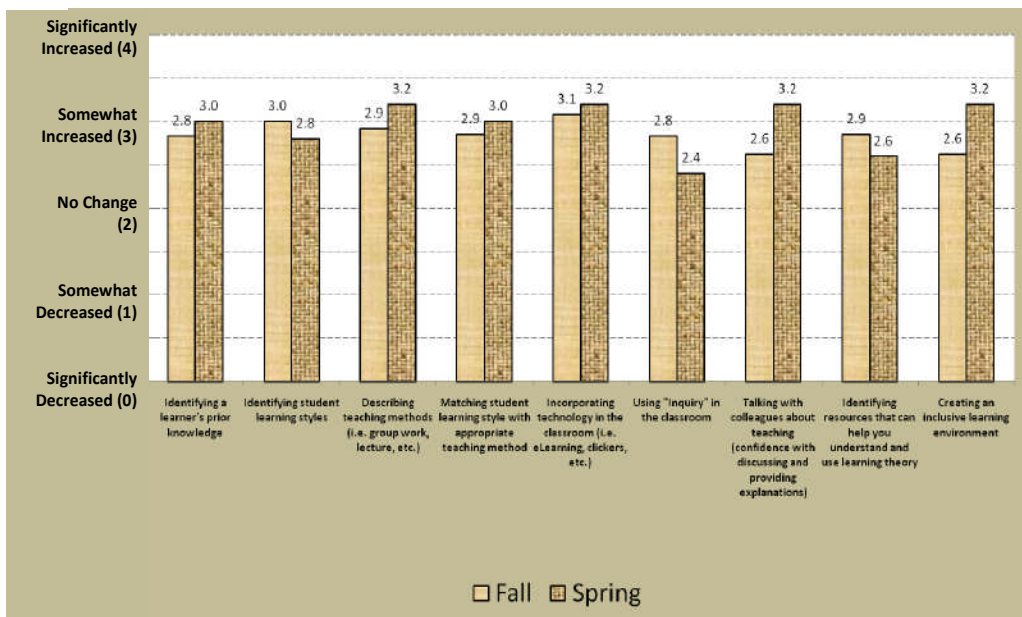
We found that of the total number of unique seminar or discussion session attendees (70), the majority of them are satisfied with the GTA seminar series (58%), learned quite a bit about the teaching focused seminar topic (53%), and possess a fairly high understanding and confidence level in their ability to explain the seminars teaching focus to others (53%). Disaggregated by STEM and non-STEM statuses, the respective percentages are 61% (STEM) & 55% (non-STEM); 56% & 50%; and 57% & 44%.

Discussion/Recommendations

It appears that the new program design is effective for achieving program outcomes as there is evidence of change in understanding in all outcomes areas. Although there were few end-of-semester survey participants, responses show that the GTA seminar series positively impacts the development of graduates-through-faculty in four fundamental areas of teaching. We attribute low survey participation numbers to a few things: (a) the voluntary participation design of the GTA program, (b) the inability of students to devote time to areas other than academics at semester end, and (c) the possibility of a lack of motivation due to participants feeling "over-surveyed."

Program improvements can and should be made to ensure continued participant satisfaction and achievement of program outcomes. Specifically, there needs to be a

greater alignment with scheduled seminar topics to actual speaker topics. It is recommended that communication efforts are enhanced in this area by way of multiple forms of communication (i.e., telephone, email, etc.), possessing one consistent message. To address the feeling of being "over-surveyed," we suggest using clickers to collect individual seminar session feedback. This feedback will be collected during seminar time, eliminating the need for participants to find additional time, outside of seminars, to complete surveys. With this option, participants complete eLearning surveys only at semester ends. This option may also improve response rates. In addition, as a second option, it may be beneficial to consider mid- and end-of-semester surveys versus weekly surveys or incorporating program outcome items into weekly survey instruments, eliminating the end-of-semester survey. This option reduces the overall number of surveys administered to participants.

The next GTA program year should include more practical exercises and more resource materials. Participants showed increased satisfaction levels with seminars containing either practical exercises or resource materials such as handouts. More effective speakers or speakers more familiar with a specific seminar topic should also be incorporated into next year's program. The GTASC should consider broadening its speaker search beyond the TAMU campus. We recommend acquiring seminar speakers from other local institutions or from the CIRTL network. The CIRTL network is comprised of many subject matter experts and because of its mission, network leaders are willing to share knowledge throughout and beyond the network. In the use of CIRTL network leaders as seminar speakers, travel expenses can be avoided through technology.

