Comparing Candidate and Clinical Faculty Cognitive Effect, Cognitive Affect, and Perceived Behaviors During Formal Mentoring

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Abstract

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Many vital components of clinical practice including placement of candidate with clinical faculty remain unaddressed in current research. Missing from formal mentoring research is recognition of the best-quality way to pair mentors and protégés in order for both parties to receive the most benefits from the relationship. Mentoring has been shown to be foundational to the retention of career and technical education teachers making mentoring especially critical.

The candidate population for the study included students enrolled in clinical practice during the spring of 2009 in agricultural education certification programs at 14 different universities. Findings using a matched pairs t-tests were conducted to reach the heart of the study, the dyadic mentoring relationships between candidate and clinical faculty. Cognitive effect, an indicator of problem solving style was not found to be a significant factor in the study. However, cognitive affect, an indicator of interpersonal orientation found many significant differences. Significance was found at the 0.05 level in the areas of candidate expressed inclusion and clinical faculty wanted inclusion (t=5.27), candidate expressed total and clinical faculty wanted total (t=3.88), candidate wanted control and clinical faculty expressed control (t=-2.97). Significance was also found at the 0.01 level of significance for candidate wanted total and clinical faculty expressed total (t=-2.37). In the area of behavior a matched pairs t-test determined perceived psychosocial support (t=-2.86) and perceived total support (t=-2.32) to be significant.

Mentoring and clinical practice are extremely dynamic constructs as many different influences are present from personal preferences to the way people naturally and holistically function. When universities identify clinical faculty, attention should be paid to the matching of dyads in order to emulate an informal mentoring experience to the greatest extent possible. Although mentoring is extremely complex, the research indicates promise for agreement and promise for continued research to benefit not only individuals, but our entire profession.

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Chapter I

Introduction

The demands for educator accountability are increasing as P-12 public education continues to be inundated with strict regulations, high stakes testing, instructional guiding principles, and teacher performance standards (McCrary & Mazur, 2006). There is a national concern about the quality education of teacher educators as alluded to in the *No Child Left Behind* Elementary and Secondary Education Act of 2002 (ESEA) (U.S. Department of Education, 2001). Quality education and teacher education are crucial factors with the potential to affect the future of the American society.

There are conflicting and often inconsistent approaches in teacher education programs many critics of teacher education preparation programs agree that even though some components may be dispensable, clinical practice is not. Teachers, when valuing their education refer to their clinical practice as the most valuable part of their professional education (Silberman, 1971). Further reinforcing the importance of clinical practice and professional preparation within teacher education (Diamonti, 1977). Realizing the importance of clinical practice, one would assume that the clinical practice experience was carefully and strategically planned and evaluated. However, many of the vital components including placement of candidate with clinical faculty are "seemingly left to chance" (Svengalis, 1992, p. 31).

The student teaching experience is of great importance as the esperience has a great potential to impact a future teacher's career (Henry & Beasley, 1982). Teacher educators would also agree that experiencing a high quality teacher education training program including clinical practice is essential (Task Force on Field Experience Standards, 1999).

There are four areas that specifically influence the quality of a candidate's clinical practice: (a) the school site, the process, (b) the clinical faculty, and (c) the relationships (Svengalis, 1992). These areas combined with candidate's personality, self-confidence, teaching in general and classroom dynamics may result in stress experienced by the candidate (Henry & Beasley, 1982). Teacher's personality factors are also predominant influences on teaching practices and subsequent learning (Elmore & Ellette, 1979).

Clinical faculty must provide the functions of a mentor to their candidates, in fact the mentoring aspects of clinical faculty are the "most frequently overlooked link to successful student teaching programs" (Connor & Killmer 2001, p. 1). For the purpose of the study candidates are referred to throughout as protégé's and clinical faculty as mentors. Mentors must provide their protégés with guided experience throughout their first true classroom teaching experience. There has never been a greater need to explore the constructs of a mentoring relationship as educators push for a novel mentoring approached in teacher education (Barr, 1999; Mullen, Cox, Boettcher & Adoue, 1997). Mentoring as well as self-governing learning is increasingly essential now more than ever in the 21st century place of work as receiving mentoring has been found to be a large influence on a protégé's career development (Aryee, Wyatt, & Stone, 1996; Fetzer, 2005). Early mentoring experiences promote development in both candidates and clinical faculty (Allen, Cobb, & Danger, 2003). If a clinical faculty conflicts with his or her candidate, the experience is likely to be poor for both individuals providing for negative growth and loss of an extremely valuable mentorship experience. A candidate's clinical faculty is a key influence when a candidate's success or failures are determined (Guyton, 1989). Clinical faculty are by far the most influential

element for a candidate during their clinical practice experience, "he or she can literally make this stage a success or failure" (Svengalis, 1992, p. 32).

An educational approach to mentoring has been suggested with personality testing, self-assessment, interpersonal skills training, and expectation-setting in order to promote an increased level of mentor-protégé agreement (Kram & Bragar, 1992; Waters, 2004). High-quality psychosocial support is only attained when mentor and protégé arrive at a shared understanding (Kram & Bragar, 1992). Protégés and mentors that posses a common view of the relationship may be more likely to: (a) understand each other's needs, (b) receive and understand feedback, and are (c) more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Baird & Kram, 1983; Godshalk & Sosik, 2000; Yammarino & Atwaters, 1997). Missing from formal mentoring research is recognition of the best-quality way to pair mentors and protégés in order for both parties to receive the most benefits from the relationship (Kram, 1983; Ragins, Cotton & Miller, 2000; Turban & Jones, 1988; Whitely, Dougherty, & Dreher, 1991).

The importance of clinical practice in teacher education continues to be reaffirmed. Mentoring during clinical practice has also been described as a fruitful experience if there are no major conflicts between mentor and protégé during. Beginning career and technical education teachers also perceived that support from colleagues in the education profession serving in the form or a mentor was foundational to their retention in the education profession (Ruhland & Bremer, 2002). Today researchers estimate that 40-50 percent of beginning teachers leave the field of education within the first five years of teaching (Ingersoll & Kranlik, 2004). Attrition in the educational arena is recognized, in part, to discipline problems identified as the most serious problem perceived by teachers being

inducted to the profession (Veenman, 1984). Problems that an understanding mentor could be of assistance with as "mentors not only have to refer to the current expectations for new teachers, they must also assist interns in applying standards-based requirements to a range of circumstances" (McCrary & Mazur, 2006).

The comparison of candidate and clinical faculty cognitive effect and cognitive affect on the perceived behaviors experienced during the initiation phase of mentoring is critical in the current era of American Public Education (Lesley, M.K, Hamman, D., Olivarez, A., Button, K., & Griffith, R., 2009). The candidate population of the study included students enrolled in clinical practice during the spring of 2009 in agricultural education certification programs at 14 different universities located in the southern region of the United States as defined by the American Association for Agricultural Education (American Association for Agricultural Education, 2004). Candidates and clinical faculty were identified by university faculty at their respective universities.

Theoretical Framework

Clinical practice is often condemned for the lack of a theoretical and conceptual framework, espoused goals, and for not fulfilling its purpose (Guyton & McIntyre 1990). Given the lack of a theoretical framework, the researcher investigated the application of Michael Kirton's Adaption Innovation Theory focusing specifically on the Cognitive Function Schema in mentoring. Kirton's Schema is based upon cognitive and interpersonal preferences having the potential to be a foundational model in addressing clinical practice placement (Kirton, 2003).

Kirton's Cognitive Function Schema was chosen as the theoretical framework for the study because it separates cognitive effect into potential level and preferred style while

recognizing the other elements that affect problem solving abilities (see Appendix A for use of model permission). Kirton's schema establishes that cognitive effect, cognitive affect, and cognitive resource are components of cognitive function utilized by a person in order to solve everyday problems (see Figure 1).
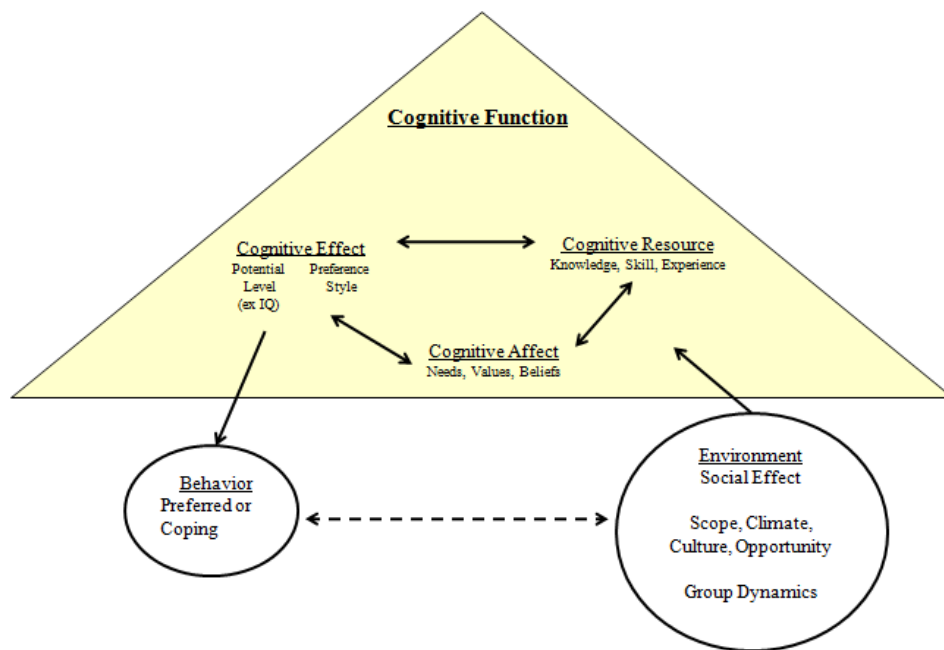
Figure 1. Cognitive Function Schema. (Kirton, 2003, p. 36)

The Schema, presented by Kirton (2003) within cognitive effect separates cognitive style and potential level. Cognitive affect is an individual's values and motivations they place on searching for solutions to problems. Cognitive resource includes the knowledge, skill and experience of an individual. The environment is a social situation where people interact while utilizing the problem solving process (Kirton, 2003). The model not only recognizes the social component of the clinical practice environment as a factor in the expressed behaviors of candidates, but also recognizes the many problems that must be solved in the clinical practice environment on a daily basis.

Kirton's Adaption-Innovation theory and Cognitive Function Schema further advocates that all individuals have the potential to be creative in solving problems within their own cognitive style, a component of cognitive effect. In determining a person's problem solving preference, cognitive style, as described by Kirton, is natural and unchanging (Kirton, 2003). Cognitive style is further defined by Kirton (2003) as the way an individual interrelates with and acts in repeated response to the environment around them as they solve problems.

Cognitive style and level are utilized and necessary in order for an individual to complete cognitive processes. Cognitive style is "a strategic, stable characteristic–the preferred way in which people respond to and seek to bring about change" (Kirton, 2003, p. 43). Cognitive style is a measure of the method in which individuals solve problems while taking into account their personal preferences for learning (De Ciantis & Kirton, 1996). According to Kirton, cognitive gaps occur when differences are too great leading individuals to use a coping behavior in order to bridge a cognitive style gap between themselves and another individual. Cognitive level is an individual's "potential cognitive capacity" such as an individual's intelligence (Kirton, 2003, p. 40). A cognitive process is "the operational element of cognitive function" and is portrayed as "through what steps' " and " 'how I operate' " (Kirton, 2003, p. 38). The cognitive process "is not measured like level and style but is validated for effectiveness in providing useful information" with outcomes that result in learning and knowledge (Kirton, 2003, p. 38).

Cognitive affect is an individual's value and motivation they place on searching for solutions to problems. In his Adaption Innovation theory and Cognitive Function Schema, Kirton (2003) describes the environment in a social situation where people interact while

utilizing the problem solving process. A person's environmental dealings are visible as they collaborate with others in their environment and react to their feedback in order to solve problems (Kirton, 2003). When individuals working together to solve a problem possess different preferred cognitive styles they experience coping behavior. Coping behavior is exhibited when solving a probably yields greater rewards than the effort taken to operate outside of a person's preferred style. As noted by Kirton (2003), that practicing coping behavior does not make coping any easier for an individual.

Problem Statement

The research presented herein investigated the impact of cognitive affect, cognitive effect, and behaviors perceived in the form of career and psychosocial support as expressed by clinical faculty and candidates during the candidate's first four to six weeks of student teaching. When candidates and clinical faculty posses a common view of the relationship they may be more likely to comprehend each other's needs and more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Godshalk & Sosik, 2000). Strategic placement may assist the relationship between candidate and clinical faculty. If these individuals are able to cognitively and interpersonally collaborate in order to overcome conflicts, their formal mentoring relationship has the potential to morph into an informal mentoring relationship reaching far beyond clinical practice. The following research has the potential to assist with the retention problem that education has been facing for centuries. The overall intent of the study was an attempt to bring a greater understanding of the determinants in the mentoring construct. The research herein is a direct result of the need for teacher education programs to more effectively use mentoring relationships to benefit candidates, clinical faculty, clinical practice, and teacher

education. The construct of clinical practice and the relationship of candidate and clinical faculty has an immense influence on future teachers and the promise of potential insights about "learning to teach" (Graham, 1997).

There are many factors that affect the clinical faculty and candidate relationship during the student teaching experience; cognitive style is one of them. Candidates and clinical faculty may experience coping and conflict if they must solve classroom conflicts or fulfill interpersonal needs outside of their preferences or preferred style. Clinical practice provides a high stress environment which does not allow candidates or clinical faculty much time outside of clinical practice to cope with conflicts they experience making the experience especially critical. The researcher found no literature linking problem solving styles (orientation to change, manner of processing, and ways of deciding) to interpersonal needs (inclusion, control, and affection) or mentor-protégé perceived support. Cognitive effect, cognitive affect, and perceived behaviors have been identified as factors that have the potential to positively or negatively impact the mentoring relationship, however they have not been researched together in the clinical practice environment. The research presented herein was a result of the need.

Need for the Study

Researchers agree (Connor & Killmer, 2001; Henry & Beasley, 1982; Svengalis, 1992; Yamashita, 1991) that clinical faculty have an important role in the preparation of candidates, however little information with a sound theoretical framework highlighting the work of the clinical faculty in teacher education can be found (Connor & Killmer, 2001). Likewise, little research can be found on the strategic placement of candidates with clinical faculty based upon a sound research base and conceptual knowledge. The question posed by Ingersoll and

Kranlik (2004), of the Education Commission of the States, "Do the selection, preparation, training, assignment and compensation of mentors make a difference" was addressed in the study (n.p.).

Candidates and clinical faculty needs during clinical practice lead the initiative for the study. Identifying participant's problem solving style, interpersonal needs and behaviors (career and psychosocial) as perceived by candidates and clinical faculty to determine similarities and differences provided valuable information to these individuals and the profession, the study also contributed to the body of literature regarding mentoring, candidates, clinical faculty, cognitive effect, cognitive affect and behavior. The National Research Agenda for Agricultural Education and Communication was also addressed in the research, specifically objective RPA-2 and the research question, "What models of agricultural teacher preparation are most effective in preparing agricultural educators for middle and secondary schools and postsecondary institutions?" (Osborne, 2007).

Purpose of the Study and Problem Statement

A unique challenge in teacher education and preparation are the many daily classroom decisions that cannot become consistent or standardized because they are based upon student questions and responses as well as classroom learning objectives (Hammerness, Darling-Hammond, & Shulman, 2005). Candidates "are faced with unique problems on a daily basis [and their] mentors must be prepared to help [them] make difficult decisions when there is no prescribed solution" (McCrary & Mazur, 2006). According to Veenman, "The fact that classroom discipline is a real problem for beginning teachers may be explained in part by different patterns in the thinking or decision processes of beginning and experienced teachers" (1984, n.p.) Student discipline problems among many other issues play a crucial

role in the determination of educators that remain in the teaching field (Darling-Hammond, 1997; U.S. Department of Education, 2001).

There are many factors that affect the clinical faculty and candidate relationship during the student teaching experience; cognitive style is one of them. Candidates and clinical faculty may experience coping and conflict if they must solve classroom conflicts or fulfill interpersonal needs outside of their preferences or preferred style. Clinical practice provides a high stress environment which does not allow candidates or clinical faculty much time outside of clinical practice to cope with conflicts they experience which is especially critical. The researcher found no literature linking problem solving styles (orientation to change, manner of processing, and ways of deciding) to interpersonal needs (inclusion, control, and affection) or mentor-protégé perceived support. Cognitive effect, cognitive affect, and perceived behaviors have been identified as factors that have the potential to positively or negatively impact the mentoring relationship, however they have not been researched together in the clinical practice environment.

The purpose of the study was to describe cognitive effect (problem solving style), cognitive affect (interpersonal needs), and behavior (psychosocial and career support). The study also examined the relationships between cognitive effect, cognitive affect, and behavior of candidates and clinical faculty during clinical practice. The need for teacher education programs to more effectively use mentoring relationships during clinical practice was an evident need within the literature in order to benefit candidate and clinical faculty as well as teacher education as a whole. When candidates and clinical faculty posses a common view of the relationship they may be more likely to comprehend each other's needs and more likely to make attitudinal and behavioral adjustments as necessary to make certain the

relationship continues (Godshalk & Sosik, 2000). The focus of the study is not only that of

clinical practice, but focus for the future having the potential to assist with the retention

problem that education has been facing for centuries. Specifically, the following research

objectives were clearly outlined and guided the study:

1. Describe demographic characteristics of candidates (age, gender, grade point
   average, and week of clinical practice) and clinical faculty (age, gender, grade
   point average, and years of teaching experience) in the study;

2. Describe the cognitive effect of candidates and clinical faculty;

3. Describe the cognitive affect of candidates and clinical faculty;

4. Describe the behaviors (career support and psychosocial support) of candidates
   and clinical faculty;

5. Describe the relationship between candidates cognitive effect and clinical faculty
   cognitive effect;

6. Describe the relationship between candidates cognitive affect and clinical faculty
   cognitive affect;

7. Describe the relationship between candidate behaviors and clinical faculty
   behaviors; and

8. Describe the relationship between candidate and clinical faculty dyad scores.

Limitations

The population consisted of pre service candidates and clinical faculty in the southern

region of the United States as defined by the American Association for Agricultural

Education (American Association for Agricultural Education, 2004). The population of

candidates and clinical faculty was limited to those individuals identified by the 14

responding southern region institutions where clinical faculty agreed to provide contact information. Caution should be exercised when interpreting the results. Interpretations should not extend beyond the sample utilized in the study.

The researcher has recently participated in clinical practice and may have been emotionally influenced to trace certain behaviors or patterns in candidate and clinical faculty relationships. The researcher's committee members also work extensively with candidates and clinical faculty throughout clinical practice. Caution should be exhibited when utilizing interpretations formulated by the researcher.

Self-reported grade point averages were used to assess candidate and clinical faculty cognitive resource in the study. Candidates and clinical faculty self-reported their grade point averages. Although self-reported grade point averages have been found to be extremely reliable, caution should be used when interpretations are made (Jerrell, 2001).

Definitions

The following terms were defined as interpreted in the study:

Affection: One of three behavioral areas that refers to a person's need for friendship, intimacy and the need to be close to others. Affection is measured with the FIRO-B assessment which determines how much an individual prefers to give and receive affection, a particular aspect of behavior.

Behavior: The perceived career and psychosocial support provided by clinical faculty and received by candidates during their first 4-6 weeks of clinical practice.