Through a detailed review of GTA program activities, this evaluation provides the CTE and the GTASC with insight into the structure of its program to better ensure program outcomes are achieved in the future. The results of this activity serve as evidence of program effectiveness; asserting that participation in the GTA and TAMU-CIRTL enhances participant teaching knowledge and skills. With its new program design, the GTA program is proving to be an effective future faculty development program. Adherence to this evaluation's recommendations, along with receiving continued institutional support, both administratively and financially, will foster its effectiveness. The newly designed GTA program has the potential to positively impact the future practice of most, if not all, participating graduate students at TAMU, making them more effective faculty members to improve undergraduate education.

References

Connolly, M. R., & Millar, S. B. (2006). Using educational workshops to improve instruction in STEM courses. *Metropolitan Universities (special issue), 17*, 53-65.

<u>Supporting Documents</u>

Workshop Topics and Dates

The 2009-2010 Seminar Series
Presented by the Graduate Teaching Academy (GTA)

Fall Semester
<u>Session#</u>:

N/A	Aug. 31st ~ Fall Kick-off
1	Sept. 7th ~ Institutions Panel
2	Sept. 14th ~ New Faculty Panel
3	Sept. 21st ~ Discussion: Professional Path
4	Sept. 28th ~ Course Design
5	Oct. 5th ~ Selecting Teaching Methods
6	Oct. 12th ~ Discussion: Course Design
7	Oct. 26th ~ Formative Assessment
8	Nov. 2nd ~ Summative Assessment
9	Nov. 9th ~ Discussion: Assessment
10	Nov. 16th ~ Technology in the Classroom
11	Nov. 30th ~ Learning Styles
12	Dec. 7th ~ Discussion: Pedagogy

Spring Semester
<u>Session #</u>:

1	Jan. 25th ~ Spring Kick-off (with Syllabus Design)
2	Feb. 1st ~ Class Assessment
3	Feb. 8th ~ Context and Assessment
4	Feb. 15th ~ Discussion: Assessment
5	Feb. 22nd ~ Teaching Philosophy
6	Mar. 8th ~ Curriculum Vita
7	Mar. 22nd ~ Discussion: Pedagogy
8	Mar. 29th ~ What the Best College Teachers Do

Stem Fields at TAMU

College of Veterinary Medicine & Biomedical Sciences: all departments

College of Science: all departments

College of Engineering: all departments

College of Geosciences: all departments

College of Agriculture & Life Sciences - the following departments:
- Animal Science
- Biochemistry/Biophysics
- Biological and Agricultural Engineering
- Ecosystem Science and Management
- Entomology
- Horticultural Sciences
- Nutrition and Food Science
- Plant Pathology and Microbiology
- Poultry Science
- Soil and Crop Sciences
- Wildlife and Fisheries Sciences

Interdisciplinary Degree Programs:
- Biotechnology
- Engineering Systems Management
- Food Science and Technology
- Genetics
- Materials Science and Engineering
- Molecular and Environmental Plant Sciences
- Nutrition
- Water Management and Hydrological Science (WMHS)
- Toxicology

Workshop Topics and Dates With Level
of Satisfaction Scores
(excluding Agriculture and Life Sciences)

The 2009-2010 Seminar Series
Presented by the Graduate Teaching Academy (GTA)

Fall Semester
Session#:

		Non-STEM		STEM	
		N	Mean	N	Mean
1	Sept. 7th ~ Institutions Panel	13	2.92	13	2.77
2	Sept. 14th ~ New Faculty Panel	13	2.85	16	3.19
3	Sept. 21st ~ Discussion: Professional Path	11	2.73	16	3.00
4	Sept. 28th ~ Course Design	19	3.42	17	3.29
5	Oct. 5th ~ Selecting Teaching Methods	16	3.25	14	3.21
6	Oct. 12th ~ Discussion: Course Design	18	2.89	11	3.00
7	Oct. 26th ~ Formative Assessment	19	3.32	13	3.15
8	Nov. 2nd ~ Summative Assessment	17	2.12	13	2.00
9	Nov. 9th ~ Discussion: Assessment	16	2.75	14	3.29
10	Nov. 16th ~ Technology in the Classroom	13	2.69	12	2.83
11	Nov. 30th ~ Learning Styles	14	2.93	10	3.30
12	Dec. 7th ~ Discussion: Pedagogy	12	2.83	9	2.89

Spring Semester
<u>Session #</u>:

		Non-STEM		STEM	
		N	Mean	N	Mean
1	Jan. 25th ~ Spring Kick-off (with Syllabus Design)	12	3.17	14	3.50
2	Feb. 1st ~ Class Assessment	11	2.18	13	2.15
3	Feb. 8th ~ Context and Assessment	10	3.10	11	3.27
4	Feb. 15th ~ Discussion: Assessment	10	3.10	11	2.91
5	Feb. 22nd ~ Teaching Philosophy	10	3.50	11	3.36
6	Mar. 8th ~ Curriculum Vita	9	3.44	13	3.77
7	Mar. 22nd ~ Discussion: Pedagogy	9	2.78	12	2.83
8	Mar. 29th ~ What the Best College Teachers Do	5	2.80	6	3.00

8-Item Evaluation Instrument

GTA Program
Seminar Questionnaire
SEMINAR: Sept. 7, 2009 - Institutions Panel

Name _____ UIN _____

1. In your opinion, how successful was the seminar in addressing its intended topic? Feel free to elaborate with a comment.

Unsuccessful(1)	Somewhat Successful (2)	Successful (3)	Extremely Successful (4)

_____
_____
_____
_____

2. As a result of participating in this seminar, how much did you learn about the seminar topic? Feel free to elaborate with a comment.

Nothing (1)	Just a little(2)	Quite a bit(3)	A great deal(4)

_____
_____
_____
_____

3. As a result of participating in this seminar, please rate your level of understanding and confidence in explaining this seminars teaching focus? Please elaborate.

Very Low (1)	Low(2)	Moderate(3)	Fairly High (4)	Extremely High (5)

_____
_____
_____
_____

4. What major concepts are you taking away from this seminar that will affect your future practice as an educator? If possible, please give 2-3 specific examples.

_____
_____
_____
_____

5. What else interests you or would you like to learn about this topic?

_____
_____
_____
_____

6. Please rate your level of satisfaction with each of the following:

Topic	Not Applicable (0)	Extremely Dissatisfied (1)	Dissatisfied (2)	Somewhat Satisfied (3)	Satisfied (4)	Extremely Satisfied (5)
Location						
Content						
Materials						
Time/Length of session						
Seminar activities						

7. Please rate your overall level of satisfaction with this seminar?

Extremely Dissatisfied(1)	Dissatisfied (2)	Somewhat Satisfied (3)	Satisfied (4)	Extremely Satisfied (5)

8. Please provide any additional comments (positive or negative) you have regarding this seminar.

_____
_____
_____
_____

24-Item Evaluation Instrument

GTA Program End-of-Semester Questionnaire

Name _____ UIN _____

Current Status/Expected Outcomes: Please mark an 'x' in the box next to the response that best expresses your opinion.

1. What type of college level teaching experience do you have (select all that apply and include # of semesters you've done each) if any?

   # Semesters   Role

   _____Grader
   _____Taught one or more recitations/ discussion sections/laboratories
   _____Teaching Assistant
   _____Guest Lecturer
   _____Instructor of record
   _____Professor, Faculty Member
   _____Other (none), please specify _____

2. Select the teaching-focused professional development opportunities in which you have participated (please select all that apply).
   - ☐ Formal course(s) on teaching (including CIRTL courses)
   - ☐ Workshops (one day or less) on teaching
   - ☐ Intensive workshops (more than one day) on teaching
   - ☐ Conferences/Symposia on teaching
   - ☐ Brown-bag discussions on teaching
   - ☐ Teaching consultations
   - ☐ Formal teaching experience (primary or secondary teacher, lecturer, etc.)
   - ☐ Informal teaching experience (substitute teaching, daycare, coaching, etc.)
   - ☐ Other (please specify) _____