Candidate: Individuals admitted to, or enrolled in, programs for the initial or advanced preparation of teachers, teachers continuing their professional development, or other school professionals. Candidates are distinguished from *students* in P–12 schools

(National Council for Accreditation of Teacher Education, 2008). A student enrolled in a pre

service teacher education program at an institution of higher education that has completed

related coursework and professional requirements of obtaining certification for teaching

licensure in their state. The candidate's responsibilities vary from institution to institution.

For the purposes of the study, the candidates were enrolled at 14 different universities located

in nine different states in the southern region of the United States as defined by the American

Association for Agricultural Education. These individuals are studying agricultural education

at the middle and high school academic levels as their teacher education focus.

Clinical faculty: P–12 school personnel and professional education faculty

responsible for instruction, supervision, and/or assessment of candidates during field

experiences and clinical practice (National Council for Accreditation of Teacher Education,

2008). An experienced educator that is in the teaching profession, the individual mentors,

coaches, counsels and guides the candidate on a day-to-day basis during the student teaching

experience. Clinical faculty are selected upon certain criterion defined by the university

where the candidate is enrolled. Selection criterion may include: years teaching, innovative

programs, or level of community and professional activity. Clinical faculty within clinical

practice teaching also known as student teaching are also known as mentor teachers and

cooperating teachers.

Cognitive affect: An individuals value and motivation placed upon searching for

solutions to problems (Kirton, 2003). Measured in the study with FIRO-B, the fundamental

interpersonal relations orientation behavior element.

Cognitive effect: A component of cognitive function which incorporates cognitive style and cognitive level (Kirton, 2003). Measured in the study with the VIEW: An Assessment of Problem Solving Style.

Cognitive function: Cognitive affect, cognitive effect and cognitive resource are components of cognitive function utilized by a person in order to solve problems.

Cognitive level: An individual's "potential cognitive capacity" such as an individual's intelligence (Kirton, 2003, p. 40).

Cognitive process: "The operational element of cognitive function" and is portrayed as " 'through what steps' " and " 'how I operate' " (Kirton, 2003, p. 38). The cognitive process "is not measured like level and style but is validated for effectiveness in providing useful information" with outcomes that result in learning (knowledge) (Kirton, 2003, p. 38).

Cognitive Style: "A preferred way of thinking", also recognized as thinking style (Grigorenko & Sternberg, 1997, p. 297). A measure of the method in which individuals solve problems while taking into account their personal preferences for learning (De Ciantis & Kirton, 1996). The way an individual interrelates with and acts in a repeated response to the environment around them as they solve problems (Kirton, 2003).

Control: One of three behavioral areas that refers to a person's need for influence and power including maintaining a balance of power and influence in relationships that is satisfactory. Control is measured with the FIRO-B assessment which determines the extent to which a candidate prefers to give and receive control, a particular aspect of behavior.

Coping: What an individual experiences when cognitive gaps occur in cognitive style between one individual and another while solving problems (Kirton, 2003).

Environment: A social situation where people interact while utilizing the problem solving process (Kirton, 2003).

Inclusion: One of three behavioral areas that refers to a person's social orientation and need for belonging and interaction with others. Inclusion is measured with the FIRO-B assessment which determines how much an individual prefers to give and receive inclusion, a particular aspect of behavior.

Interpersonal orientation: Measured by the fundamental interpersonal relations orientation behavior (FIRO-B) interpersonal relations theory was developed by William C. Schutz. An interpersonal need is a biological need, necessary for survival. FIRO-B assessment uses scores ranging from 0 to 9 in each area of inclusion, control and affection with each measuring an expressed behavior and a wanted behavior. The overall score calculated by the instrument ranges from 0 to 54 and is known as the social interaction index (SII). The SII measures an individual's overall interpersonal need; higher scores represent a higher overall interpersonal need (Oswald, n.d.).

Manner of Processing: One of three components of an individual's problem solving style; explains a person's preferential means of processing and management of information throughout the problem solving process (Selby, Treffinger, Isaksen, & Lauer, 2004).

Mentor: "A person to trust and respect with whom trainees can discuss all aspects of their professional life" (Bulstrode & Hunt, 2000). A person that is a coach, positive role model, protector and sponsor (Schien, 1978). "An experienced practitioner who guides the development of an inexperienced one" (Goldsberry, 1998, p. 438).

Orientation to Change: One of three components of an individual's problem solving style; particularly how an individual acts in response to change occurring in their life and to

the extent that creative resources are utilized to control the change (Treffinger & Selby, 2004).

Problem Solving: A psychological and behavioral process that a person utilizes in order to uncover a variety of solutions when faced with a problematic situation in order increase the likeliness of reaching the best possible solution to both conscious and unconscious decisions that are subject to a set of limitations.(D' Zurilla & Goldfried, 1971; Woods, 1987).

Problem Solving Style: A measure of an individual's own differences in consideration to their reaction to new thoughts and ideas, handling change, and how they successfully manage ill-structured and multifaceted opportunities and challenges (Selby et al., 2004).

Teacher education: An academic program at recognized United States institutions of higher education that provide coursework in methodology, pedagogy, teaching and learning, and in subject matter specific content.

University supervisor: Faculty or staff members that are experienced in the classroom from an institution of higher education. These individuals observe the candidate throughout the semester and communicates with the clinical faculty and candidate.

Ways of Deciding: One of three components of an individual's problem solving style; concentrates on whether a person is influenced by the task in need of completion or opinions and emotions of others when making a decision (Selby, Treffinger, Isaksen, & Lauer, 2002).

Operational Definitions

For the purpose of the study, the following terms were operationally defined:

Affection: Is measured with the FIRO-B assessment on a scale ranging from 0 to 9 and measures an individual's expressed and wanted behavior. A score of zero to two

indicates a low need, three to six indicates a medium need, and seven to nine indicates a high need.

Behavior: The perceived career and psychosocial support provided by clinical faculty and received by candidates during their first 4-6 weeks of clinical practice. The questions included are likert-type questions on 7-point scale used by Noe (1988), Burke, McKeen, and Mckenna, (1994), and Armstrong, Allinson, and Haynes (2002). Likert descriptions included 1=agree very strongly, 2=agree strongly, 3=agree, 4=disagree, 5=disagree strongly, 6=disagree very strongly and 7=unsure for the perceived support portion of the questionnaire. Likert descriptions included: 1=notably similar, 2=similar, 3=slightly similar, 4=slightly dissimilar, 5=dissimilar, 6=notably dissimilar, and 7=unsure for the similarity portion of the questionnaire.

Cognitive affect: The value and motivation an individual places on searching for solutions to problems (Kirton, 2003). A value measured in the study with FIRO-B, the fundamental interpersonal relations orientation behavior element. The interpersonal relations theory was developed by William C. Schutz. The FIRO-B includes a group of six ordinal level Guttman scales measuring the range of behavior the respondent sees as more or less characteristic of the way he/she behave as they rate each item as either significant or non-significant where significant ratings received a score of one, and nonsignificant ratings received a score of zero. The FIRO-B is a self-reporting instrument consisting of 54 items that measures six dimensions of an individual's behavior toward others (Schutz, 1966) The FIRO-B assessment uses scores ranging from zero to nine in each area of inclusion, control and affection with each measuring an expressed behavior and a wanted behavior. A score of zero to two indicates a low need, three to six indicates a medium need, and seven to nine

indicates a high need. Total scores in each area are added for a total expressed score ranging from zero to 27 and a total wanted score ranging from zero to 27. A score of zero to seven indicates a low need, eight to 19 indicates a medium need, and 20-27 indicates a high need. The total expressed and total wanted behaviors are compiled and an overall score ranging from zero to 54 known as the Social Interaction Index (SII) is calculated (Oswald, n.d.). A score of zero to 15 indicates a low need, 16-26 indicates a medium-low need, 27-38 indicates a medium high need, and 39-54 indicates a high need.

Cognitive effect: A component of cognitive function which incorporates cognitive style and cognitive level (Kirton, 2003). Measured in the study with the VIEW: An Assessment of Problem Solving Style. The VIEW scores in each area are as follows: orientation to change scores range from 18 to 126, manner of processing scores range from 8 to 56, and ways of deciding scores range from 8 to 56. The VIEW does not provide a composite score.

Control: Is measured with the FIRO-B assessment on a scale ranging from 0 to 9 and measures an individual's expressed and wanted behavior. A score of zero to two indicates a low need, three to six indicates a medium need, and seven to nine indicates a high need.

Inclusion: Is measured with the FIRO-B assessment on a scale ranging from 0 to 9 and measures an individual's expressed and wanted behavior. A score of zero to two indicates a low need, three to six indicates a medium need, and seven to nine indicates a high need.

Manner of Processing: Scores range from 8 to 56 with a theoretical mean of 32 with low scores representing external style processing and higher scores representing internal processing (Selby, Treffinger, & Isaksen, 2007).

Orientation to Change: Scores range from 18 to 126 with a theoretical mean of 72, lower the score is representative of the explorer style while the higher the score is representative of the developer style (Selby, Treffinger, & Isaksen, 2007).

Ways of Deciding: Scores range from 8 to 56 with a theoretical mean of 32 with lower scores representing person oriented style and higher scores representing task oriented style (Selby, Treffinger, & Isaksen, 2007).

Assumptions

For the purpose of the study, the following assumptions were deemed to be true:

1. The instruments used in the study accurately measured the cognitive effect, cognitive affect, and behavior of candidates and clinical faculty;

2. The participants will provide honest and accurate responses to questions on the instruments to the best of their knowledge and perception.

Organization of the Study

Chapter I contained the introduction, theoretical framework, problem statement, professional contributions of the study, purpose of the study, research objectives, limits of the study, and definitions of key terms.

Chapter II included the review of literature pertinent to the study. The review of literature contains information about the clinical practice learning environment, candidate experience, clinical faculty, mentoring, cognitive affect, problem solving and the problem solving process, and cognitive effect. Chapter II also contains information about the assessments that will be used including: The VIEW: An Assessment of Problem Solving Style TM, FIRO-B: Fundamental Interpersonal Relations Organization Behavior assessment

which identifies an individual's interpersonal needs and a Mentor-Protégé assessment measuring perceived support.

In Chapter III, the methods used to conduct the research study were outlined. The methodology includes the variables of interest in the study, context in which the study took place, research design, research objectives, and population descriptions including subjects, procedures, instruments and data analysis.

Chapter IV included the techniques used in analyzing the data presented as the results of the study, including the analysis of each research objective. Chapter V included a discussion on the findings of the study and includes a list of practical implications for current use and further research.

Summary

The purpose of the study was to describe cognitive effect (problem solving style), cognitive affect (interpersonal needs), and behavior (psychosocial and career support). The study also examined the relationships between cognitive effect, cognitive affect, and behavior of candidates and clinical faculty during clinical practice. The need for teacher education programs to more effectively use mentoring relationships during clinical practice was an evident need within the literature in order to benefit candidate and clinical faculty as well as teacher education as a whole. When candidates and clinical faculty posses a common view of the relationship they may be more likely to comprehend each other's needs and more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Godshalk & Sosik, 2000). The focus of the study is not only that of clinical practice, but focus for the future having the potential to assist with the retention problem that education has been facing for centuries. The study herein has been justified in

the following chapter with a complete review of the literature. Chapter II provides the

theoretical and empirical research relevant to the study.

CHAPTER II

Review of Literature

Chapter II contains pertinent research identified by the researcher, including the conceptual, theoretical, and empirical research relevant to the study. Literature was reviewed in the following subject areas: (a) clinical practice learning environment, (b) candidate experience, (c) clinical faculty, (d) mentoring, (e) cognitive affect, (f) problem solving and the problem solving process, and (g) cognitive effect.

Significance of Study

The quality paired-placement of candidates with clinical faculty members at cooperating schools during clinical practice in agricultural education is addressed in the study. Although candidate placement has improved over time, today's assignment of clinical faculty with candidates remains haphazard. As Guyton and McIntyre suggest, "student teaching has failed to evolve beyond the medieval apprenticeship training model" (1990, p. 327).

The study sought to determine if a relationship exists between cognitive effect, cognitive affect, and behaviors (career and psychosocial) as perceived by candidates and clinical faculty. Specifically, the following research objectives were clearly outlined and guided the study:

1. Describe demographic characteristics of candidates (age, gender, grade point average, and week of clinical practice) and clinical faculty (age, gender, grade point average, and years of teaching experience) in the study;

2. Describe the cognitive effect of candidates and clinical faculty;

3. Describe the cognitive affect of candidates and clinical faculty;

4. Describe the behaviors (career support and psychosocial support) of candidates and clinical faculty;

5. Describe the relationship between candidates cognitive effect and clinical faculty cognitive effect;

6. Describe the relationship between candidates cognitive affect and clinical faculty cognitive affect;

7. Describe the relationship between candidate behaviors and clinical faculty behaviors; and

8. Describe the relationship between candidate and clinical faculty dyad scores.

Clinical Practice Learning Environment

Clinical faculty (mentors) and candidates (protégés) typically lie within the age range of a young adult to those nearing retirement, for the reason of adult learning clinical faculty and candidates are deemed accountable for their behaviors outside the classroom, claiming liability for their performance in school (Knowles, 1980). These adult learners possess valuable experiences which assists them in order to make learning meaningful (Knowles, Holton & Swanson, 2005). Adult learners have an elevated inspiration to gain knowledge and focus their attention on learning material that is pertinent out of school. These learners tend to believe in the experiential learning theory and realize its effectiveness in their learning; thinking is likely to have matured as they have aged (Sarasin, 1999). Andragogy known as adult pedagogy is capable of facilitating decision making while providing a proper industry knowledge base with local and global industry literacy (Flora, 1987). John Dewey's system of organized ideas with the central concept of experience has been identified as "perhaps the most impactful system of ideas about effective teaching" (Knowles, 1984, p. 85). Illiteracy

was combated in the United States for many years by teaching reading, writing and arithmetic; however the illiteracy and drop-out rates were high with low achievement scores and motivation. When experiential learning was implemented with new curriculum that brought forth genuine life experiences in the classroom that many of these problems "disappeared or were greatly reduced" (Knowles, 1984 p. 60).

Learning is a social process, one that is improved by personal contact and conversation with others (Hatano & Inagaki, 1993; Jonassen, 1999). Candidate's clinical practice takes place in a social learning environment. According to Vygotsky, "in order to understand the individual, one must first understand the social relations in which the individual exists" (Wertsch, 1985, p.58). Vygotsky further stated that "it is not nature, but society that above all else must be considered to be the determining factor in human behavior" (Wertsch, 1985, p.26). Following a constructivist epistemology, learning is the most successful when individuals construct their own meaning through the use of new knowledge and skills (Bickhard, 1998). Constructivism purports that learning is a process of constructing structures of experience. In order to link individual experiences and prior knowledge, constructivism is used to scaffold learning and the way an individual sees information. Furthermore constructivism purports "we do not create meaning. We construct meaning" as experienced in the clinical practice environment (Shank, 1993, p. 7).

The epistemology of constructivism, the adult learning theory, and the social learning theory may have applications for guiding candidates as they develop their teaching practices (Hudson, 2004). Mentors play an imperative part in the development of their protégés. Mentors must be aware that, as adults, their protégés seek autonomy and a personal identification with what they are learning (Fetzer, 2005). Clinical practice sites are often

selected because of location and willingness on behalf of the clinical faculty to accept the extra efforts a candidate often brings with them. Candidates struggle with a wide array of problems as they are novices in dealing with colleagues, students, and unfamiliar educational surroundings and do not possess specialized professional knowledge (Hsu, 2005).

Candidate Experience

The eventual purpose of teacher education programs and student teaching is to produce a graduate who can effectively instruct school students (Fallin & Royse, 2000, p. 19). The purpose of agricultural education is to produce productive members of society, individuals empowered with agricultural and life knowledge. The total program model of agricultural education employs an effective classroom experience; a student supervised agricultural experience program, and active participation in the National FFA Organization.

Silberman (1971) stated that even critics of teacher education agree that although some components may be dispensable, clinical practice is not. Silberman (1971) also discovered that teachers, when valuing their education refer to their clinical practice as the most valuable part of their professional education. One would assume that clinical practice was carefully and strategically planned and evaluated, however many of the vital components including placement are "seemingly left to chance" (Svengalis, 1992, p. 31). Student teaching is often condemned for "lacking a theoretical and conceptual framework, for lacking commonly espoused goals and for not fulfilling its potential" (Guyton & McIntyre 1990, p. 515). The student teaching experience is of great importance as the experience has a great potential to impact the future teacher's career, making the experience an emotional one (Henry & Beasley, (1982).

Candidates will find their experience student teaching in the field "to be either satisfying and rewarding or continuously frustrating because of lack of direction or help" from their clinical faculty (Erbes, 1971, p. 40). There are four areas that specifically influence the quality of the student teaching experience, they include: the school site, the process, the clinical faculty, and the relationships (Svengalis, p. 31). Stress is experienced by candidates in the areas of teaching in general, their personality, self-confidence and other classroom dynamics (Henry & Beasley, 1982). Getzels and Jackson (1963) also discovered that personality of the teacher is a noteworthy variable in the classroom, personality is also argued as being the most significant. Candidate and clinical faculty personality problems are the most difficult part of clinical practice and predominant influences on teaching practices and subsequent learning (Elmore & Ellette, 1979; Henry 1983).

Clinical Faculty

Clinical faculty must provide the functions of a mentor to their candidates. They must provide them with guided experience throughout their first true classroom teaching experiences. If a clinical faculty conflicts with his or her candidate, the experience is likely to be poor for both individuals providing for negative growth and loss of an extremely valuable mentorship experience. A candidate's clinical faculty have been identified as key influences when candidate's success or failures are determined (Guyton, 1989). They are by far the most influential element the candidate experiences during clinical practice, "he or she can literally make this stage a success or failure" (Svengalis, 1992, p. 32). The reactions of clinical faculty to candidates vary as Svengalis found responses ranging from "this is an opportunity to share my love for teaching with someone just entering the field"; to "I finally have someone to do my bulletin boards and organize my files" (1992, p. 31). Candidate's reactions

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also vary with comments ranging from "she's fantastic. I hope I can be that successful someday" to "he never really lets me teach" or "she's jealous if I do well" (1992, p. 31). Although the importance clinical faculty play in mentoring has been affirmed, the mentoring role held by clinical faculty are the "most frequently overlooked link to successful student teaching programs" (Fetzer, 2005, p. 1).

Yamashita (1991), conducted a national evaluation; his study summarizes a literature review on student teaching with the subsequent areas of findings being major:

1. The clinical faculty has a significant impact on the attitudes and teaching behavior of the candidate.

2. The college coordinator has little or no direct effect on the candidate.

3. Clinical faculty selection is a neglected aspect of teacher preparation programs.

4. Although there is agreement among teacher educators that clinical faculty need special training, there is very little agreement about what the content of that special training should be (p. 2)

Mentoring

The origin of mentoring lies in Greek mythology with Homer's epic, *The Odyssey.* Greek heroin Odysseus traveled for many years while Athena assumed the role of Mentor, to guide and teach Odysseus's son Telemachus. The teacher-learner relationship is no longer viewed as effective mentoring, the relationship is now being viewed as a mutual educational experience based on networking and shared influence (Fritts, 1998). In an intensive review of mentoring in education conducted by the Education Commission of the States research in the area of beginning teacher retention provides for sound empirical support that "mentoring

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programs have a positive impact on teachers and their retention" (Ingersoll & Kranlik, 2004, n.p.). Kram (1980) described the role of a mentor as providing psychosocial and career support functions to their protégé. These findings were confirmed in the educational field by Little (1990) finding that mentoring is dependent upon the level of support provided to novice educator's mentors who provided two types of support affective emotional support and effective professional support developing teaching. Psychosocial support has been identified by roles such as: acceptance, role modeling, coaching, and counseling. (Kram, 1985a; Noe, 1988).