3. Upon graduating, what are your anticipated career plans? (please select your top 2)
   - ☐ Post-doctoral researcher
   - ☐ Full-time researcher at a college or university
   - ☐ Faculty at a research-focused campus (e.g., Texas A&M University)
   - ☐ Faculty at a 4-year comprehensive campus (e.g., Sam Houston State University)
   - ☐ Faculty at a small liberal arts campus (e.g., Texas Lutheran University)
   - ☐ Faculty at a technical or community college (e.g., Blinn College)

☐ Instructional academic staff at a college or university
☐ K – 12 education
☐ Position in industry, not-for-profit, or government
☐ Extension or outreach position
☐ Other (please specify) _____
☐ Not applicable

4. Which of the following best describes your goals in participating in the GTA? (Mark all that apply.)

☐ Obtaining a GTA certificate/Becoming a GTA fellow
☐ Preparing for a teaching position in the near future
☐ Gaining practical teaching experience
☐ Learning more about theories of teaching and learning
☐ Interacting with peers from different disciplines
☐ Obtaining a letter of reference
☐ Fulfilling a department requirement as a new teaching assistant
☐ Following a suggestion made by my advisor
☐ Developing a professional network
☐ Other (please specify) _____

Professional Path: Please mark an 'x' in the box next to the response that best expresses your opinion.

5. Please rate how much you understand about each of the following topics/areas as a result of your participation in one or more of the GTA workshops:

Topic	No change in my understanding	Minimal change in my understanding	Moderate change in my understanding	Significant change in my understanding
a. Identifying institutional differences (i.e., liberal arts, community college, etc.)				
b. Distinguishing differences by faculty position (i.e., professor-research, professor-teaching, clinical professor, etc.)				
c. Identifying common tenure and promotion expectations				
d. Developing a personal, discipline-specific, professional path				
e. Identifying the best work environment for you (i.e., liberal arts, community college, etc.)				
f. Developing a teaching philosophy				

6. Please indicate how your participation in one or more GTA workshops affected your confidence in performing the following:

Topic	Significantly decreased my confidence	Somewhat decreased my confidence	No change in my confidence	Somewhat increased my confidence	Significantly increased my confidence
a. Identifying institutional differences (i.e., liberal arts, community college, etc.)					
b. Distinguishing differences by faculty position (i.e., professor-research, professor-teaching, clinical professor, etc.)					
c. Identifying common tenure and promotion expectations					
d. Developing a personal, discipline-specific, professional path					
e. Identifying the best work environment for you (i.e., liberal arts, community college, etc.)					
f. Talking with colleagues about future career positions (confidence with discussing and providing explanations)					
g. Developing a teaching philosophy					

Course Design: Please mark an 'x' in the box next to the response that best expresses your opinion.

7. Please rate how much you understand about each of the following topics/areas as a result of your participation in one or more of the GTA workshops:

Topic	No change in my understanding	Minimal change in my understanding	Moderate change in my understanding	Significant change in my understanding
a. Selecting course goals				
b. Selecting learning outcomes				
c. Producing/Designing class materials (i.e., syllabus, outlines, etc.)				
d. Identifying resources to understand learning theory				
e. Creating an inclusive learning environment				

8. Please indicate how your participation in one or more GTA workshops affected your confidence in performing the following:

Topic	Significantly decreased my confidence	Somewhat decreased my confidence	No change in my confidence	Somewhat increased my confidence	Significantly increased my confidence
a. Selecting course goals					
b. Selecting learning outcomes					
c. Producing/Designing class materials (i.e., syllabus, outlines, etc.)					
d. Talking with colleagues about course design (confidence with discussing and providing explanations)					
e. Identifying resources to understand learning theory					
f. Creating an inclusive learning environment					

Assessment: Please mark an 'x' in the box next to the response that best expresses your opinion.