Informal mentoring is generally driven by career needs of employees (Ragins, Cotton, & Miller 2000, Kram, 1985a). Informal mentoring relationships generally begin when two individuals are attracted to each other based on the foundation of seeming likeness (Byrne, 1971; Tsui & O'Reilly, 1989). According to Kram (1983), informal mentoring moves through four distinct phases: initiation, cultivation, separation and redefinition. The researcher could not identify any research describing the phases of formal mentoring. Formal mentoring has not been given the amount of attention that informal mentoring has (Collins, 1983; Ragins & Scandura, 1997).

Formal mentoring includes mentors and protégés that are assigned to one another by their respective organization (Noe, 1998). Formal mentoring is more focused on addressing immediate job-related needs (Ragins, Cotton, & Miller, 2000; Kram, 1985a). These programs tend to operate for a shorter period of time and are often linked to some type of a performance review process (Ragins, Cotton, & Miller, 2000). According to Kram (1985a, 1985b) formal mentoring where mentors and protégés are paired together resulting in relationships that are less favorable than relationships that develop naturally through informal

mentoring relationships. However, mentors that also play a supervisory role have been perceived to provide more mentor functions to their protégés than non supervisory mentors (Fagenson-Eland, Marks, Amendola, 1997; Ragins & McFarlin, 1990). Formal mentoring relationships have been studied and several researchers have found that they are less beneficial than informal mentoring relationships finding that mentors' motivation and protégés' openness are decreased (Chao, Walz & Gardner, 1992; Noe, 1988). Formal mentoring relationships were often viewed as superficial because chemistry and personal commitment cannot be legislated (Kram, 1985a).

Idealistically formal mentoring programs provide a solid foundation from which informal mentoring can be built. Formal mentoring benefits include: learning new skills, developing self confidence and professional direction, realizing new opportunities for advancement, and making a greater commitment to one's career and organization (Kram & Bragar, 1992). Formal mentoring programs may be more effective for influencing more immediate performance measures including developing early career goals (Ragins & Cotton, 1999). Barr (1999) found that when matching personality types using the Myers-Briggs Type Indicator in formal mentoring does not have any significant positive impact.

Shared views of the mentoring relationship by protégés and mentors may result in more of a shared view of the relationship and an increased understanding of each other's needs. There is potential for the creation of a relationship where each participant being more likely to make attitudinal and behavioral adjustments and more open to being the recipient of and understanding feedback in order to guarantee a sustained relationship (Baird & Kram, 1983; Godshalk & Sosik, 2000; Yammarino & Atwaters, 1997). However, Waters (2004) found that mentors and protégés are improbable to agree on the quantity of psychosocial

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support that is being offered. Mentor and protégé expectations, needs and perceptions may vary because of the different career stages of each (Baird & Kram, 1983). Mentor and protégé relationship structure and experience factors affect the perceptions of both (Fagenson-Eland, Marks &Amendola, 1997). Personality's role must be understood when attempting to facilitate protégé-mentor agreement (Waters, 2004). Protégé-mentor agreement is enhanced when both parties' personality profiles were characterized with high levels of agreeableness, openness and extroversion, conditions that foster relationship trust and communication. Enhancing personality self-awareness could be beneficial in order to foster protégé-mentor agreement (Waters, 2004). Further concurring with approaches suggested by Kram (1985a, 1985b) and Kram and Bragar (1992) as they encouraged self-assessment, interpersonal skill training and setting expectations. Supervisor-mentors reported providing more psychosocial functions the longer they were acquainted with a subordinate-protégé. (Burke, McKeen, & McKenna, 1991). Another critical influence of mentoring suggested by Kram (1985a, 1985b) is the interpersonal, communication, and listening skills of the protégé and mentor. Consistent with Olian, Carroll, Giannantonio, and Feren (1988) who identified managers with greater levels of interpersonal competence were preferred as mentors than individuals with less interpersonal competence.

Sigh, Bains, and Vinnicombe (2002) outlined the numerous benefits that mentoring has the potential of yielding, a few include: higher organizational commitment, greater employee career satisfaction, increased workplace participation, improved recruitment, increased retention and enhanced communication. Waters (2004) found that mentor and protégé agreement was positively related to job satisfaction and organizational commitment. Although the benefits for protégés are generally quite obvious, the benefits to a mentor are

not always clear to see. However, as noted by Burke, McKeen, and McKenna (1994) there is

a satisfaction in serving as a mentor. Mentors may also obtain organizational recognition for

the interactions with protégés along with gaining loyalty and support from protégés after

mentoring activities have come to an end (Fetzer, 2005).

Cognitive Affect

Scandura and Schriesheim (1994) and Hurley and Fagenson (1996) have suggested in

their research that mentoring is closely related to interpersonal orientation. Studies in

mentoring have shown that attitudinal similarity is a powerful predictor of attraction and

friendship and is a catalyst for effective communication (Harrison, Price, & Bell, 1998; Tsui

& O'Reilly, 1989). Interpersonal orientation is the inclination to act in a particular way when

interacting with others (Schutz, 1966). An interpersonal need is viewed by Schutz as a

biological need, necessary for survival. Fulfilling ones interpersonal biological needs

considerably affects the health of a person, they require that individuals establish and

maintain satisfactory relations between ourselves and the environment resulting in

equilibrium (Schutz, 1966).

Interpersonal needs are an explanation of characteristic behavior by which one is

motivated to fill a need and perform a behavior. Schutz's theory on interpersonal orientation

proposes that there are three interpersonal needs that account for an individual's interpersonal

behavior: inclusion, control and affection. Each of the three needs has an expressed and

wanted category which reflect each individuals self concept. Individuals express their need in

the direction of others and wanted from others in inclusion, control, and affection. An

assumption of FIRO-B is that people seek compatible relationships with others in social

relations. Individuals strive for like-minded relationships in control, affection and inclusion

to gratify their needs while steering clear of strain and aggravation (Whetten & Cameron, 1988).

The FIRO-B instrument measures interpersonal orientation using scores ranging from 0 to 9 in each area of inclusion, control and affection with each measuring an expressed behavior and a wanted behavior. The overall score calculated by the instrument ranges from 0 to 54 and is known as the social interaction index (SII). The SII measures an individual's overall interpersonal need; higher scores represent a higher overall interpersonal need.

The behavioral area of inclusion refers to a person's social orientation and need for belonging and interaction with others. While maintaining relationships with others these individuals feel a need to be included in others activities or to include them in their own activities. These individuals feel the need to seek belonging to a group, while there is also a need to be alone. People vary in the strength of need for inclusion and their related level of comfort. These individuals need expressed inclusion which is their need to include or show interest in others. They also need wanted inclusion which is the need to be included by others. As with any measurement there are extremes, at one end of the bell curve there are over-social people that may be extroverted, narcissistic and superficial seeking to focus on themselves, to be prominent, to be noticed and to be listened to. At the other end of the bell curve there are under social people that may be introverted and withdrawn feeling socially abandoned, uninvolved and uncommitted. Schutz (1966) described that inclusion is related to feelings of self-worth.

The behavioral area of affection refers to a person's need for friendship, intimacy and the need to be close to others. Affection includes the need for warmth and love, not necessarily a romantic or physical relationship. Every person desires to express affection

towards others but also needs to maintain distance. Individual needs vary in strength, they not only need to express affection towards others but also desire affection displayed towards them.

The final behavioral area is that of control, the need for influence and power. The area of control includes maintaining a balance of power and influence in relationships that is satisfactory. People need to demonstrate control or leadership to others to some extent, which is found in expressed control. Wanted control is the other need by individuals. Even though all individuals desire individuality and freedom, to some degree individuals want to be guided or controlled by others.

Siegel, Smith, and Mosca (2001) suggested that interpersonal orientation may be a key retention factor. They also reported that inclusion was identified as the most important factor of the three measured in mentor relationships. Spivack, Platt and Shure (1976) stated that social relationships depend on an individual's ability to handle interpersonal problems. Shure (1997) declared that the ability to cope with individual problems depends on a multifaceted mixture of cognitive and emotional aspects. Interpersonal problems are conflicts faced in life by two or more parties that are obstacles in the way of the behavioral demands and expectations of those in the relationship (Jacobson & Margolin, 1979). These problems call for an interpersonal problem solving process that has an outcome in conquering the obstacle resulting in a "win-win" approach (Chang, D'Zurilla, Sanna, 2004).

Problem Solving and The Problem Solving Processes

Each day individuals lives are jam-packed with problems that people must solve in order to upkeep an ample "level of effective functioning" (D' Zurilla & Goldfried, 1971, p. 107). Our society is increasingly complex as technology takes an active role in our daily lives

and globalization allows access that has never before been experienced. Individuals today find themselves confronted with problems that are ever-changing. The complexity of the problem and level of the consequence if poorly made aides in determining if a poor made decision is either "trivial or crucial" (D' Zurilla & Goldfried, 1971, p. 107).

Problem solving has multiple definitions varying in length and conciseness. These definition range from "finding a way out of a difficulty, a way around an obstacle, attaining an aim that was not immediately attainable" (Polya, 1946, p. ix) to "the process by which the subject goes from the problem or task as he sees it to the solution which he regards as meeting the demands of the problem" (Bloom & Broder, 1950, p. 7).The definition used for the study explains problem solving as a psychological and behavioral process that a person utilizes in order to uncover a variety of solutions when faced with a problematic situation in order increase the likeliness of reaching the best possible solution to both conscious and unconscious decisions that are subject to a set of limitations.(D' Zurilla & Goldfried, 1971; Woods, 1987).

The success with which an individual is able to handle a problem varies from individual to individual. Personal differences have been recognized since the time of Socrates when he observed that competent people are "those who manage well the circumstances which they encounter daily, and who possess a judgment which is accurate in meeting occasions as they arise and rarely miss the expedient course of action" (As cited in D' Zurilla & Goldfried, 1971, p. 1). To solve a problem, the learner must move from an initial state to a goal state keeping within the constraining limits (Proctor & Dutta, 1995). Many studies have shown the broad variations among the way that individuals solve problems (Bloom & Broder, 1950; Schroder, Driver, & Streufert, 1967). Even though there is variation in the

ways which individuals solve problems there is much agreement that there is a general

process used when effectively solving problems (Crutchfield, 1969; Gagne, 1959; Osborn,

1963). There are five stages that are generally accepted in the problem solving process as

defined by these researchers, as listed by D' Zurilla and Goldfried they include: "(a) general

orientation (i.e., "set" and attitudinal factors), *(b)* problem definition and formulation, *(c)*

generation of alternatives, (d) decision making (i.e., evaluation and selection), and *(e)*

verification" (1971, p. 111-112). D' Zurilla and Goldfried (1971) further point to the

flexibility of the problem solving process and their agreement with Crutchfield (1969) in that

each stage of the problem solving process is not frequently followed in an orderly fashion,

but more often overlie and interrelate.

Cognitive Effect

A person's "general orientation or set in approaching a situation can greatly influence

the way in which he will respond to that situation" (D' Zurilla & Goldfried, 1971, p. 112).

Problem solving style displays an individual's differences when reacting to new views and

thoughts, dealing with change, and management of complex or ill-defined problems. (Selby,

Treffinger, Isaksen, & Lauer, 2004). When exerting effort to solve a problem, people

generally tend to attempt to solve them in one of two ways, they include: modification of the

problem enhancing it to make the problem different, or they or they get rid of what has

always been done and develop new and innovative solutions. Neither effort to solve the

problem is considered better or worse than the other (Treffinger & Selby, 2004).

A problem solving style preference is an individual's chosen approach to solving a

problem, no matter if an individual is on one end of the continuum or the other, either has the

same opportunities at being well or poor at solving problems. According to Kirton (2003), an

individual's preferred problem solving style is determined early in their life and is very resistant to modification. Cognitive style is founded on an independent construct concept where the domains of personality and cognition intersect (Selby, Treffinger & Isaksen, 2007).

VIEW: An Assessment of Problem Solving Style is an instrument that identifies three distinct and independent areas of problem solving style indicating an individuals' personal preference for problem solving styles. The developers of VIEW: An Assessment of Problem Solving Style based their work on studies and research conducted by Cattell, Dunn and Dunn, Gough, Jung, Kirton, Costa and McCrae, Eysenck, "Five Factor" personality theorists, and literature on creativity (Selby, Treffinger, & Isaksen, 2007). The work of Carl Jung on personality types is another foundation of The VIEW assessment. Jung's personality theory states that an individual's personality is able to be measured in several different areas; sensation-intuition, thinking-feeling, and judging-perceiving (Selby et al., 2004). The VIEW seeks to measure an individual's problem solving style with three areas; orientation to change, manner of processing and way of deciding. Each identified area is classified on separate numerical continuum where no style is more desirable than the other. The VIEW has been found to be significantly correlated with the Kirton Adaption Innovation Inventory (KAI) and the Myers-Briggs Type Indicator (MBTI) personality assessment with the MBTI area of Sensing-Intuitive accounts for 30% of KAI variance and Judging-Perceiving domains explaining 19% of KAI variance (Isaksen, Lauer, & Wilson, 2003).

Orientation to change depicts an individuals' preference for dealing with change and using creative solutions to manage change. (Treffinger & Selby, 2004). Depending on where an individual lies on the continuum in the area of orientation to change they are identified as

either explorers or developers. Explorers on the continuum are identified as being lower on the continuum with scores below the mean. These individuals take pleasure in pursuing different possibilities and enjoy original and ill defined problems with innovative solutions (Selby et al., 2004). Developers however, have a preference a methodical manner of solving problems. These individuals develop worthwhile solutions believed to be helpful by others as they habitually collect data and synthesize problems. (Treffinger & Selby, 2004).

Manner of processing, the second area identified by The VIEW indicates an individual's favored techniques to handle information during the problem solving process (Selby et al., 2004). Depend on where an individual lies on the continuum; they are identified as either external or internal problem solvers'. External problem solvers' have scores that are below the mean. These individuals tend to be extroverted, finding energy from others, they tend to seek energy from others and take pleasure in talking about problems with others as well as developing solutions in groups of people (Treffinger & Selby, 2004). Individuals scoring above the mean on the continuum are identified as internal problem solvers. These individuals prefer to internally process information tending to be introverted in nature. They look for solutions by personally reflecting at self directed paces evaluating their ideas before sharing them with others. (Treffinger & Selby, 2004).

The third and final area of The VIEW indicates an individual's ways of deciding. If individuals lie above the mean on the continuum they are task oriented relying on sound, logical and justifiable decisions leading to a solution that is free of sentiment and able to be defended. Those individuals that fall below the mean on the continuum they are identified as people oriented. These people routinely base their decisions on the emotions and opinions of others (Treffinger & Selby, 2004).

Summary

Many factors have been identified as influences on student teaching outcomes. However, one of the most crucial has been identified as clinical practice which is an indispensible part of teacher education programs (Silberman, 1971). Because of the importance of clinical practice, one would assume the experience was carefully and strategically planned and evaluated (Diamonti, 1977). Today, many of the vital components including placement are "seemingly left to chance" (Svengalis, 1992, p. 31).

Among the unique challenges in teacher education are the daily classroom decisions that cannot become consistent or standardized as they are based upon student questions and responses as well as classroom learning objectives (Hammerness, Darling-Hammond, & Shulman, 2005). "[Candidates] are faced with unique problems on a daily basis" and their "mentors must be prepared to help [them] make difficult decisions when there is no prescribed solution" (McCrary & Mazur, 2006). When individuals working together to solve a problem possess different preferred cognitive styles they experience coping behavior (Kirton, 2003, p. 255). According to Veenman, "The fact that classroom discipline is a real problem for beginning teachers may be explained in part by different patterns in the thinking or decision processes of beginning and experienced teachers" (1984, n.p.).

The mentoring aspects of clinical faculty are the "most frequently overlooked link to successful student teaching programs" (Connor & Killmer, 2001, p. 1). Missing from formal mentoring research is recognition of the best-quality way to pair mentors and protégés in order for both parties to receive the most benefits from the relationship (Ragins et al., 2000). Researchers have suggested that an educational approach to mentor protégé pairing be taken with personality testing, self-assessment, interpersonal skills training, and expectation setting

in order to promote an increased level of mentor-protégé agreement (Kram & Bragar, 1992; Waters, 2004).

Research herein described how cognitive effect (problem solving style) and cognitive affect (interpersonal needs may interact and how they influence perceived candidate and clinical faculty behaviors (psychosocial and career support). Specifically, the researcher investigated if individuals with certain problem solving styles or interpersonal needs provide or perceive different behaviors from each other. When candidates and clinical faculty posses a common view of the relationship they may be more likely to: comprehend each other's needs, receive and understand feedback more openly from each other, and more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Baird & Kram, 1983; Godshalk & Sosik, 2000). Strategic placement may assist candidate and clinical faculty in their interpersonal relations and may assist them in avoiding coping during their collaborative problem solving. If clinical faculty and candidate are able to collaborate more easily cognitively overcoming discipline and eliminating interpersonal conflicts their formal mentoring relationship has the potential to morph into an informal mentoring relationship reaching far beyond clinical practice. The research has the potential to assist with the retention problem that education has been facing for centuries. The overall intent of the study is an attempt to bring a greater understanding of the determinants in the mentoring construct as proposed by Noe (1988).

CHAPTER III

Methods and Procedures

In Chapter I, the suitability of Kirton's Adaption-Innovation (A-I) theory for mentoring, interpersonal needs, and problem solving was introduced. Chapter I also contained information relating to the urgent need for strategic paired placement of candidate with clinical faculty during clinical practice. The researcher also concluded that of the available literature, there is a consensus of information about the positive aspects of mentoring and the vast array of problems that must be solved on a daily basis in an educational classroom. Finally, definitions of key terminology, purpose and objectives of the study were presented.

In Chapter II, the conceptual framework of the study was presented and a review of literature in the following areas of focus: (a) clinical practice learning environment, (b) candidate experience, (c) clinical faculty, (d) mentoring, (e) cognitive affect, (f) problem solving and education, (g) problem solving and the problem solving process, and (h) cognitive effect is shown.

In Chapter III, the complete information pertaining to the methodology of the study is listed. Details are clearly provided to assist future research in the area. Chapter III specifically features details concerning the research design, target population, instrumentation, data collection and data analysis procedures for the study.

The purpose of the study was to describe cognitive effect (problem solving style), cognitive affect (interpersonal needs), and behavior (psychosocial and career support). The study also examined the relationships between cognitive effect, cognitive affect, and behavior of candidates and clinical faculty during clinical practice. The need for teacher

education programs to more effectively use mentoring relationships during clinical practice was an evident need within the literature in order to benefit candidate and clinical faculty as well as teacher education as a whole. When candidates and clinical faculty posses a common view of the relationship they may be more likely to comprehend each other's needs and more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Godshalk & Sosik, 2000). The focus of the study is not only that of clinical practice, but focus for the future having the potential to assist with the retention problem that education has been facing for centuries. More specifically the objectives of the study included:

1. Describe demographic characteristics of candidates (age, gender, grade point average, and week of clinical practice) and clinical faculty (age, gender, grade point average, and years of teaching experience) in the study;

2. Describe the cognitive effect of candidates and clinical faculty;

3. Describe the cognitive affect of candidates and clinical faculty;

4. Describe the behaviors (career support and psychosocial support) of candidates and clinical faculty;

5. Describe the relationship between candidates cognitive effect and clinical faculty cognitive effect;

6. Describe the relationship between candidates cognitive affect and clinical faculty cognitive affect;

7. Describe the relationship between candidate behaviors and clinical faculty behaviors; and

8. Describe the relationship between candidate and clinical faculty dyad scores.

Protection of Human Subjects

   Virginia Polytechnic Institute and State University Institutional Review Board (IRB) policies were followed throughout the study. The IRB approval form can be found in Appendix B.

Population and Sample

   Candidates and clinical faculty from nine different states and 14 different universities located in the southern region of the United States as defined by the American Association for Agricultural Education (American Association for Agricultural Education, 2004) were utilized in the study. The university contact list can be found in Appendix C. The sample included 118 candidates seeking licensure in agricultural education and 116 clinical faculty. Two individuals in the population were serving as clinical faculty to two candidates also in the population. Caution was used with the use of the data in order to avoid duplicate results. Candidates and clinical faculty were identified by the 14 institutions in the southern region of the AAAE agreeing to participate in the study. All communications with university agricultural education faculty working with candidates and clinical faculty can be found in Appendix D. The contact information for candidates and clinical faculty was obtained from pre-existing information as provided by the faculty member in charge of student teaching at each university. All candidates were student teaching in spring of 2009; all of their clinical faculty were included in the study, therefore eliminating selection error. Individuals selected as clinical faculty are generally tenured educators in their disciplines that have well established programs and positive rapport throughout the school system and community. A purposeful sample was chosen as cases to be selected were likely to be "information rich" and because the sample was found to "suit the purposes of the study" (Gall, Gall & Borg,

2003, p.165). Because the sample was purposeful and convenient, the only aspect that was taken into account was duplication of names.

Pilot Test

A pilot test was conducted in the fall of 2008 with 18 candidates in agricultural education and their clinical faculty members in a Midwestern state. The pilot test included a letter mailed to candidates and clinical faculty at the cooperating school asking them to take part in the study as well as providing IRB protocol and research information. These individuals also received a follow-up e-mail with an additional participation request and survey links. Three follow up e-mails were sent over a two week period to non-respondents (Dillman, 2000). Results of the Pilot study were not published; however the study was used to confirm readability of instruments, security of using online assessments, e-mail issues, and to determine the best means possible to achieve an increased response rate.

Data Collection

Today the world ise in the midst of the third revolution in survey methodology following that of the paper survey and telephone, use of electronic survey. Electronic survey use allows researchers to cut costs with the elimination of the need for postage as well as allowing for the removal of the use of paper products. The time required with survey dissemination is also minimized from weeks to mere hours and entire populations can be reached instead of sample use (Dillman, 2000). Today most American households do not have computers or e-mail addresses and only 67% of American adults have internet access (Horrigan & Smith, 2007). In order to overcome the obstacle of computer access, the researcher was provided with school system e-mail addresses for all candidates and clinical faculty, therefore the assumption was made that the cooperating school systems also

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provided adequate computer technologies that would enable the clinical faculty to participate in the assessment (Dillman, 2000).

A web survey was utilized to disseminate the three instruments used in the study. Each survey was organized in a strategic fashion with "efficient navigational guides" (p. 376) in place in order to encourage participants to read each word with importance (Dillman, 2000). Following Dillman's (2000) suggestion for survey design, the 234 candidates and clinical faculty were notified about the study in a postcard request for participation sent to them on February 11, 2009 via the United States Postal Service (see Appendix E for all candidate contacts and Appendix F for all clinical faculty contacts). The web surveys were introduced with a postcard sent via the United States Postal Service that was motivational, personally written and signed emphasized the importance of their participation in the research. The postcard also emphasized the simplicity of responding with clear instructions of the research process and gave the population notice of the e-mail they would be receiving (Dillman, 2000).

An e-mail was sent on February 16, 2009 to ensure that all post cards had been received. The e-mail was personalized and was individually e-mailed to each member of the population. The e-mail included the survey links and the IRB protocol for the study. Participants were prompted to use specific links to enter the assessment's website. The e-mail allowed for control of the individuals participating in the survey. Items on the mentor-protégé and FIRO-B assessments were organized in a vertical fashion centered on the page with questions listed in a similar format as those of paper self-assessments. Each question was also be numbered in a slightly larger and bold font than that of the response choices and use of color was minimized as to maintain readability as suggested by Dillman (2000). A

personalized reminder e-mail was sent on February 20, 2009 to those that had not yet participated or had participated in only one of the two available surveys. A thank you note was sent to individuals completing both available surveys reminding them that there would be one final survey involved in the study.

A final reminder to participate in the first two assessments was sent on February 23, 2009, e-mail reminders included a statement that today was the deadline to participate in the study. Candidates and clinical faculty were sent personalized e-mails on February 25, 2009 either inviting them to participate in the final study or to participate in all of the assessments if they failed to participate in the preliminary round of assessments. Individuals that had not responded to all assessments were sent reminders again on March 3, 2009 reminding them of the $20.00 value of survey results they would receive if they participated and reminding them of the March 6, 2009 survey completion deadline.

Individuals that had not responded to any or that had responded to only one assessment as of March 2, 2009 were mailed a paper copy of each assessment they had not completed with a cover letter and addressed return envelope. The deadline to return the paper version of the surveys was set for March 13, 2009. A final e-mail was sent to all participants that had not responded to all three assessments on Friday, March 6, 2009 reminding them that the deadline to participate was that evening at midnight. Returned e-mails were re-directed to the candidate or clinical faculty to pass on to each other. Candidates and clinical faculty took the same version of The VIEW and FIRO-B, versions of the mentor-protégé questionnaire differed slightly with candidates being asked how much support they perceived their clinical faculty were providing them while the clinical faculty were asked how much support they perceived they were providing the candidates. The response rate for the study

was 60.1% (n=71) for candidates and 71.19% (n=84) for clinical faculty for an overall acceptable response rate of 65.68 percent (n=155).

Research Design

Research design for the quantitative study was descriptive and correlational. An ex post facto design (Ary, Jacobs & Razavieh, 1996) was used to accomplish the objectives of the study. The use of an ex post facto design allowed for control and measure of the independent variable(s) to the variation in the dependent variable.

Instrumentation

Three instruments were utilized to collect quantitative data, they included: measuring cognitive effect-The VIEW: An Assessment of Problem Solving Style, measuring cognitive affect-FIRO-B Fundamental Interpersonal Relation Orientation Behavior, and measuring behavior the Mentor-Protégé Questionnaire indicating candidates and clinical faculty behavior in the form of perceived support. Sample assessments and permissions can be found in the following appendices: Appendix G-The VIEW, Appendix H-FIRO-B, Appendix I-Mentor-Protégé Questionnaire Candidate Version, and Appendix J-Mentor-Protégé Questionnaire Clinical Faculty Version.

VIEW: An Assessment of Problem Solving Style is an instrument that identifies three distinct and independent areas of problem solving style. The VIEW seeks to measure an individual's problem solving style with three areas; orientation to change, manner of processing and way of deciding. Each identified area is classified on separate numerical continuum where no style is more desirable than the other.

The VIEW scores, in the area of orientation to change, range from 18 to 126 with a theoretical mean of 72. A lower score is representative of the explorer style while the higher

score is representative of the developer style (Selby, Treffinger, & Isaksen, 2007). View scores in the area of manner of processing ranges from 8 to 56 with a theoretical mean of 32, low scores represent an external style processing and higher scores representing internal processing (Selby et. al., 2007). The scores in the area of ways of deciding range from 8 to 56 with a theoretical mean of 32, lower scores represent a person oriented style and higher scores representing task oriented style (Selby, Treffinger, & Isaksen, 2007).

The Fundamental Interpersonal Relations Orientation Behavior (FIRO-B) interpersonal relations theory was developed by William C. Schutz. Schutz's theory proposes that there are three interpersonal needs that account for an individual's interpersonal behavior: inclusion, control and affection. Schutz purported that, "People need people to receive from, and give to" (1966, p. 1). Schutz's theory describes each of the three needs in a dyadic idiom, expressed and wanted which reflect each individuals self concept. The theory begins with the postulation that people need people in addition to basic biological needs and argues that people have interpersonal needs that are unique and motivate them (Waterman & Rogers, 1996).

The FIRO-B includes a group of six ordinal level Guttman scales measuring the range of behavior which the respondent sees as more or less characteristic of the way they behave as they rate each item as either significant or non-significant where significant ratings receive a score of one, and nonsignificant ratings receive a score of zero. The Overall Need scale, scores between zero and 15 are considered low, scores between 16 and 26 are considered medium-low, scores between 27 and 38 are considered medium-high, and scores above 38 are considered high. The FIRO-B is a self reporting instrument consisting of 54 items that measures six dimensions of an individual's behavior toward others (Schutz, 1966). An

assumption of FIRO-B is that people seek compatible relationships with others in social

relations. The FIRO-B instrument measures interpersonal orientation using scores ranging

from zero to nine in each area of inclusion, control and affection with each measuring an

expressed behavior and a wanted behavior, total scores area also calculated in each area of

inclusion affection and control for a total of zero to 27 possible. Finally, the overall score

calculated by the instrument ranges from zero to 54 and is known as the social interaction

index (SII). The SII measures an individual's overall interpersonal need; higher scores

represent a higher overall interpersonal need.

Finally, behavior was measured with perceived support using the Mentor-Protégé

questionnaire (Armstong Allinson & Haynes, 2002; Burke McKeen & McKenna, 1994; Noe,

1988). The questions included are likert-type questions on a seven-point scale used by Noe

(1988), Burke, McKeen and Mckenna, (1994), and Armstrong, Allinson and Haynes (2002).

A likert type scale "asks individuals to check their level of agreement with various statements

about an attitude object" (Gall, Gall & Borg, 2003, p. 628). Likert descriptions included

1=agree very strongly, 2=agree strongly, 3=agree, 4=disagree, 5=disagree strongly,

6=disagree very strongly, and 7=unsure for the perceived support portion of the

questionnaire. Likert descriptions included: 1=notably similar, 2=similar, 3=slightly similar,

4=slightly dissimilar, 5=dissimilar, 6=notably dissimilar, and 7=unsure for the similarity

portion of the questionnaire. The questionnaires were used to determine the expressed

behaviors in career and psychosocial support, as well as similarity as perceived by candidates

and clinical faculty. Several questions were also included with the questionnaire to validate

the perceived support questionnaire; they were not used in data analysis. The Mentor-Protégé

questionnaire is assessment also included questions asking candidates and clinical faculty to identify their undergraduate grade point average and licensure areas.

Validity and Reliability

According to the VIEWs most up to date master database the assessment has been used on 16,141 individuals. To date correlations of the assessment with gender and age are insignificant with ways of deciding suggesting a slight tendency for females to have a People-oriented preference and males to have a Task-oriented preference. Intercorrelations among the three components of the view have found the three domains to be independent of each other. Cronbach's Coefficient Alpha has been found in each of the areas as the following: orientation to change 0.87 with the standard error of measure as 5.73, manner of processing 0.86 with the standard error of measure as 3.43, and ways of deciding as 0.82 with the standard error of the measure 3.61 (Selby et. al., 2007). Test reliability "refers to the consistency, stability and precision of test scores (Gall, Gall & Borg, 2003).

A FIRO-B reproducibility coefficient of 0.94 for all scales except expressed control, which yielded a 0.93, was reported by William Schutz (1966), suggesting that the FIRO-B is an internally consistent instrument. Test-retest reliability coefficients were also reported as 0.82 for expressed inclusion, 0.75 for wanted inclusion, 0.74 for expressed control, 0.71 for wanted control, 0.73 for expressed affection, and 0.80 for wanted affection. Test-retest reliability over a one to four week period was examined for a variety of populations including junior high students, adults and college students. Reported reliability estimates varied from 0.71 to 0.85 with eight out of 18 correlations meeting the accepted 0.80 standard for subscale reliability. Convergent validity intercorrelations from the FIRO-B scales, and correlations between scores on the FIRO-B and the MBTI, California Psychological

Inventory (CPI), and the Group Embedded Figures Test were found to be significant. Some of the most extensive research conducted on psychometric properties of FIRO-B was compiled by Gluck (1979). Gluck stated that the most appropriate statistic for measuring the stability of a Guttman scale instrument is that of coefficient of reproducibility. The reliability coefficient describes the predictability of respondents' answers according their responses to previous items. The reliability coefficient also measures the deviation of the scale from the ideal pattern, the generally accepted practice to accept a scale as reliable when the coefficient's reproducibility is 0.90 or greater (Guttman, 1974).

The Mentor-Protégé questionnaire has been modified from the assessments used by Noe (1988), Burke, McKeen, and McKenna (1994), and Armstrong, Allinson, and Hayes (2002). Noe (1988), found an internal consistency reliability estimate assessing the homogeneity of the scales finding the scale to be 0.89 for career support. Noe (1988) also found a high internal consistency reliability estimate of 0.92. An intercorrelation between the scales of career and psychosocial functions was found to be 0.49. Burke, McKeen, and McKenna (1994), reported internal consistency reliabilities (Cronbach's alpha) of greater than 0.70, a level of reliability as they reported generally considered acceptable. Armstrong, Allinson and Hayes (2002), found an internal consistency reliability estimate for the career-related functions scale obtained with the current data were 0.80, compared with 0.87 reported in Burke, McKeen and McKenna (1994), items addressed the extent which mentors provided protection, exposure and visibility, sponsorship, challenging assignments, and coaching.

The internal consistency reliability estimate for the psychosocial functions scale was found to be 0.81 compared with 0.89 previously reported by Burke, McKeen, and McKenna (1994), with items addressing the mentors provided as a role model, counseling, friendship,

acceptance and confirmation. The assessment also asked mentors to indicate how much they perceived their protégés being similar to them with items derived from Burke, McKeen, and McKenna (1994), items addressed intelligence, personality, ambition, approach to work, social attributes and communication skills. Internal consistency estimates for the Mentor-Protégé questionnaire scale were 0.84 from the mentor's perspective, compared to 0.73 reported in the original study, and 0.80 from the protégé's perspective. For the purpose of the study the cronbach's alpha reliability coefficient was found to be 0.92 overall, 0.81 for the career portion, 0.91 for the psychosocial portion, and 0.82 for the similarity portion.

Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 16.0 for Windows. Descriptive statistics were used to describe the sample of candidates and clinical faculty included in the study. Data analysis for each research objective follows.

Objective One

Objective one sought to describe the demographic characteristics of candidates and clinical faculty in the study. Clinical faculty were asked their age, gender, grade point average and number of years teaching experience while candidates were asked their age, gender, grade point average, and week of clinical practice. To compute the identified demographic variables of age, gender, grade point average, years of teaching experience, and weeks of clinical practice) frequencies and means were produced by SPSS outputs. Age, grade point average, years of teaching experience, and week of clinical practice are on a ratio scale. The mean, standard deviation, and maximum and minimum age, grade point average, years of teaching experience and week of clinical practice was reported. The range grade

point average, years of teaching experience, and week of clinical practice was also reported. Gender is a nominal scale item, therefore only percentages were reported.

Objectives Two, Three, and Four

The second objective for the study was to describe the cognitive effect of candidates and clinical faculty. Mean, standard deviation, and minimum and maximum were reported as the data were interval. The third objective sought to describe the cognitive affect of candidates and clinical faculty. Mean, standard deviation, and minimum and maximum were reported as the data are interval. The fourth objective was to describe the behaviors (career support and psychosocial support) of candidates and clinical faculty. Mean, standard deviation, and minimum and maximum were reported as the data are interval.

Objective Five

The fifth objective included describing the relationship between candidate's cognitive effect and clinical faculty cognitive effect. The objective was correlational in nature. The variables of cognitive effect were interval in nature; therefore Pearson's correlation coefficient was used to calculate the correlation coefficient. The coefficient is represented by the variable r, which reports the magnitude and direction (negative or positive). Repeated measures Analysis of Variance (ANOVA) was used to determine if there was a difference between the candidate and clinical faculty problem solving style.

Objective Six

The sixth objective was to describe the relationship between candidates' cognitive affect and clinical faculty cognitive affect. The objective was also correlational in nature. The variables of cognitive affect were interval in nature; therefore Pearson's correlation coefficient was used to calculate the correlation coefficient. Repeated measures Analysis of

Variance (ANOVA) was used to determine if there was a difference between the candidate and clinical faculty interpersonal needs.

Objective Seven

The seventh objective was to describe the relationship between candidate behaviors and clinical faculty behaviors. The objective was correlational in nature. The behavior variables were interval in nature; therefore Pearson's correlation coefficient was used to calculate the correlation coefficient. Repeated measures Analysis of Variance (ANOVA) was used to determine if there was a difference between the candidate and clinical faculty perceived support.

Objective Eight

The eighth objective was to describe the relationship between candidate and clinical faculty dyad scores. A matched pairs t-test was used in order to determine relationship differences. The statistic of use to calculate the correlation coefficient was the Pearson Product Moment Correlation (r-value) which estimates a populations parameter, the higher the number the stronger the association.

Summary

The population for the study was agricultural education candidates and clinical faculty. Candidates and clinical faculty were purposefully selected for participation in the study, generalizability beyond the select population is not recommended. Instruments used assisted in the gathering of data related to candidate and clinical faculty cognitive effect, cognitive affect and behavior. The resulting response rate for the study was 60.17% (n=71) for candidates and 71.19% (n=84) for clinical faculty for an overall acceptable response rate of 65.68% (n=155).

CHAPTER IV

Results

In Chapter I the significance of the study was outlined. The chapter also contains the introduction, theoretical framework, problem statement, professional contributions of the study, purpose of the study, research objectives, limits of the study and definitions of key terms.

Chapter II included a review of literature which unveiled pertinent research associated with the study. The chapter also focused on information about the clinical practice learning environment, candidate experience, clinical faculty, mentoring, cognitive affect, problem solving, the problem solving process, and cognitive effect.

Chapter III outlined the methods used to conduct the research study. The chapter included the variables of interest in the study, context in which the study took place, research design, research objectives, and population descriptions including subjects, procedures, and data analysis. The chapter also presented information about the assessment utilized in the study including the following: The VIEW: An Assessment of Problem Solving Style TM, FIRO-B: Fundamental Interpersonal Relations Organization Behavior assessment which identifies an individual's interpersonal needs and a Mentor-Protégé assessment measuring perceived support.

In Chapter IV the results obtained from the study are shown. Chapter IV was organized in accordance to the eight research objectives identified in Chapter I and discussed throughout. The differences in candidate and clinical faculty backgrounds were first discussed with a report on available demographics followed by candidate and clinical faculty cognitive effect, cognitive affect, and behavior in the form of perceived career and

psychosocial support. The relationships between cognitive effect, cognitive affect, and behavior were then explained using dyad scores with a matched pairs t-test.