9. Please rate how much you understand about each of the following topics/areas as a result of your participation in one or more of the GTA workshops:

Topic	No change in my understanding	Minimal change in my understanding	Moderate change in my understanding	Significant change in my understanding
a. Assessing student learning (i.e., formative assessment)				
b. Evaluating student learning (i.e., summative assessment)				
c. Selecting appropriate assessment by course type (i.e., lab, introductory course, advanced course, etc.)				
d. Assessing learning environment				
e. Identifying resources to understand learning theory				

10. Please indicate how your participation in one or more GTA workshops affected your confidence in performing the following:

Topic	Significantly decreased my confidence	Somewhat decreased my confidence	No change in my confidence	Somewhat increased my confidence	Significantly increased my confidence
a. Assessing student learning (i.e., formative assessment)					
b. Evaluating student learning (i.e., summative assessment)					
c. Selecting appropriate assessment by course type (i.e., lab, introductory course, advanced course, etc.)					
d. Assessing learning environment					
e. Talking with colleagues about assessing student learning (confidence with discussing and providing explanations)					
f. Identifying resources to understand learning theory					

Pedagogy: Please mark an 'x' in the box next to the response that best expresses your opinion.

11. Please rate how much you understand about each of the following topics/areas as a result of your participation in one or more of the GTA workshops:

Topic	No change in my understanding	Minimal change in my understanding	Moderate change in my understanding	Significant change in my understanding
a. Identifying a learners prior knowledge				
b. Identifying student learning styles				
c. Describing teaching methods (i.e., group work, lecture, etc.)				
d. Matching student learning style with appropriate teaching method				
e. Incorporating technology in the classroom (i.e., eLearning, clickers, etc.)				
f. Using Inquiry in the classroom				
g. Identifying resources to understand learning theory				
h. Creating an inclusive learning environment				

12. Please indicate how your participation in one or more GTA workshops affected your confidence in performing the following:

Topic	Significantly decreased my confidence	Somewhat decreased my confidence	No change in my confidence	Somewhat increased my confidence	Significantly increased my confidence
a. Identifying a learners prior knowledge					
b. Identifying student learning styles					
c. Describing teaching methods (i.e., group work, lecture, etc.)					
d. Matching student learning style with appropriate teaching method					
e. Incorporating technology in the classroom (i.e., eLearning, clickers, etc.)					
f. Using Inquiry in the classroom					
g. Talking with colleagues about teaching (confidence with discussing and providing explanations)					
h. Identifying resources to understand learning theory					
i. Creating an inclusive learning environment					

Awareness: Please mark an 'x' in the box next to the response that best expresses your opinion.

13. Please rate your **familiarity** with the following Texas A&M University organizations:

Organization	None	Low	Moderate	High
a. TATEP (Teaching Assistant Training & Evaluation Program)				
b. CIRTL (Center for the Integration of Research, Teaching and Learning)				
c. GTA (Graduate Teaching Academy)				

14. How often have you visited the TATEP website within the past year?
   a. Never
   b. 1 – 2 times
   c. 3 – 5 times
   d. More than 6 times

15. How often have you visited the CIRTL website/Cafe within the past year?
   a. Never
   b. 1 – 2 times
   c. 3 – 5 times
   d. More than 6 times

16. How often have you visited the GTA website within the past year?
   a. Never
   b. 1 – 2 times
   c. 3 – 5 times
   d. More than 6 times

17. How did you hear about GTA?
   a. Advisor
   b. Friends
   c. TATEP
   d. Graduate Student Orientation
   e. Media (ex: television, radio)
   f. Other (please specify) _____

Demographics: Please mark an 'x' in the box next to your response.

18. Gender:
   a. Male
   b. Female

19. Race/ethnicity:
   a. American Indian or Alaskan native
   b. Asian or Pacific Islander
   c. African American/Black
   d. Latino/Hispanic
   e. White
   f. Other (please specify) _____

20. Domestic or international student/faculty:
   a. Domestic
   b. International

21. What degree are you currently pursuing?
    a. Doctorate
    b. Master's
    c. Non-degree seeking (e.g., post doc)

22. When do you expect to graduate?
    a. This academic year
    b. Next academic year
    c. In 2 years
    d. In 3 years
    e. In 4 or more years from now

23. College in which you are enrolled:
    ☐ Agriculture and Life Sciences
    ☐ Architecture
    ☐ The Bush School of Government and Public Service
    ☐ Mays Business School
    ☐ Education and Human Development
    ☐ Dwight Look College of Engineering
    ☐ Geosciences
    ☐ Liberal Arts
    ☐ Science
    ☐ Veterinary Medicine & Biomedical Sciences