The study addressed the current state of candidate placement at clinical practice sites. The researcher does not imply that universities and institutions of higher education are not trying to do more and better in their placement efforts, but believes there is a better way to place candidates with clinical faculty. A better placement would include the creation of a dyad using analysis from cognitive research in order to determine individual differences, differences which have the unique power to provide a successful or detrimental experience for the candidate or clinical faculty. The study identified candidate and clinical faculty cognitive effect, cognitive affect, and behavior during the candidate's clinical practice. More specifically the objectives of the study included:

1. Describe demographic characteristics of candidates (age, gender, grade point average, and week of clinical practice) and clinical faculty (age, gender, grade point average, and years of teaching experience) in the study;

2. Describe the cognitive effect of candidates and clinical faculty;

3. Describe the cognitive affect of candidates and clinical faculty;

4. Describe the behaviors (career support and psychosocial support) of candidates and clinical faculty;

5. Describe the relationship between candidates cognitive effect and clinical faculty cognitive effect;

6. Describe the relationship between candidates cognitive affect and clinical faculty cognitive affect;

7. Describe the relationship between candidate behaviors and clinical faculty behaviors; and

8. Describe the relationship between candidate and clinical faculty dyad scores.

Objective One: Describe demographic characteristics of candidates (age, gender, grade point average, and week of clinical practice) and clinical faculty (age, gender, grade point average, and years of teaching experience) in the study;

Descriptive statistics were used to identify the following: candidate age, gender, undergraduate GPA and graduate GPA and week of clinical practice. Descriptive statistics were also identified for candidate's clinical faculty, demographics reported include: age, gender, undergraduate GPA, graduate GPA, and years of teaching experience.

The mean candidate age was 22.72 (n=71) years of age with a standard deviation of 2.36 with a minimum of 21 and a maximum of 33 years of age. The candidate population was composed of 36.60% male (n=26) and 63.40% female (n=45). The candidate undergraduate grade point averages revealed a mean of 3.30 (n=70) with a standard deviation of 0.40, with a maximum of 4.00 and a minimum of 2.36. The candidate graduate grade point averages revealed a mean of 3.81 (n=19) with a standard deviation of 0.30, with a maximum of 4.00 and a minimum of 3.50. Finally, the candidates in the population reported the length they were in clinical practice at the time data were collected with a mean of five weeks, with a maximum of eight and a minimum of one week of clinical practice.

The mean clinical faculty age was 40.99 (sd=9.65) years of age (n=85) with a minimum of 25 and a maximum of 61 years of age. The clinical faculty population was composed of 71.43% males (n=60) and 28.57% females (n=24). The clinical faculty undergraduate grade point average mean was 3.31 (n=81, sd=0.39) with a maximum of 4.00

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and a minimum of 2.30. The clinical faculty graduate grade point averages revealed a mean

of 3.72 (n=54, sd=0.30) with a maximum of 4.00 and a minimum of 3.00. Finally, the clinical

faculty in the population reported their years of teaching experience with a mean of 16.29

(sd=8.77) with a maximum of 34 and a minimum of two years of teaching experience.

Objective Two: Describe the cognitive effect of candidates and clinical faculty.

Table 1

Candidate and Clinical Faculty Cognitive Effect Summary Statistic

Statistic	Orientation to Change[a]	Manner of Processing[b]	Ways of Deciding[c]
Candidate (n=62)			
Mean	83.48	28.97	35.24
S.D.	14.54	8.59	9.34
S.E.	1.85	1.09	1.19
Minimum	42	9	15
Maximum	119	52	56
Clinical Faculty (n=75)			
Mean	79.71	30.84	34.67
S.D.	12.51	8.54	6.95
S.E.	1.45	0.99	0.80
Minimum	38	12	13
Maximum	104	52	54

Note: Cognitive Effect is measured with VIEW: An Assessment of Problem Solving Style.
[a]Orientation to Change has a minimum score of 16 and a maximum score of 126 with a theoretical mean of 72. [b]Manner of Processing has a minimum score of 8 and a maximum score of 56 with a theoretical mean of 32. [c]Ways of Deciding has a minimum score of 8 and a maximum score of 56 with a theoretical mean of 32.

The cognitive effect of candidates in the study is described in Table 1. The mean of

candidate's orientation to change was 83.48, slightly higher than that of the clinical faculty

mean of 79.71; lower scores are representative of the explorer styles and higher scores

representative of the developer style. The mean manner of processing of clinical faculty of

0.84 was slightly higher than that of the candidates with a reported mean of 28.97; low scores

represent an external style of processing while higher scores represent internal processing.

The candidate's ways of deciding was slightly higher than that of clinical faculty with a

candidate mean of 35. 24 compared to the clinical faculty mean of 34.67; lower scores

are representative of a person oriented style and higher scores of task oriented style.

Table 2

Candidate and Clinical Faculty Cognitive Affect Summary Statistic

Statistic	eI[a]	eA[b]	eC[c]	wI[d]	wA[e]	wC[f]	eTotal[g]	wTotal[h]	SII[i]
				Candidate (n=71)					
Mean	5.04	4.56	3.87	3.93	3.75	3.04	13.48	10.69	24.17
S.D.	1.98	2.38	2.85	3.05	2.56	2.35	5.02	6.17	10.22
S.E.	0.24	0.28	0.34	0.36	0.30	0.28	0.60	0.73	1.21
Minimum	1	0	0	0	0	0	3	0	3
Maximum	9	9	9	9	9	9	25	25	48
				Clinical Faculty (n=84)					
Mean	4.33	4.14	4.08	2.83	4.14	3.00	12.56	9.98	22.54
S.D.	2.10	2.43	2.48	3.05	2.76	1.74	5.09	5.74	9.88
S.E.	0.23	0.27	0.27	0.33	0.30	0.19	0.56	0.63	1.08
Minimum	0	1	0	0	0	0	2	1	6
Maximum	9	9	9	9	9	9	27	23	45

Note: Cognitive Affect is measured with FIRO-B Fundamental Interpersonal Relation Orientation Behavior. [a]Expressed Inclusion has a minimum score of 0 and a maximum score of 9. [b]Expressed Affection has a minimum score of 0 and a maximum score of 9. [c]Expressed Control has a minimum score of 0 and a maximum score of 9. [d]Wanted Inclusion has a minimum score of 0 and a maximum score of 9. [e]Wanted Affection has a minimum score of 0 and a maximum score of 9. [f]Wanted Control has a minimum score of 0 and a maximum score of 9. [g]Expressed Total has a minimum score of 0 and a maximum score of 27. [h]Wanted Total has a minimum score of 0 and a maximum score of 27. [i]Social Interaction Index has a minimum score of 0 and a maximum score of 54.

Objective Three: Describe the cognitive affect of candidates and clinical faculty.

The candidate and clinical faculty cognitive affect is described in Table 2. The candidate expressed inclusion scores reported a mean of 5.04, slightly higher than that of the clinical faculty reporting a mean of 4.33 with similar standard deviations. The expressed affection scores for candidates and clinical faculty were 4.56 and 4.14 respectively. These scores indicate that candidates and clinical faculty means were very similar with standard deviations of close proximity. Candidate expressed control was 3.87 compared to the clinical faculty mean of 4.08 with comparable standard deviations. The candidate wanted inclusion was reported at 3.93 nearly one point higher than that of the clinical faculty mean of 2.83 although standard deviations reported a negligible difference. Indicating that candidates desired more overall inclusion than clinical faculty. Wanted affection was reported with a mean of 3.75 by candidates and 4.14 by clinical faculty as was wanted control with a candidate mean of 3.04 and clinical faculty mean of 3.00, both with analogous standard deviations. Expressed totals reported by candidates reported a mean of 13.48 compared to a clinical faculty reported mean of 12.56 with similar standard deviations. Indicating that overall, student teachers desire the ability to express their inclusion, affection, and control towards others. Wanted totals indicated a similar desire for inclusion, affection and control with a candidate mean of 10.69 and a clinical faculty mean of 9.98 with comparable standard deviations. Finally, the Social Interaction Index reported a higher overall mean for candidates than clinical faculty. Candidates reported a mean SII of 24.17 compared to the clinical faculty reported mean of 22.54. The score indicates that overall, candidates have more wanted and expressed inclusion, affection, and control than clinical faculty. In the area of cognitive affect wanted control was the lowest mean for candidates and wanted inclusion was

the lowest mean for clinical faculty, a particularly interesting finding.

Objective Four: Describe the behaviors (career support and psychosocial support) of

Table 3

Candidate and Clinical Faculty Behavior Summary Statistic

Statistic	Total Similarity[a]	Total Career[b]	Total Psychosocial[c]	Total Support[d]
Candidate (n=62)				
Mean	14.42	10.60	16.81	27.40
S.D.	5.62	3.97	8.42	11.76
S.E.	0.71	0.51	1.07	1.49
Minimum	5	9	14	6
Maximum	22	47	63	38
Clinical Faculty (n=71)				
Mean	15.30	11.27	20.63	31.90
S.D.	5.02	3.01	7.23	9.07
S.E.	0.60	0.36	0.86	1.08
Minimum	6	5	9	14
Maximum	28	18	42	60

Note: Behavior is measured with the Mentor Protégé Assessment. [a]Total Similarity has a minimum score of 6 and a maximum score of 42. [b]Total Career has a minimum score of 5 and a maximum score of 35. [c]Total Psychosocial has a minimum score of 9 and a maximum score of 56. [d]Total Support has a minimum score of 14 and a maximum score of 91. *candidates and clinical faculty.*

The behaviors as perceived by candidates and clinical faculty are described in Table 3. The mean score of 14.42 was reported for the candidate similarity construct compared to 15.30 reported by the clinical faculty. Similar scores indicate that overall candidates and clinical faculty perceived that they possess similar traits in the areas of intelligence, personality, ambition, approach to work, social attributes, and communication skills. Total career support received and given as perceived by the candidates with a mean of 10.60 and clinical faculty with a mean of 11.27 varied somewhat with a slight difference in standard

deviations of 3.97 and 3.01 respectively. The mean perceived psychosocial support reported

as received by candidates was 16.81 compared to that perceived being given by the clinical

faculty with a mean of 20.63. The standard deviations varied greatly between the candidates

and clinical faculty with scores of 8.42 and 7.23 respectively. Lastly, the total support mean

was reported as 27.40 by the candidates and 31.90 by the clinical faculty.

Objective Five: Describe the relationship between candidate cognitive effect and clinical

faculty cognitive effect.

As can be seen in Table 4, the correlations between candidate and clinical faculty

cognitive effect are described. In order to describe the candidate and clinical faculty

relationships, Pearson's Product Moment Correlations were calculated. Correlations were

defined using ranges and terminology sited by Davis (1971). Correlations of 0.70 or higher

are noted as possessing a very strong association, those ranging from 0.50 to 0.69 are noted

as substantial, correlations between 0.30 and 0.49 possess a moderate association, those

between 0.10 and 0.29 have a low association and those between 0.01 and 0.09 are

negligible.

Table 4

Pearson Product Moment Correlations between Candidate Cognitive Effect and Clinical Faculty Cognitive Effect (n=137)

	Clinical Faculty Orientation to Change	Clinical Faculty Manner of Processing	Clinical Faculty Ways of Deciding
Candidate Orientation to Change	-0.15	--	--
Candidate Manner of Processing	--	0.10	--
Candidate Ways of Deciding	--	--	-0.04

Note: Cognitive Effect is measured with VIEW: An Assessment of Problem Solving Style.

No correlations with a very strong association were revealed among candidates and clinical faculty cognitive effect. A low and positive association was found between candidate and clinical faculty manner of processing. Indicating as candidates manner of processing scores increased there was a slight tendency for the same scores of clinical faculty to increase or vice versa. A low and negative association was found between candidate and clinical faculty orientation to change. Indicating that as candidates orientation to change score increased there was a slight tendency that the clinical faculty score in the same area is likely to decrease and vice versa. The correlation between candidate and clinical faculty ways of deciding was slightly negative and negligible. Table 5 describes the relationship between candidate and clinical faculty cognitive effect using a one-way analysis of variance.

Table 5

Differences between Candidate Cognitive Effect and Clinical Faculty Cognitive Effect (n=137)

Statistic	df	F	P	d
Orientation to Change	1	3.03	0.08	0.28
Manner of Processing	1	1.32	0.25	0.22
Ways of Deciding	1	0.19	0.67	0.07

Note: Cognitive Effect is measured with VIEW: An Assessment of Problem Solving Style.

No significant differences were found among candidate and clinical faculty mean cognitive effect scores. Orientation to change reported an F-ratio of 3.03, significance of 0.08, and effect size of 0.14. Manner of processing data were interpreted as an F-ratio of 1.32, significance of 0.25, and effect size of 0.11. Ways of deciding indicated an F-ratio of 0.19, significance of 0.67 and effect size of 0.03.

Objective Six: Describe the relationship between candidate cognitive affect and clinical faculty cognitive affect.

Table 6

Pearson Product Moment Correlations between Candidate Expressed Cognitive Affect and Clinical Faculty Cognitive Affect (n=155)

	CF eI	CF eA	CF eC	CF eTotal
C eI	-0.16	--	--	--
C eA	--	-0.08	--	--
C eC	--	--	0.04	--
C eTotal	--	--	--	-0.08

Note: Cognitive affect is measured with FIRO-B, Fundamental Interpersonal Relation Orientation Behavior.

The correlations between candidate and clinical faculty expressed cognitive affect are described in Table 6. The correlations between expressed inclusion and expressed affection were found to be negative with a low association while expressed affection, expressed control, and expressed total were reported as having negligible association between candidate and clinical faculty scores. The correlations indicate that as candidates expressed inclusion function of cognitive affect decreased there was a slight tendency that the clinical faculty score in the same area is likely to decrease, vice versa. Table 7 describes the correlations found among candidate and clinical faculty wanted cognitive affect.

Table 7

Pearson Product Moment Correlations between Candidate Wanted Cognitive Affect and Clinical Faculty Cognitive Affect (n=155)

	CF wI	CF wA	CF wC	CF wTotal
C wI	-0.17	--	--	--
C wA	--	0.08	--	--
C wC	--	--	0.00	--
C wTotal	--	--	--	-0.05

Note: Cognitive affect is measured with FIRO-B, Fundamental Interpersonal Relation Orientation Behavior.

The wanted affection, wanted control, and wanted total components of cognitive affect were shown to have negligible correlations. The correlation between candidate and clinical faculty wanted inclusion revealed a low and negative association between candidate and clinical faculty scores. Indicating that as candidates wanted inclusion decreased there was a slight tendency that the clinical faculty score in the same area is likely to decrease, vice versa. Table 8 describes the correlations between candidate expressed cognitive affect and clinical faculty wanted cognitive affect.

Table 8

Pearson Product Moment Correlations between Candidate Expressed Cognitive Affect and Clinical Faculty Wanted Cognitive Affect (n=155)

	CF wI	CF wA	CF wC	CF wTotal
C eI	0.27*	--	--	--
C eA	--	-0.13	--	--
C eC	--	--	0.12	--
C eTotal	--	--	--	0.18

Note: * Indicates the correlation is significant at the 0.05 level (2-tailed). Cognitive affect is measured with FIRO-B, Fundamental Interpersonal Relation Orientation Behavior.

All correlations between candidate expressed cognitive affect and clinical faculty wanted cognitive affect were found to have low associations. All correlations except clinical faculty wanted affection and candidate expressed affection were positive. The correlation between candidate expressed inclusion and clinical faculty wanted inclusion was also found to be significant at the 0.05 level of significance. Table 9 describes the correlations between candidate wanted cognitive affect and clinical faculty expressed cognitive affect.

Table 9

Pearson Product Moment Correlations between Candidate and Clinical Faculty Cognitive Affect (n=155)

	CF eI	CF eA	CF eC	CF eTotal	CF SII
C wI	-0.08	--	--	--	
C wA	--	0.04	--	--	
C wC	--	--	0.09	--	
C wTotal	--	--	--	0.08	
C SII					0.14

Note: Cognitive affect is measured with FIRO-B, Fundamental Interpersonal Relation Orientation Behavior.

Correlations between candidate wanted cognitive affect and clinical faculty expressed cognitive affect revealed negligible associations. All correlations were positive except clinical faculty expressed inclusion and candidate wanted inclusion. The correlation of the social interaction index revealed a low and positive association between candidate and clinical faculty cognitive affect indicating a slight increase in candidate SII as clinical faculty SII increased, vice versa. Table 10 describes the relationship between candidate and clinical faculty cognitive affect using a one-way analysis of variance.

Table 10

Difference scores between Candidate Cognitive Affect and Clinical Faculty Cognitive Affect (n=155)

Statistic	Df	F	P	d
eI	1	4.22	0.04*	0.35
eA	1	5.11	0.35	0.17
eC	1	0.24	0.62	0.08
wI	1	4.41	0.04*	0.36
wA	1	1.10	0.30	0.15
wC	1	0.00	0.99	0.02
eTotal	1	1.04	0.31	0.18
wTotal	1	0.37	0.55	0.12
SII	1	0.76	0.39	0.16

Note: * Indicates significance at the 0.05 level of significance. Cognitive affect is measured with FIRO-B, Fundamental Interpersonal Relation Behavior Orientation

Significant differences were found among candidate and clinical faculty mean cognitive affect scores in the areas of expressed inclusion and wanted inclusion, both with a reported significance of p=0.04. Indicating there was a difference among the mean scores of candidates and clinical faculty when measuring the inclusion component of cognitive affect with the instrument. No significant differences were found in overall cognitive effect measured with the social interaction index or areas of affection and control.

Objective Seven: Describe the relationship between candidate behaviors and clinical faculty behaviors.

Table 11

Pearson Product Moment Correlations between Candidate Behavior and Clinical Faculty Behavior (n=133)

	Clinical Faculty Total Career Support	Clinical Faculty Total Psychosocial Support	Clinical Faculty Total Similarity	Total Support
Candidate Total Career Support	0.10	--	--	--
Candidate Total Psychosocial Support	--	0.24	--	---
Candidate Total Similarity	--	--	0.08	--
Candidate Total Support	--	--	--	0.21

Note: Behavior is measured with the Mentor Protégé Assessment.

Table 11 describes the correlations between candidate and clinical faculty perceived behaviors. Correlations identified between candidate and clinical faculty perceived career support, psychosocial support and total support were found to have low, positive correlations. As candidates' perceptions of career support, psychosocial support and total support increased the clinical faculty scores also had the tendency to increase, vice versa. The correlations between candidate and clinical faculty perceived similarity was found to be

negligible. Table 12 describes the relationship between candidate and clinical faculty

behavior using a one-way analysis of variance.

Table 12

Difference scores between Candidate Behavior and Clinical Faculty Behavior (n=133)

Statistic	df	F	P	d
Career Support	1	1.22	0.27	0.19
Psychosocial Support	1	7.96	0.01*	0.49
Similarity	1	0.90	0.34	0.17
Total Support	1	6.18	0.01*	0.43

Note:* Indicates significance at the 0.05 level of significance. Behavior is measured with the Mentor Protégé Assessment

Significant differences at the 0.05 level of significance were found in the area of

psychosocial support and total support. Indicating there were differences found among the

mean scores of candidates and clinical faculty when comparing the means of psychosocial

and total support while utilizing the assessment to measure behavior No significant

differences were found among candidate and clinical faculty mean behavior scores of career

support or similarity.

Objective Eight: Describe the relationship between candidate and clinical faculty dyad

scores.

In the following tables, the results of a matched pairs t-test are displayed. A matched

pairs t-test was conducted to allow for the identification of individual pairs of candidates and

clinical faculty in the mentoring construct. The cognitive effect results for scores of matched

pairs found between candidates and clinical faculty are described in Table 13.

Table 13

Matched Pairs T-test between Candidate and Clinical Faculty Cognitive Effect (n=55 pairs)

Statistic	T	Df	p
Orientation to Change	2.00	54	0.05
Manner of Processing	-1.07	54	0.29
Ways of Deciding	0.49	54	0.63

Note: Cognitive Effect is measured with VIEW: An Assessment of Problem Solving Style.