24. Your Department: _____

APPENDIX B

INSTRUMENTS

ACADEMIC MOTIVATION SCALE (AMS)

FUTURE FACULTY PREPARATION PROGRAM (FFPP) VERSION

Original Version Developed by: Robert J. Vallerand, Luc G. Pelletier, Marc R. Blais,
Nathalie M. Brière,
Caroline B. Senécal, Évelyne F. Vallières, 1992-1993

Educational and Psychological Measurement, vols. 52 and 53

Scale Description

This scale assesses 7 types of constructs: intrinsic motivation towards knowledge, accomplishments, and stimulation, as well as external, introjected and identified regulations, and finally amotivation. It contains 28 items (4 items per subscale) assessed on a 7-point scale.

References

Vallerand, R.J., Blais, M.R., Brière, N.M., & Pelletier, L.G. (1989). Construction et validation de l'Échelle de Motivation en Éducation (EME). Revue canadienne des sciences du comportement, 21, 323-349.

WHY DO YOU PARTICIPATE IN AND COMPLETE FUTURE FACULTY PREPARATION PROGRAMS (FFPPs) DESIGNED TO ENHANCE YOUR TEACHING SKILLS?

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you participate in future faculty preparation programs designed to enhance your teaching skills.

Does not correspond at all	Corresponds a little		Corresponds moderately	Corresponds a lot		Corresponds exactly
1	2	3	4	5	6	7

WHY DO YOU PARTICIPATE IN AND COMPLETE FUTURE FACULTY PREPARATION PROGRAMS (FFPP'S) DESIGNED TO ENHANCE YOUR TEACHING SKILLS?

---

1. Because without completing an FFPP I would not find an academic position later on.   1 2 3 4 5 6 7

2. Because I experience pleasure and satisfaction while learning new things.   1 2 3 4 5 6 7

3. Because I think that an FFPP will help me better prepare for the career I have chosen.   1 2 3 4 5 6 7

4. For the intense feelings I experience when I am communicating my own ideas to others.   1 2 3 4 5 6 7

5. Honestly, I don't know; I really feel that I am wasting my time in this FFPP.   1 2 3 4 5 6 7

6. For the pleasure I experience while surpassing myself in my skills.   1 2 3 4 5 6 7

7. To prove to myself that I am capable of completing the program requirements.   1 2 3 4 5 6 7

8. In order to obtain a more prestigious academic job later on.   1 2 3 4 5 6 7

9. For the pleasure I experience when I discover new things never seen before.   1 2 3 4 5 6 7

10. Because eventually it will enable me to enter the job market in a field that I like.   1 2 3 4 5 6 7

11. For the pleasure that I experience when I read interesting authors.   1 2 3 4 5 6 7

12. I once had good reasons for participating in FFPP's; however, now I wonder whether I should continue. 1 2 3 4 5 6 7

13. For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments. 1 2 3 4 5 6 7

14. Because of the fact that when I succeed in teaching I feel important.   1 2 3 4 5 6 7

15. Because I want to have "the good life" later on.   1 2 3 4 5 6 7

16. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.   1 2 3 4 5 6 7

17. Because this will help me make a better choice regarding my career orientation.   1 2 3 4 5 6 7

18. For the pleasure that I experience when I feel completely absorbed with learning more about fundamentals of teaching. 1 2 3 4 5 6 7

19. I can't see why I participate in FFPPs and frankly, I couldn't care less.   1 2 3 4 5 6 7

20. For the satisfaction I feel when I am in the process of experimenting with new teaching techniques/activities. 1 2 3 4 5 6 7

21. To show myself that I am an intelligent person.   1 2 3 4 5 6 7

22. In order to have a better salary later on.   1 2 3 4 5 6 7

23. Because my participation allows me to continue to learn
    about many things that interest me.   1 2 3 4 5 6 7

24. Because I believe that an additional training
    will improve my competence as a teacher.   1 2 3 4 5 6 7

25. For the "high" feeling that I experience while reading
    about various interesting teaching fundamentals.   1 2 3 4 5 6 7

26. I don't know; I can't understand what I am
    doing in FFPPs.   1 2 3 4 5 6 7

27. Because FFPPs allow me to experience a
    personal satisfaction in my quest for excellence
    in teaching.   1 2 3 4 5 6 7

28. Because I want to show myself that I can succeed
    in teaching.   1 2 3 4 5 6 7

<u>KEY FOR AMS-28</u>

2, 9, 16, 23   Intrinsic motivation - to know
6, 13, 20, 27 Intrinsic motivation - toward accomplishment
4, 11, 18, 25 Intrinsic motivation - to experience stimulation
3, 10, 17, 24 Extrinsic motivation - identified
7, 14, 21, 28 Extrinsic motivation - introjected
1, 8, 15, 22   Extrinsic motivation - external regulation
5, 12, 19, 26 Amotivation

Note: To use this scale you require only to mention the complete reference data.

Thank you for your interest.

Good luck in your research.

Focus Group Interview Protocol

Project: GTA Outcomes Evaluation

Time of interview: 4:00 PM– 5:00 PM
Date: April 12, 2010
Place: Blocker, room 132; TAMU
Interviewer: Charita Ray-Blakely
Interviewee:
Position of Interviewee: GTA Fellow
The purpose of this activity is to determine which newly developed and implemented
Graduate Teaching Academy (GTA) program outcomes (if any) were achieved during
the 2009/2010 academic year. Participants are being interviewed to assist in making a
determination about program effectiveness.

Today's discussion should be based on your experience in the GTA program. (To
include all activities; formal & informal)
Questions:
1. Let's share ideas about what a learning community is. Please describe what you feel a
learning community (LC) is.
2. Based on your descriptions of a LC, do you feel the GTA is representative of a LC?
Why/Why not?
3. Did the GTA program meet your needs? (What were your needs?)
4. Being aware of the program outcomes, do you feel the program outcomes were
achieved? (Which, if any?)
5. Why did you participate in the GTA? (Perceived value)
6. What are some suggestions you have for improving the program?

APPENDIX C

REQUEST FOR PARTICIPATION: EMAIL SCRIPTS

<u>Focus Group Interview Initial Participation Request</u>:

Howdy!

You are receiving this email because you have been identified as being on track to achieve the GTA Fellow certification!

Because of your hard work and commitment to the GTA throughout the 2009-2010 academic year you are best suited, above others, to provide insight about the GTA program and your experience as a participant. As a result, I am requesting your participation in a focus group interview to discuss the GTA program and your overall program experience.

All focus group interviews will take place on the TAMU College Station campus in Blocker room #132. Each interview group will consist of approximately 4 to 8 people, depending on the number of participants. Food will be provided to all focus group participants and each interview will require approximately 1 hour of your time. If you would like to discuss your GTA program experience with other potential GTA Fellows, in an informal setting, please use the below Doodle poll link (click on the link or copy and paste it into your browser) to select a focus group date/time that is convenient for you. Please make your selection by April 1, 2010! Your confirmed interview date/time will be sent to you via email shortly thereafter.
http://www.doodle.com/da7id9s75nk9syi4

I'd like to encourage you to continue your efforts to achieve the valuable GTA Fellow designation and I hope to see you at the GTA Banquet with your Fellow certificate in hand!

Thank you in advance for your participation!

Sincerely,

Charita Ray-Blakely
TAMU CIRTL Evaluation Liaison

If you have received this email in error, please inform the sender or disregard. Please direct any questions to the sender.

Sponsored by the Center for Teaching Excellence (CTE) and the Center for the Integration of Research, Teaching and Learning (CIRTL).

<u>Focus Group Interview Participation Reminder Request:</u>

Potential GTA Fellow,

If you have already agreed to participate in a focus group interview and have made your availability selections, THANK YOU and please disregard this memo!

For those that haven't and are still deciding, today is your last day!

I wanted to remind you that your participation in a GTA program evaluation focus group interview has been requested. If you are interested in participating and have not already made your availability selections via the Doodle poll, please go into the Doodle link below, TODAY, and select at least two times that are convenient for you to participate. Please remember that food will be provided to all participants.

Your feedback about your GTA experience is very valuable so please strongly consider sharing that information with other potential fellows in an informal setting.

Thanks for your consideration!

http://www.doodle.com/da7id9s75nk9syi4

Sincerely,

Charita Ray-Blakely

VITA

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