Significant differences were found in a paired analysis of candidates and clinical

faculty in the cognitive effect area of orientation to change. The cognitive affect results for

matched pairs of candidates and clinical faculty are described in Table 14.

Table 14

Matched Pairs T-test between Candidate and Clinical Faculty Cognitive Affect (n=62)

Candidate	Clinical Faculty	T	Df	P
eI	eI	1.96	61	0.05
eA	eA	0.62	61	0.54
eC	eC	-0.73	61	0.47
eTotal	eTotal	0.78	61	0.44
wI	wI	1.87	61	0.07
wA	wA	-1.07	61	0.29
wC	wC	-0.33	61	0.75
wTotal	wTotal	0.32	61	0.75
eI	wI	5.27	61	0.00**
eA	wA	0.75	61	0.46
eC	wC	2.04	61	0.46
eTotal	wTotal	3.88	61	0.00**
wI	eI	-0.92	61	0.36
wA	eA	-1.43	61	0.16
wC	eC	-2.97	61	0.00**
wTotal	eTotal	-2.37	61	0.02*
SII	SII	0.58	61	0.56

Note: **Indicates significance at the 0.05 level of significance. * Indicates significance at the 0.01 level of significance. Cognitive affect is measured with FIRO-B, Fundamental Interpersonal Relation Orientation Behavior.

Significance was found at the 0.05 level in the areas of candidate expressed inclusion

and clinical faculty wanted inclusion (t=5.27), candidate expressed total and clinical faculty

wanted total (t=3.88), and candidate wanted control and clinical faculty expressed control

(t=-2.97). Significance was also found at the 0.01 level of significance for candidate wanted

total and clinical faculty expressed total (t=-2.37), indicating that a difference between pairs

of candidates and clinical faculty was significant in the above areas of cognitive affect. Table

15 explains the behavior results for matched pairs of candidates and clinical faculty.

Table 15

Matched Pairs T-test between Candidate and Clinical Faculty Behavior (n=48)

Statistic	T	Df	P
Total Career	-0.85	47	0.40
Total Psychosocial	-2.86	47	0.01*
Total Similarity	-0.59	47	0.56
Total Support	-2.32	47	0.02*

Note: * Indicates significance at the 0.01 level of significance. Behavior is measured with the Mentor Protégé Assessment.

Total perceived psychosocial support (t=-2.86) and perceived total support (t=-2.32)

were found to be significant when examining candidate and clinical faculty matched dyads.

Indicating the matched pair's perceptions were not in alignment with each other. A

condensed version of the results as presented in the public defense of the thesis can be found

in Appendix K.

Summary

In chapter IV the results of the study were outlined following each objective. In the

study, candidates and clinical faculty were very similar in their problem solving style

preferences: primarily developers, external processors, and task oriented in their problem

solving styles. Candidates and clinical faculty were also very similar in reference to their

mean cognitive affect, i.e. expressing like-levels of inclusion, affection and control. Candidates and clinical faculty wanted similar affection and control, with the level of inclusion being slightly higher for candidates. Overall, candidates total expressed interpersonal needs were only slightly higher for candidates than clinical faculty. Total wanted interpersonal needs were also slightly higher for candidate than clinical faculty with the social interaction index also slightly higher for candidates than clinical faculty. Clinical faculty reported being slightly more dissimilar or unsure in the similarity areas than candidates. Candidates reported that they perceived more total career support than clinical faculty perceived they were providing. The candidates also perceived receiving or being more sure of the amount of mean psychosocial support then their clinical faculty perceived they provided. Total perceived support means were reported as a combination of perceived career and psychosocial support. The candidates reported as receiving more support in these areas than clinical faculty perceived providing.

All correlation interpretations revealed low or negligible associations between candidate and clinical faculty means. The relationship between candidate and clinical faculty cognitive affect using a one-way analysis of variance revealed significant differences among candidate and clinical faculty mean cognitive affect scores. Differences were found in the areas of expressed inclusion and wanted inclusion, both with a reported significance of 0.04. Scores indicated that there were relationships among the mean scores of candidates and clinical faculty when measuring the inclusion component of cognitive affect. Significant differences at the 0.05 level of significance were found in the area of psychosocial support and total support. Indicating that there is a relationship among the mean scores of candidates

and clinical faculty when comparing the means of psychosocial and total support while utilizing the assessment to measure behavior

Matched pairs t-tests focusing on the dyadic relationships between candidate and clinical faculty revealed significant differences in a paired analysis between candidates and clinical faculty in the cognitive effect area of orientation to change. Significance was found at the 0.05 level in the areas of candidate expressed inclusion and clinical faculty wanted inclusion (t=5.27), candidate expressed total and clinical faculty wanted total (t=3.88), and candidate wanted control and clinical faculty expressed control (-2.97). Significance was also found at the 0.01 level of significance for candidate wanted total and clinical faculty expressed total (t=-2.37). Indicating that a difference between pairs of candidates and clinical faculty was significant in the areas of cognitive affect reported. In the area of behavior, a matched pairs t-test determined perceived psychosocial support (t=-2.86) and perceived total support (t=-2.32) to be significant when examining candidate and clinical faculty matched dyads. Indicating the matched pair's perceptions were not in alignment with each other in the area of psychosocial support, but were in agreement of similarity and perceived career support.

Chapter V

Findings, Conclusions, and Implications

Herein is presented a summary and discussion of research findings from the study. Also included within Chapter V are conclusions and recommendations for further research and practice. Human behavior is extremely difficult to predict because of the many different components behavior entails including the environment, cognitive affect, cognitive effect, and cognitive resource (Kirton, 2003). The study was created to identify candidates and clinical faculty from the southern region of the United States in the American Association for Agricultural Education cognitive effect, cognitive affect, and perceived behavior in the form of career and psychosocial. The results presented in chapter IV and discussed herein must not be generalized beyond the population and context of the study.

The investigation of the impact of cognitive affect, cognitive effect, and behaviors as expressed by clinical faculty and candidates during the candidate's first four to six weeks of student teaching resulted in many interesting findings. Clinical faculty members have a very important role in the training of candidates during clinical practice. However, there is little sound theoretical framework highlighting the unique factors that candidates and clinical faculty experience during clinical practice (Connor & Killmer, 2001). Even though candidates perceive their programs of preparation differently and sometimes negatively, pre service preparation programs assist teachers in a positive manner assisting them in feeling better prepared than individuals entering teaching through other means (Darling-Hammond, Chung, Frelow, 2002). Candidates will find their experience student teaching in the field "to be either satisfying and rewarding or continuously frustrating because of lack of direction or help" from their clinical faculty (Erbes, 1971, p. 40). A national evaluation has shown that

clinical faculty have a significant impact on the attitudes and teaching behavior of their candidates, yet clinical faculty selection remains a neglected aspect of teacher preparation programs (Yamashita, 1991). Having the potential to detrimental to a future teacher's career ambition as a poor placement of candidate with clinical faculty can result in candidate feelings of insufficiency, negative self confidence, and a less than positive attitude about teaching (Fallin & Royse, 2000).

Michael Kirton's Cognitive Function Schema is the basis for the theoretical framework for the study. Kirton's schema was chosen as the theoretical framework for the study given that the Schema splits cognitive style and level while recognizing other elements that affect problem solving abilities during clinical practice. Kirton's schema establishes that cognitive effect, cognitive affect, and cognitive resource are components of cognitive function utilized by a person in order to solve everyday problems much like those that candidates and clinical faculty face on a daily basis. The model recognizes the clinical practice environment as a factor in the expressed behaviors of candidates. The environmental recognition is key in the model as the researcher purports that learning is a social process, one that is improved by personal contact and conversation with others (Hatano & Inagaki, 1993; Jonassen, 1999). "In order to understand the individual, one must first understand the social relations in which the individual exists" according to Vygotsky (Wertsch, 1985, p. 58).

If candidates and clinical faculty posses a common view of the relationship they may be more likely to comprehend each other's needs and more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Godshalk & Sosik, 2000). An educational approach to mentoring has been suggested with personality testing, self-assessment, interpersonal skills training, and expectation setting in order to

promote an increased level of mentor-protégé agreement (Kram & Bragar, 1992; Waters, 2004).

The importance of the research within the population utilized was considered a high priority as beginning career and technical education teachers perceived that support from colleagues in the education profession serving in the form or a mentor was key to their retention in the education profession (Ruhland & Bremer, 2002). Therefore the study has been conducted in order to unveil an increasing comprehension of the mentoring construct and a holistic view at clinical practice, a critical foundation in teacher retention. The research objectives guiding the study were:

1. Describe demographic characteristics of candidates (age, gender, grade point average, and week of clinical practice) and clinical faculty (age, gender, grade point average, and years of teaching experience) in the study;

2. Describe the cognitive effect of candidates and clinical faculty;

3. Describe the cognitive affect of candidates and clinical faculty;

4. Describe the behaviors (career support and psychosocial support) of candidates and clinical faculty;

5. Describe the relationship between candidates cognitive effect and clinical faculty cognitive effect;

6. Describe the relationship between candidates cognitive affect and clinical faculty cognitive affect;

7. Describe the relationship between candidate behaviors and clinical faculty behaviors;

8. Describe the relationship between candidate and clinical faculty dyad scores.

Discussion of the Findings

Objective One: Describe demographic characteristics of candidates (age, gender, grade point average, and week of clinical practice) and clinical faculty (age, gender, grade point average, and years of teaching experience) in the study;

Findings resulted in a candidate population with 22.72 years of age, predominately female with 63.40% of the candidates being female. Of the 70 candidates their mean grade point averages were 3.30. Nineteen candidates reported they were in the process of or have obtained a graduate degree reporting a mean graduate grade point average of 3.81. The candidates also reported the weeks they were student teaching with a mean of five weeks. Findings also illustrated a clinical faculty mean age of 40.99 years and a population of predominately males being 71.43%. The clinical faculty population reported an undergraduate grade point average with a mean of 3.31 with a majority of the population in the process of or having obtained a masters degree reporting a mean graduate grade point average of 3.72. The clinical faculty also reported their years of teaching experience with a mean length of 16.29 years.

Objective Two: Describe the cognitive effect of candidates and clinical faculty.

Cognitive effect is a component of cognitive function which incorporates cognitive style and cognitive level (Kirton, 2003). For the purpose of the study, cognitive effect is measured with the VIEW: An Assessment of Problem Solving Style. Problem solving style is a measure of an individual's own differences in consideration to their reaction to new thoughts and ideas, handling change, and how they successfully manage ill-structured and multifaceted opportunities and challenges. Cognitive style is a relatively static variable and will only change slightly if at all over time (Selby et al., 2004).

The mean score in the area of orientation to change was 83.48 for candidates compared to the mean of the clinical faculty of 79.71. The score signifies that candidates and clinical faculty were primarily developers and were above the theoretical mean of 72 listed for the area. A developer signifies that individuals prefer to "stay within the existing paradigm or system, follow rules and procedures as given," "find benefits and support in structure," are "dependable and consistent," and "look to authorities for guidance" (Selby et al., 2004, p. 224). The mean manner of processing of clinical faculty of 30.84 which was slightly higher than the reported mean of the candidates score of 28.97. Scores indicated that candidates and clinical faculty were close to the theoretical mean in the area of manner of processing and were slightly more of an external processor than internal. External processors prefer to "start talking about options right away," urge immediate action," shares ideas freely with a broad range of other people," and "derives energy from interaction with others" (Selby et al., 2004, p. 226). The candidate ways of deciding mean score was slightly higher than that of clinical faculty with a candidate mean of 35.24 compared to the clinical faculty mean of 34.67. Both scores are slightly indicative of a task oriented style of solving problems, but are in between task and people oriented. Task oriented individuals give primary attention to "what's logical or rational," "consider standards of rigor or quality," and "seek the best solutions or response being able to defend or justify the choice or decision" (Selby et al., 2004, p. 227).

Objective Three: Describe the cognitive affect of candidates and clinical faculty.

Candidate and clinical faculty cognitive affect was measured with FIRO-B Fundamental Interpersonal Relation Orientation Behavior assessment. Cognitive affect is the value and motivation and individual places on searching for solutions to problems (Kirton,

2003). Inclusion is one of three behavioral areas that refers to a person's social orientation and need for belonging and interaction with others.

The candidate expressed inclusion scores reported a mean of 5.04, slightly higher than that of the clinical faculty reporting a mean of 4.33. The results expressed that candidates and clinical faculty expressed similar levels of wanting to include others. Expressed inclusion indicates the amount an individual prefers to express to others in the particular aspect of behavior. Candidate wanted inclusion was reported with a mean of 3.93 nearly one point higher than that of the clinical faculty mean of 2.83. The difference indicates that candidates prefer to be included more than clinical faculty. Wanted inclusion indicates the amount an individual prefers to receive from others in the particular aspect of behavior.

Affection is one of three behavioral areas that refers to a person's need for friendship, intimacy and the need to be close to others. The expressed affection scores for candidates and clinical faculty were 4.56 and 4.14 respectively showing that overall both groups preferred to give similar amounts of affection towards others. Expressed affection indicates how much an individual prefers to express the particular aspect of behavior to others. Wanted affection was reported with a mean of 3.75 by candidates and 4.14 by clinical faculty. The means of the candidates and clinical faculty indicate that overall both groups prefer a similar amount of affection from others. Wanted affection indicates how much an individual prefers to receive the particular aspect of behavior from others.

Control is one of three behavioral areas that refers to a person's need for influence and power including maintaining a balance of power and influence in relationships that is satisfactory.

Candidate expressed control was 3.87 compared to the clinical faculty mean of 4.08, also similar mean scores showing that candidates and clinical faculty prefer to express similar amounts of control on others. Expressed control indicates how much an individual prefers to express the particular aspect of behavior to others. Wanted control was reported with a candidate mean of 3.04 and clinical faculty mean of 3.00. Indicating overall both groups prefer the same amount of control towards others. Wanted control indicates how much an individual prefers to receive the control aspect of behavior from others.

Total wanted and expressed scores were calculated in the particular assessment. Expressed preference totals had a mean of 13.48 by candidates and 12.56 with clinical faculty. Indicating overall, candidates preferred to express more inclusion, affection and control to others than did clinical faculty. Wanted totals were also compiled with a candidate mean of 10.69 and clinical faculty mean of 9.98. Indicating candidates and clinical faculty means showed a preferred level of wanted inclusion, affection, and control from others. Individuals with a high expressed score and low wanted score are viewed as controllers and those with high wanted and low expressed totals are called passive (Ryan, Maguire, and Ryan, 1970). The Social Interaction Index reported a higher overall mean for candidates than clinical faculty. Candidates reported a mean SII of 24.17 compared to the clinical faculty reported mean of 22.54 Indicating overall, candidates have more wanted and expressed inclusion, affection, and control than clinical faculty indicating more of an overall interpersonal need. A study conducted by Siegel, Smith, and Mosca, (2001) described CPA mentors in management with a SII of 25.11 below the national average of 29.3 and the average index found in our study (Whetton and Cameron, 1988). A strong presentation of research has shown that groups composed of compatible individuals "are more satisfying for

members, and more effective, than groups composed of incompatible individuals" (Furnham, 1996). Interpersonal attraction has been studied immensely and has been reported to result in more positive group climate, cooperative behavior on tasks, productivity in accomplishing tasks and less hostility among group members (Reddy & Byrnes, 1972; Shalinsky, 1969; Schutz, 1966).

Objective Four: Describe the behaviors (career support and psychosocial support) of candidates and clinical faculty.

Behavior was reported as the perceived career and psychosocial support provided by clinical faculty and received by candidates' during their first one to eight weeks of clinical practice. The questions included were likert type questions on a scale of 7 used by Noe (1988), Burke, McKeen and Mckenna, (1994), and Armstrong, Allinson and Haynes (2002). Likert descriptions included agree very strongly, agree strongly, agree, disagree, disagree strongly, disagree very strongly and unsure for the perceived support portion of the questionnaire. Likert descriptions included: notably similar, similar, slightly similar, slightly dissimilar, dissimilar, notably dissimilar, and unsure for the similarity portion of the questionnaire. The importance that individuals place on interpersonal relationships at work is apt to have an important influence on the level of success a mentoring relationship will experience (Kram, 1985a).

A mean score of 14.42 was reported for the candidate similarity construct compared to 15.30 reported by the clinical faculty. Similar mean scores reported by candidates and clinical faculty indicated that overall candidates and clinical faculty perceived that they possess similar traits in the areas of intelligence, personality, ambition, approach to work, social attributes, and communication skills. Total career support was measured as candidates

perceived having received from their clinical faculty and as clinical faculty perceived having given to their candidate. Candidates reported a perceived total career support mean of 10.60 compared to that of the clinical faculty mean of 11.27. A slight difference in candidate and clinical faculty scores indicates that the clinical faculty perceived to be either more unsure of the level of career support they provided or perceived providing less than the student teachers reported receiving. The perceived psychosocial scores were also reported just as the perceived career support. The mean psychosocial support reported as perceived by the candidates was a mean of 16.81 compared to the perceived mean of the clinical faculty with a mean of 20.63. These scores indicated that overall, the candidates reported receiving more psychosocial support and the clinical faculty were more unsure of the amount of psychosocial support provided or believed they provided less than the candidates perceived receiving.

Finally, total perceived support means were reported. The score was a combination of perceived career and psychosocial support. The candidates reported a mean of 27.40 and the clinical faculty reported a mean of 31.90. Indicating clinical faculty perceived they were providing less career and psychosocial support or were more unsure about the level of support they were giving in these areas. Indicating that candidates perceived receiving more career and psychosocial support and were more sure of the level received. In a formal mentoring study conducted with beginning agricultural educators with a mentor in their school versus in their profession the researchers found that individuals that perceived more psychosocial assistance were more similar, and were more satisfied with their formal mentoring relationship (Greiman, Torres, Burris & Kitchel, 2007). Armstrong, Allinson and Hayes (2002) also found that similarity between dyadic partners resulted in an increase in the

amount of career and psychosocial support received. Similarity was not significantly correlated with level of support in the study.

Henderson and Argyle (1985) postulated that individuals that perceive their mentoring relationship as task oriented or superficial may fulfill their social needs from individuals outside of their official work environment. Candidates and clinical faculty may have tended to error too heavily on the professional side holding their psychosocial needs aside of what they may appear to be their career duties. The mentoring relationship may be problematic if either individual does not believe that interpersonal relationships have the potential to be a valuable source of development, especially if needs remain unfulfilled (Kram, 1985a).

Objective Five: Describe the relationship between candidate cognitive effect and clinical faculty cognitive effect.

Cognitive effect was measured with VIEW: An Assessment of Problem Solving Style. Pearson's Product Moment Correlations were calculated to determine relationships between candidate and clinical faculty cognitive effect. A one-way analysis of Variance was also used to determine differences between the mean scores of the candidates and clinical faculty. All correlations revealed negligible or low and negative associations, all associations were deemed to be non-significant. A low and negative association was found in the area of candidate and clinical faculty orientation to change. Indicating as candidates orientation to change decreased there is a slight tendency for the scores of clinical faculty to decrease, vice versa.

The one-way analysis of variance also revealed no significant differences between candidate and clinical faculty cognitive effect mean scores. Indicating statistically speaking,

when comparing the means of the areas within cognitive effect between candidates and clinical faculty there are no major differences, no major effect sizes were found either.

Objective Six: Describe the relationship between candidate cognitive affect and clinical faculty cognitive affect.

Candidate and clinical faculty cognitive affect was measured with FIRO-B Fundamental Interpersonal Relation Orientation Behavior assessment. Pearson's Product Moment Correlations were calculated to determine relationships between candidate and clinical faculty cognitive affect. A one-way analysis of Variance was also used to determine differences between the mean scores of the candidates and clinical faculty. The correlations between candidate and clinical faculty expressed affection, expressed control, expressed total, wanted affection, wanted control and wanted total components of cognitive affect were shown to have negligible correlations. Correlations between candidate and clinical faculty expressed inclusion, and wanted inclusion, revealed low and negative associations. Indicating that as candidates wanted and expressed inclusion areas of cognitive affect decreased there was a slight tendency that the clinical faculty score in the same area is likely to decrease, vice versa. All correlations between candidate expressed cognitive affect and clinical faculty wanted cognitive affect were found to have low associations with the candidate expressed inclusion and clinical faculty wanted inclusion correlation being significant at the 0.05 level. All correlations between candidate wanted cognitive affect and clinical faculty expressed cognitive affect were negligible. Finally, the correlation of the social interaction index revealed a low and positive association between candidate and clinical faculty cognitive affect indicating an increase in candidate SII as clinical faculty SII increased, vice versa.

The relationship between candidate and clinical faculty cognitive affect using a one-way analysis of variance revealed significant differences among candidate and clinical faculty mean cognitive affect scores in the areas of expressed inclusion and wanted inclusion, both with a reported significance of 0.04. These scores indicated that there were relationships among the mean scores of candidates and clinical faculty when measuring the inclusion component of cognitive affect.

Objective Seven: Describe the relationship between candidate behaviors and clinical faculty behaviors.

Behavior was measured with the Mentor Protégé assessment. Correlations identified between candidate and clinical faculty perceived career support, psychosocial support, and total support were found to have low, positive correlations. As candidate's perceptions of career support, psychosocial support, and total support increased the clinical faculty scores also had the tendency to increase, vice versa. The correlations between candidate and clinical faculty perceived similarity were negligible. Significant differences at the 0.05 level of significance were found in the area of psychosocial support and total support. Results indicate that there is a relationship among the mean scores of candidates and clinical faculty when comparing the means of psychosocial and total support while utilizing the assessment to measure behavior No significant differences were found among candidate and clinical faculty mean behavior scores of career support or similarity.

Objective Eight: Describe the relationship between candidate and clinical faculty dyad scores.

A matched pairs t-test was conducted to reach the heart of the study, the dyadic relationships between candidate and clinical faculty. Cognitive effect, an indicator of

problem solving style displays an individual's differences when reacting to new views and thoughts, dealing with change, and management of complex or ill-defined problems (Selby, Treffinger, Isaksen, & Lauer, 2004). Even with a matched pairs t-test no significant differences were found between candidate and clinical faculty cognitive effect. McCann (2007) found that significant correlations were found in problem solving style between degree program options of students in two year programs, the choice of profession may be a factor in the reported statistic. Candidate and clinical faculty scores were extremely close to reaching the 0.05 level of significance as the final reported p value was 0.504 for the orientation to change area of cognitive effect.

Cognitive style is the way an individual interrelates with and acts in repeated response to the environment around them as they solve problems (Kirton, 2003). Cognitive style is "a strategic, stable characteristic–the preferred way in which people respond to and seek to bring about change" (Kirton, 2003, p. 43). These results are extremely important as Kirton (2003) has purported that cognitive gaps occur when differences are too great leading individuals to use a coping behavior in order to bridge a cognitive style gap between themselves and another individual. Within cognitive effect orientation to change depicts an individuals' preference for dealing with change and using creative solutions to manage change. (Treffinger & Selby, 2004). The population of candidates and clinical faculty were primarily developers, individuals who have a preference for a methodical manner of solving problems. These individuals develop worthwhile solutions believed to be helpful by others as they habitually collect data and synthesize problems. (Treffinger & Selby, 2004).

Cognitive affect is an the amount of value and motivation an individual has for seeking solutions to problems (Kirton, 2003). Scandura and Schriesheim (1994) and Hurley

and Fagenson (1996) have suggested in their research that mentoring is closely related to interpersonal orientation. Interpersonal orientation is the inclination to act in a particular way when interacting with others (Schutz, 1966). Significant differences were found in a paired analysis between candidates and clinical faculty in many areas of cognitive affect. Significance was found at the 0.05 level in the areas of candidate expressed inclusion and clinical faculty wanted inclusion (t=5.27), candidate expressed total and clinical faculty wanted total (t=3.88), candidate wanted control and clinical faculty expressed control (t=-2.97). Significance was also found at the 0.01 level of significance for candidate wanted total and clinical faculty expressed total (t=-2.37). Indicating a difference between pairs of candidates and clinical faculty was significant in the above areas of cognitive affect.

The behavioral area of inclusion refers to a person's social orientation and need for belonging and interaction with others. These individuals feel a need to be included in others activities or to include them in their own activities, they feel the need to seek belonging to a group, while there is also a need to be alone. People need expressed inclusion which is their need to include or show interest in others, they also need wanted inclusion which is the need to be included by others. Significant dyad differences by candidate and clinical faculty in the area of expressed inclusion means that candidate and clinical faculty prefer to express different levels of inclusion to others. Candidates may potentially be left feeling isolated and unwanted and clinical faculty feeling unneeded or unhelpful because of these differences. Differences in candidate expressed inclusion and clinical faculty wanted inclusion show that candidates are either expressing more or less inclusion than clinical faculty want. There is once again problematic potential if both individuals are not experiencing feelings of

fulfillment. Siegel, Smith, and Mosca (2001), reported that inclusion was identified as the most important factor of the three measured in mentor relationships.

Significant differences were also reported between candidate wanted contol and clinical faculty expressed control. The behavioral area of control is the need for influence and power the area includes maintaining a balance of power and influence in relationships that is satisfactory. People need to demonstrate control or leadership to others to some extent, which is found in expressed control, wanted control is the desire of individuality and freedom, to some degree individuals want to be guided or controlled by others. The differences in candidate and clinical faculty control could leave candidates feeling powerless or over controlled in the classroom. Having the potential to be detrimental during clinical practice.

Finally, significant differences were found between candidate expressed total and clinical faculty wanted total, and candidate wanted total and clinical faculty expressed total scores. Total scores are compiled from the area scores of inclusion, affection and control. The results indicate that overall wanted and expressed interpersonal needs from both candidates and clinical faculty are not being met.

Protégés and mentors that posses a common view of the relationship may be more likely to: (a) understand each other's needs, (b) receive and understand feedback, and are (c) more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Baird & Kram, 1983; Godshalk & Sosik, 2000; Yammarino & Atwaters, 1997). In the area of behavior a matched pairs t-test determined perceived psychosocial support (t=-2.86) and perceived total support (t=-2.32) to be significant when examining candidate and clinical faculty matched dyads. Thedyads perceptions were not in alignment with each other in the area of perceived psychosocial support or in total support,

but were in agreement of similarity and perceived career support. High-quality psychosocial support is only attained when mentor and protégé arrive at a shared understanding, differences indicate that candidate and clinical faculty did not arrive at a shared understanding (Kram & Bragar, 1992). Perhaps candidates and clinical faculty are focusing too much on the career based placement and not focusing enough on the psychosocial needs candidates expressed as behavior or perhaps candidates are not clearly expressing their needs. Ragins (1997) suggested that the functions a mentor provides may vary as a function of the relationship at hand. "The mentor's behavior is influenced by the protégé's needs, the mentor's perception of the protégé's needs, and the ability and motivation of the mentor to meet the needs of the protégé" (Ragins, 1997, p. 502). Studies in mentoring have shown that attitudinal similarity is a powerful predictor of attraction and friendship and is a catalyst for effective communication (Harrison, Price, & Bell, 1998; Tsui & O'Reilly, 1989). The fact that there were not significant differences in cognitive effect or similarity indicate that research conducted in the area has been reaffirmed. These individuals also perceived being similar to each other. Candidates perceived to have received near the same amounts of career support as clinical faculty perceived having given Affirming that candidates and clinical faculty have the ability to agree on the same amount of support received. However, difference in candidate perceived psychosocial support and clinical faculty perceived given psychosocial support may indicate an area in which candidate and clinical faculty are improbable to agree. Candidates and clinical faculty may perceive that the clinical practice environment is not a place where they should move beyond providing career support. Perhaps the construct of mentoring should be addressed with both candidates and clinical faculty.

Conclusions

Mentoring is a dynamic construct as many different influences are present from personal preferences to the way people naturally and holistically function. Cognitive styles and personality are considered to be independent, but related constructs that together affect behavior. Idealistically formal mentoring programs provide a solid foundation from which informal mentoring can be built. Formal mentoring benefits include: learning new skills, developing self confidence and professional direction, realizing new opportunities for advancement, and making a greater commitment to one's career and organization (Kram & Bragar, 1992). Formal mentoring programs may be more effective for influencing more immediate performance measures including developing early career goals (Ragins & Cotton, 1999).

Shared views of the mentoring relationship by protégés and mentors may result in more of a shared view and understanding of each other's needs. With the potential to create a relationship with each participant being more likely to make attitudinal and behavioral adjustments and more open to being the recipient of and understanding feedback in order to guarantee a sustained relationship (Baird & Kram, 1983; Godshalk & Sosik, 2000; Yammarino & Atwaters, 1997). However, Waters (2004) found that mentors and protégés are improbable to agree on the quantity of psychosocial support that is being offered. Mentor and protégé expectations, needs and perceptions may vary because of the different career stages of each (Baird & Kram, 1983). Mentor and protégé relationship structure and experience factors affect the perceptions of both (Fagenson-Eland, Marks &Amendola, 1997). Personality's role must be understood when attempting to facilitate protégé-mentor agreement (Waters, 2004).

Enhancing personality self-awareness could be beneficial in order to foster protégé-mentor agreement (Waters, 2004). Concurring with approaches suggested by Kram (1985a, 1985b) and Kram and Bragar (1992) encouraging self-assessment, interpersonal skill training and setting expectations. Supervisor-mentors reported providing more psychosocial functions the longer they were acquainted with a subordinate-protégé (Burke, McKeen, & McKenna, 1991). When universities identify clinical faculty, attention should be paid to the matching of dyads in order to emulate an informal mentoring experience to the greatest extent possible. The study has shown that cognitive style, although not shown as significant may have value when universities match candidates with clinical faculty as cognitive style between candidate and clinical faculty was very similar and perceived similarity was also reported very similarly. The potential to assist universities in matching candidates with clinical faculty in a strategic fashion providing an enhanced experience may be foundational. Since cognitive style is a relatively static characteristic, the cost of cognitive testing would be necessary only once and could be kept on file for clinical faculty in order to provide the best match.

A unique challenge in teacher education and preparation are the many daily classroom decisions that cannot become consistent or standardized because they are based upon student questions and responses as well as classroom learning objectives (Hammerness, Darling-Hammond, & Shulman, 2005). Candidates "are faced with unique problems on a daily basis [and their] mentors must be prepared to help [them] make difficult decisions when there is no prescribed solution" (McCrary & Mazur, 2006). According to Veenman, "The fact that classroom discipline is a real problem for beginning teachers may be explained in part by different patterns in the thinking or decision processes of beginning and experienced teachers" (1984, n.p.). Candidates struggle with a wide array of problems as they are novices

in dealing with colleagues, students, and unfamiliar educational surroundings and do not possess specialized professional knowledge (Hsu, 2005, p. 307). Problems that an understanding mentor could be of assistance with as "mentors not only have to refer to the current expectations for new teachers, they must also assist interns in applying standards-based requirements to a range of circumstances" (McCrary & Mazur, 2006).

Recommendations for Practice

A plethora of quantitative data were uncovered as the result of the study; the following suggestions are made for clinical practice placement:

1. Studies continue to have contrasting results on the level of agreement between candidate and clinical faculty. Although the researcher believes educational testing is extremely valuable, the researcher questions if an educational approach to placement is the best strategy. Cognitive and psychosocial assessments however, are suggested for candidate and clinical faculty training purposes in order to arrive at a shared understand of whom each other are. Especially as an individual's problem solving preferred cognitive style as described by Kirton is natural and unchanging (Kirton, 2003). Once an individual is able to identify and comprehend their personality traits, researchers have suggested the individual may more easily comprehend and educate individuals that may be dissimilar (Carlyn, 1976; DeNovellis & Lawrence, 1983).

2. Universities should take caution when placing candidates with clinical faculty. Universities may consider additional opportunities to expose their candidates to teachers in the field to build informal mentoring relationships from which a placement can be made, increasing individual satisfaction.

3. The question still remains as to how formal mentoring systems can be designed to best emulate an informal mentoring system. However, the researcher recommends university programs should spend time training and working with both candidates and clinical faculty on conflict resolution, and setting expectations between dyads. Training programs strive to allow candidates for form informal mentoring systems throughout their programs, not just when necessary. Using assessments may also be helpful in order for the dyad to arrive at a clear understanding of how each other may function under stressful circumstances.

Recommendations for Research

Interesting information utilizing a specific population from multiple states was gained as a result of the study. As a result of the findings, the following recommendations for further research have been suggested:

1. Further investigation pairing dyads of candidates and clinical faculty is recommended. Pairing will allow for a more focused look at the mentoring construct and will assist researchers in the genuine view into the mentoring construct and the reciprocal benefits alluded to in recent mentoring research;

2. Further investigation into developing an instrument in order to measure an individual's need to receive specific amounts of career and psychosocial support versus an individual's ability to give specific amounts of career and psychosocial support. Although the researchers have assessed the amount an individual perceives having received and has perceived giving, every individual may not require the same levels of the support as they may have other outlets to fulfill these needs. The

researcher speculated that levels of need may change during clinical practice and that perceptions of perceived support may also change throughout.

3. Longitudinal research is needed in the area or mentoring during clinical practice and throughout induction into the teaching profession and beyond. Do cognitive and interpersonal differences affect whether students teachers and cooperating teachers maintain their formal mentoring relationship in an informal fashion over time? Mentoring has been found to be a key retention factor, how can mentoring research assist in filling the void in support pre service education beyond induction?

4. Cognitive similarity has been reported as the reason dyads report increased communication effectiveness and mutual liking (Triandis, 1960). Support was gained by the conducted research as candidates and clinical faculty reported similar problem solving styles and reported a high level of agreement on their perceived level of similarity. Researchers have shown that cognitive differences can lead to conflict (Kubes, 1992; Leonard & Straus, 1997). Mumford (1995) suggested that dissatisfaction may overshadow learning in mentoring relationships where mentor and protégé cognitive styles differ significantly. Agricultural educators and agricultural education pre service teachers may have similar cognitive styles because of the nature of the profession, further research should be conducted with other clinical practice licensure areas.

Summary

The implications from the research indicate many things, but are yet perplexing. The data in the study were used to suggested that candidates and clinical faculty in agricultural education clinical practice do not greatly differ in problem solving style preferences,

preferences which have the ability to result in conflict within the dyad. The data were also of great assistance in determining the following: the population perceived they were similar to each other and perceived giving and receiving the same levels of career support. However, candidate and clinical faculty did not agree on the level of perceived psychosocial support, reported with statistical significance. Interpersonal needs also resulted in difference scores between candidate and clinical faculty. If teacher preparation is to be improved, then higher education must continue to collaborate in research efforts. The field must continue to further examine clinical practice and the fine details of the mentoring construct in order to enhance the teacher preparation process. The research presented in the study indicated promise for agreement and promise for continued research to benefit not only individuals, but our entire profession.

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Appendix A
Cognitive Function Schema Model Use Permission

To: Helen Sanders
From: Laura Stacklin
Subject: "Adaption-Innovation, In The Context of Diversity and Change" by M.J. Kirton

Dear Ms. Sanders,

I am a graduate student in Agricultural and Extension Education at Virginia Polytechnic Institute and State University.

I am writing to request the use of Michael Kirton's Cognitive Function Schema found in the book with the following citation:
Kirton, M. J. (2003). *Adaption-Innovation: In the Context of Diversity and Change*. New York,
NY: Routledge.

M.J. Kirton's Cognitive Function Schema is the theoretical framework for my study. I would like to request the use of the model on page 36 of the book mentioned above in my thesis. Dr. Kirton and the citation(s) above will be directly referenced in my thesis, to be written in the English language. I would also like to request to use Dr. Kirton's Cognitive Function Schema model in any articles that may be published as part of this research endeavor also noting Dr. Kirton's works in these English publications.

The student teaching experience is crucial to the development and future career of student teachers. I am conducting a study that will allow me to investigate the relationship of student teachers and cooperating teachers in the southern region of the United States. As part of this research we are asking student teachers and cooperating teachers about their problem solving styles, interpersonal needs and perceived support. My thesis is entitled: Comparing Candidate and Clinical Faculty Cognitive Effect, Cognitive Affect, and Perceived Behaviors During the Initiation Phase of Mentoring.

I look forward to hearing from you!

Sincerely,
Laura R. Stacklin

To: Laura Stacklin
From: Helen Sanders
Subject: RE:"Adaption-Innovation, In The Context of Diversity and Change" by M.J. Kirton

Dear Laura Stacklin,

Re: Kirton M J (2003). Adaption-Innovation
Material requested: 1 Illustration on page 36

Thank you for your enquiry permission is granted for use of the above material in your forthcoming Thesis, subject to the following conditions:

1. The material to be quoted/produced was published without credit to another source. If another source is acknowledged, please apply directly to that source for permission clearance.

2. Permission is for non-exclusive, English language rights, and covers use in your Thesis only. Any further use (including storage, transmission or reproduction by electronic means) shall be the subject of a separate application for permission.

3. Full acknowledgement must be given to the original source, with full details of figure/page numbers, title, author(s), publisher and year of publication.

Yours sincerely,

Helen Sanders

Appendix B
Institutional Review Board Research Approval

VirginiaTech

DATE: January 14, 2009

MEMORANDUM

TO: Thomas W. Broyles
                 Laura Stacklin

FROM: Carmen Green

SUBJECT: **IRB Exempt Approval:**   "Comparing Candidate and Clinical Faculty Cognitive Effect,
                 Cognitive Affect, and Perceived Behaviors During the Initiation Phase of Mentoring",
                 IRB # 09-021

I have reviewed your request to the IRB for exemption for the above referenced project. The research
falls within the exempt status.   Approval is granted effective as of January 14, 2009.

As an investigator of human subjects, your responsibilities include the following:

1.   Report promptly proposed changes in the research protocol. The proposed changes
      must not be initiated without IRB review and approval, except where necessary to
      eliminate apparent immediate hazards to the subjects.

2.   Report promptly to the IRB any injuries or other unanticipated or adverse events
      involving risks or harms to human research subjects or others.

cc: File

VirginiaTech

DATE: January 16, 2009

MEMORANDUM

TO: Thomas W. Broyles
            Laura Stacklin
            Donna Moore

FROM: Carmen Green

SUBJECT: **IRB Amendment 1 Approval:**   "Comparing Candidate and Clinical Faculty
            Cognitive Effect, Cognitive Affect, and Perceived Behaviors During the Initiation Phase
            of Mentoring" , IRB # 09-021

This memo is regarding the above referenced protocol which was previously granted approval by the
IRB on January 14, 2009. You subsequently requested permission to amend your IRB application.
Approval has been granted for the requested protocol amendment, effective as of January 16, 2009.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in the research proposal. The proposed changes
    must not be initiated without IRB review and approval, except where necessary to
    eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events
    involving risks or harms to human research subjects or others.

cc: File

Appendix C
Agricultural Education-University Faculty Clinical Practice Contacts

Agricultural Education-University Contact List

Alabama A&M University
Auburn University
Arkansas State University
University of Arkansas
Southern Arkansas University
University of Florida
University of Florida
University of Georgia
University of Georgia
Eastern Kentucky University
Murray State University
University of Kentucky
Western Kentucky University
Louisiana State University
Louisiana Tech University
University of Louisiana at Lafeyette
Alcorn State University
Mississippi State University
North Carolina A&T State University
North Carolina State University
Oklahoma Panhandle State University
Oklahoma State University
Clemson University
Middle Tennessee State University
Tennessee State University
Tennessee Tech University
University of Tennessee
University of Tennessee at Martin
Sam Houston State University
Stephen F. Austin State University
Tarleton State University
Texas A&M University
Texas A&M University – Commerce
Texas A&M University – Kingsville
Texas State University
Texas Tech University
West Texas A&M University
Virginia State University
Virginia Tech

Appendix D
Contacts with University Agricultural Education Clinical Practice Faculty

Contacts with University Agricultural Education Clinical Practice Faculty

Dear University Faculty Name,

You have been identified as the individual at UNIVERSITY NAME in charge of working with the teacher education and preparation program including the placement of candidates (student teachers) with clinical faculty (cooperating teachers). If you are not the correct university contact, please forward this e-mail to the correct person.

As a master's student at Virginia Polytechnic Institute and State University, I am interested in including your university in my research population. Below you will find a short explanation about the nature and purpose of my research.

If you are interested in having your candidates and clinical faculty participate in my research, please respond to this e-mail if your candidates participate in clinical practice (student teaching) in the spring.

Please answer and the following questions in the response e-mail.
1. How many candidates do you have that will be in clinical practice in the spring?
2. What is the length of your clinical practice?
3. What are the actual dates of your candidate's clinical practice?
Once this information is received I will be back in contact with you.

Thank you for your time and consideration, I look forward to hearing from you!
Laura

Purpose of this research

The intent of this study is an attempt to bring a greater understanding to the determinants of the mentoring construct as proposed by Noe (1988). In order to further investigate the mentoring construct, this study will utilize candidates and clinical faculty during the first month of clinical practice. The purpose of this study is to determine if cognitive effect (problem solving style) and cognitive affect (interpersonal needs) have an impact upon the behaviors (psychosocial and career support) perceived by clinical faculty and candidate. More specifically, do individuals with certain problem solving styles or interpersonal needs provide or perceive different behaviors from each other. The researcher found no literature linking problem solving styles (orientation to change, manner of processing, and ways of deciding) to interpersonal needs (inclusion, control, and affection) or mentor-protégé agreement of perceived support. Cognitive effect, cognitive affect and perceived support have been identified as factors that have the potential to positively or negatively impact the mentoring relationship, however they have not been researched together in this environment.

When candidates and clinical faculty posses a common view of the relationship they may be more likely to comprehend each other's needs and more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Godshalk & Sosik, 2000). The practical purpose of this study will assist teacher educators everywhere as they strive to not only recruit, but retain future teachers. Clinical faculty have the capability to guide their candidates not only during the student teaching internship, but also as their

candidates take their roles in their own classrooms. If they are able to cognitively and interpersonally collaborate overcoming conflicts during clinical practice, the formalized mentoring experienced has the ability to morph into an informal mentoring relationship reaching far beyond clinical practice. This has the potential to assist with the retention problem that education has been facing for centuries.

References

Godshalk, V., & Sosik, J. (2000). Does mentor-protégé agreement on mentor leadership behavior influence the quality of a mentoring relationship?. Group and Organization Management, 25, 291-317.

Noe, R. (1988). An investigation of the determinants of successful assigned mentoring relationships. Personnel Psychology, 41(3), 457-479.

Letter to University Personnel that Responded

Dear University Faculty Name,

Thank you for your interest in having your candidates and clinical faculty participate in my study. This study will be IRB approved and will take place in February and early March. Protocol by Don A. Dillman for online assessment from the International Handbook of Survey Methodology will be closely followed throughout this study, beginning with a hand written postcard invitation to participate.

In order to utilize your candidates and clinical faculty as part of my population I am in need of their contact information, more specifically:

-Name
-Cooperating School Division
-Mailing Address
-E-mail
-Phone Number (Only to be used for non respondents to determine if they are outliers)
* Note this information is needed for both candidate and clinical faculty and will be kept strictly confidential.

Participants will be asked via e-mail to take part in three different assessments, they include:

Measuring Cognitive Effect
VIEW: An Assessment of Problem Solving Style is an instrument that identifies three distinct and independent areas of problem solving style indicating an individuals' personal preference for problem solving styles. VIEW seeks to measure an individual's problem solving style with three areas; orientation to change, manner of processing and way of deciding. Each identified area is classified on separate numerical continuum where no style is more desirable than the other (Selby et al., 2007). Orientation to change depicts an individuals' preference for dealing with change and using creative solutions to manage change resulting in either explorers or developers (Treffinger & Selby, 2004). Explorers take pleasure in investigating many different possibilities and developers have a methodical pattern to solve problems. Manner of processing, the second area identified by this instrument indicates an individual's favored techniques to handle information during the problem solving process resulting in external or internal problem solvers (Selby et al., 2004). External problem solvers tend to find energy from others and take pleasure in talking about problems where as internal problem solvers prefer to process information internally. The third and final area of The VIEW indicates an individual's ways of deciding resulting in task or people oriented individuals (Selby et al., 2004). Task oriented individuals rely on making sound, logical and justifiable decisions where as people oriented routinely base their decisions on emotions and opinions of others.

Measuring Cognitive Affect
Shultz's theory on interpersonal orientation proposes that there are three interpersonal needs that account for an individual's interpersonal orientation: inclusion, control and affection. Each of the three needs has an expressed and wanted category which reflect each individuals self concept. An assumption of FIRO-B is that people seek compatible relationships with others in social relations. Individuals strive for like-minded relationships in order to gratify their needs while steering clear of strain and aggravation (Whetten & Cameron, 1988). The FIRO-B instrument measures interpersonal orientation in three areas: inclusion affection and control, each dimension measures an expressed behavior and a wanted behavior with scores in each dimension ranging from 0 to 9. The overall score calculated by the instrument ranges from 0 to 54 and is known as the social interaction index (SII). The SII measures an individual's overall interpersonal need; higher scores represent a higher overall interpersonal need. The area of inclusion refers to a person's social orientation, need for belonging and interaction with others. The area of affection refers to a person's need for friendship, intimacy and the need to be close to others. The final area of control refers to the need for influence and power (Schutz, 1966).

Measuring Behavior
Kram (1980) conducted a foundational study on mentoring depicting the roles of a mentor as both career functions and psychosocial functions. The instrument has been used by Noe (1988), Burke et. al. (1994), and Armstrong et. al. (2002). This questionnaire will be used to determine the expressed behaviors in career and psychosocial support as perceived by candidates and clinical faculty.

Instrumentation Length
Generally the instruments take the following length of time to complete: VIEW-10 minutes, FIRO-B-15 minutes, and Mentor/Protégé Questionaaire-15 minutes

Confidentiality
Potential risks will be managed by maintaining strict confidentiality. Protecting the participants' and affiliated school systems' identity is a priority of this study. By participating in this research project, information will be kept strictly confidential. At no time will information be released that allows an individual or school system to be identified. The researchers will also never release an individual's results of the study to anyone other than individuals working on the project and to individual themselves without the participant's written consent.

Benefits
This research will describe how cognitive effect and cognitive affect may interact and how they influence perceived candidate and clinical faculty support. The knowledge gained will help the candidate and clinical faculty in their future relations. By taking part in this study participants will receive free feedback from both the VIEW and FIRO-B indicating personal preferences during problem solving and personal preferences in interpersonal relations. The results of this study may also assist professional education faculty in the future placement of candidates with clinical faculty. This would allow both the candidate and clinical faculty member to be strategically placed resulting in a greater chance of a positive relationship. When candidates and clinical faculty posses a common view of the relationship they may be more likely to: comprehend each other's needs, receive and understand feedback more openly from each other, and more likely to make attitudinal and behavioral adjustments as necessary to make certain the relationship continues (Baird & Kram, 1983; Godshalk & Sosik, 2000; Yammarino & Atwaters, 1997). No promise or guarantee of benefits will be made to encourage participation.

If you have any additional questions, comments or concerns about this research please respond to this e-mail. Thank you, I look forward to sharing my results with you!

References
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Kram, K. (1980). Mentoring process at work: developmental relationships in managerial careers, Unpublished doctoral dissertation, Yale University, New Haven, CT.

Noe, R. (1988). An investigation of the determinants of successful assigned mentoring relationships. Personnel Psychology, 41(3), 457-479.

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Treffinger, D., & Selby, E. (2004). Problem Solving Style: A New Approach to Understanding and Using Individual Differences. Korean Journal of Thinking & Problem Solving, 14(1), 5-10.

Whetten, D. & Cameron, K. (1988). Developing Management Skills. Glenview, IL: Scott, Forseman and Company.

Yammarino, F., & Atwaters, L. (1997). Do managers see themselves as others see them? Implications of self-other rating agreement for human resource management. Organizational Dynamics, 25(4), 35-44.

Appendix E
Candidate Contacts

Post Card mailed on 2-11-09 to Candidates in Population *Personalized with name

Laura R. Stacklin
Graduate Research Assistant
2270 Litton Reaves Hall
Mail Code: 0343
Blacksburg, VA 24061

Agriculture Department
Candidate Name
University of Affiliation
Cooperating School System
Address Line 1
City, State Zip Code

VirginiaTech
Invent the Future

Dear Candidate Name,

I am conducting a study on student teachers & cooperating teachers. Within one week you will receive an e-mail from me (lrs14@vt.edu) with further information regarding this study.

I would appreciate it if you could take the time out of your schedule to participate.

Thank you,

Laura

E-mail sent to Candidates on 2-16-09
Subject: University Research Participation Requested

Dear Candidate, *Personalized with name

I am writing to request your participation in a study regarding problem solving style, interpersonal needs and perceived support as provided by your cooperating teacher. The student teaching experience is crucial to the development and future career of student teachers. I am conducting a study that will allow me to investigate the relationship of student teachers and cooperating teachers in the southern region of the United States. The success and results of this study depend on the participation of student teachers and cooperating teachers in this region. In order for this study to be successful your participation as well as that of your cooperating teacher is requested. You are an essential piece to my research, I hope that you can take the time out of your schedule to participate.

The first two surveys are now open online; you will find the link and a brief explanation of the survey in this e-mail. These are the first two of three online surveys that you are requested to take.

The survey's can be accessed in the following way:

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)
4.   You will be redirected to Survey 2. Follow the directions below to complete this survey.

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4.   Enter the following VIEW Code – 1273
5.   Please read the directions before you answer the questions.

The last day to participate is: Monday, February 23, 2009

Further information about this study: Virginia Polytechnic Institute and State University Informed Consent for Participants in Research Projects Involving Human Subjects

Title of Project: Comparing candidate and clinical faculty cognitive effect, cognitive affect, and perceived behaviors during the initiation phase of mentoring

Investigators: Dr. Thomas W. Broyles, Assistant Professor, Virginia Tech
Dr. Donna Moore, Assistant Professor, Virginia Tech
Ms. Laura R. Stacklin, Master's Degree Candidate, Virginia Tech

I. Purpose of this research
This research will assist in formatting and methodology for a larger study to follow. It will assist in the explanation of many different personality preferences between student teachers and cooperating teachers. Specifically, the purpose of this study is to closely examine student teacher and cooperating teacher interpersonal needs, problem solving styles, and perceived support. This new knowledge will help to promote better teaching practices in higher education. Participants are student teachers and cooperating teachers at multiple institutions in the AAAE Southern Region.

II. Procedures
You are invited to complete an online survey on The VIEW: An Assessment of Problem Solving Styles, FIRO-B: Fundamental Interpersonal Relations Orientation, and a Mentor-Protégé questionnaire. These surveys require only approximately 15 minutes each to complete. At no time will your individual information or scores be released to anyone other than the researchers involved in the project without your written consent.

III. Risks
This study has been reviewed and approved by the Virginia Tech Institutional Review Board. It received the "Exempt" status which means that it is seen as the safest of all possible research. Individual answers and identities of the participants will be protected at all times.

IV. Benefits
This research will help uncover how problem solving, interpersonal needs and perceived behavior may interact. It will also help to promote better teaching placements within the educational community. No promise or guarantee of benefits can be made to encourage your participation.

V. Extent of Anonymity and Confidentiality
Protecting your identity is a top priority of this study. By participating in this research project, your information will be kept strictly confidential. At no time will information be released that allows an individual to be identified. At no time will the researchers release the results of the study to anyone other than individuals working on the project, without your written consent. Only the research team, Ms. Laura Stacklin, Dr. Tom Broyles and Dr. Donna Moore will have access to your data. It is possible that the Institutional Review Board (IRB) may view this study's collected data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

VI. Compensation
There is no compensation beyond knowing that you are contributing to important research within the educational field.

VII. Freedom to withdraw
Participants are free to withdraw from the study at any time without penalty. Subjects are free to not answer any questions without penalty.

VIII. Subject's responsibilities
I voluntarily agree to participate in this study. I have the responsibility to answer each question on the three assessments to the best of my ability per the researchers' directions.

IX. Subject's permission
I have read and understand the Informed Consent and conditions of this project. I have had all of my questions answered. I hereby acknowledge the above and give my voluntary consent by completing the online surveys.

Should I have pertinent questions about this research, I may contact:

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-6836

E-mail sent on 2-20-09 to Candidates that had not completed any of the available surveys
Subject: University Research Participation Reminder

Dear Candidate, *Personalized with name

The student teaching experience is critical in your development as a teacher. I am conducting a study that will allow me to investigate the relationship of student teachers and cooperating teachers in the southern region of the United States. The success and results of this study depend on the participation of student teachers and cooperating teachers in this region.

You are an essential piece to my research. I hope that you will take the time out of your busy schedule to participate. These surveys require only 10-15 minutes each to complete, they can be accessed in the following way:

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)
4.   You will be redirected to Survey 2. Follow the directions below to complete this survey.

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4.   Enter the following VIEW Code – 1273
5.   Please read the directions before you answer the questions.

The last day to participate is: Monday, February 23, 2009

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-20-09 to Candidates that had only completed 1 of 2 available surveys
Subject: Thank you!

Dear Candidate, *Personalized with name

Thank you for your response to survey one.

This phase of the study also involves your participation in one other online survey which will take approximately 10-15 minutes to complete.

You are an essential piece to my research. I hope that you will take the time out of your busy schedule to participate in my other survey. This survey requires only 10-15 minutes to complete, it can be accessed in the following way:

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4.   Enter the following VIEW Code – 1273
5.   Please read the directions before you answer the questions.

The last day to participate is: Monday, February 23, 2009

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-20-09 to Candidates that had completed all available surveys
Subject: Thank you!

Dear Candidate or Clinical Faculty, *Personalized with name

Thank you participating in the first two surveys of my study! I appreciate your willingness to take part in this study as we work towards a better understanding of the student teacher-cooperating teacher relationship.

Please look for another e-mail from me in the near future requesting your participation in my final survey. The final survey will take approximately 10 to 15 minutes to complete.
Thank you once again for your initial participation!

Gratitude is something of which none of us can give too much.
-- A. J. Cronin

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

Dear Candidate, *Personalized with name

The student teaching experience is critical in your development as a teacher. I am conducting a study that will allow me to investigate the relationship of student teachers and cooperating teachers in the southern region of the United States.

You are an essential piece to my research. I hope that you will take the time out of your busy schedule to participate. **Please note that you will receive your personal results from the surveys below at the conclusion of this study.** These surveys require only 10-15 minutes each to complete, they can be accessed in the following way:

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)
4.   You will be redirected to Survey 2. Follow the directions below to complete this survey.

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4.   Enter the following VIEW Code – 1273
5.   Please read the directions before you answer the questions.

Today is the last day to participate in this study.
Please take the above surveys by midnight tonight!

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-23-09 to Candidates that had completed one of the two available surveys
Subject: University Research-Last Day to Participate

Dear Candidate, *Personalized with name

Thank you for your response to survey one.

This phase of the study also involves your participation in one other online survey which will take approximately 10-15 minutes to complete. **Please note that you will receive your personal results from this survey at the conclusion of this study.**

You are an essential piece to my research. I hope that you will take the time out of your busy schedule to participate in my other survey. This survey requires only 10-15 minutes to complete, it can be accessed in the following way:

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4.   Enter the following VIEW Code – 1273
5.   Please read the directions before you answer the questions.

Today is the last day to participate in this study.
Please take the above surveys by midnight tonight!

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-23-09 to Candidates that had completed all of the available surveys
Subject: Thank you!

Dear Candidate, *Personalized with name

Thank you participating in the first two surveys of my study! I appreciate your willingness to take part in this study as we work towards a better understanding of the student teacher-cooperating teacher relationship.

Please look for another e-mail from me in the near future requesting your participation in my final survey. The final survey will take approximately 10 to 15 minutes to complete.
Thank you once again for your initial participation!

Gratitude is something of which none of us can give too much.
-- A. J. Cronin

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-25-09 to Candidates that had not completed any of the available surveys
Subject: Student Teacher Survey

Dear Candidate, *Personalized with name

About a week ago you received survey via e-mail on behalf of the Virginia Tech Department of Agricultural and Extension Education. We are asking student teachers and cooperating teachers about their preferences and opinions. As of today, we have not received the completed surveys from you.

We realize this is a very busy time for you being National FFA week and midway into your school year. However, we have contacted you and others in hopes of obtaining a closer look into the student teaching experience. The success and results of this study depend on the participation of student teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again.

You are an essential piece to our research; please take the time out of your busy schedule to participate. These surveys require only 10-15 minutes each to complete, they can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1. Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
2. Please read the directions provided and answer the questions
3. Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)
4. You will be redirected to Survey 2. Follow the directions below to complete this survey.

Survey 2: The View: An Assessment of Problem Solving Style
1. Go to http://viewstyle.net/
2. Located in the box titled VIEW OnLine, click on English language
3. Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4. Enter the following VIEW Code – 1273
5. Please read the directions before you answer the questions.

Survey 3: Mentor-Protégé Questionnaire
1. Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2. Please read the directions provided and answer the questions
3. Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

The last day to participate is: Friday, March 6, 2009

Thank you for your participation!
If you have any questions about this study do not hesitate to contact us.

Dr. Thomas Broyles   Ms. Laura Stacklin
Assistant Professor   Master's Degree Candidate
tbroyles@vt.edu   (540) 231-8188   Lrs14@vt.edu   (540) 231-8188

E-mail sent on 2-25-09 to Candidates that had completed one of the three available surveys
Subject: Student Teacher Survey

Dear Candidate, *Personalized with name

Thank you for your response to survey one.

This phase of the study also involves your participation in two other online surveys which will take approximately 10-15 minutes each to complete.

We realize this is a very busy time for you being National FFA week and midway into your school year. However, we have contacted you and others in hopes of obtaining a closer look into the student teaching experience. The success and results of this study depend on the participation of student teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again.

You are an essential piece to our research. I hope that you will take the time out of your busy schedule to participate in our other survey. This survey requires only 10-15 minutes to complete, it can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
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1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

The last day to participate is: Friday, March 6, 2009

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-25-09 to Candidates that had completed 2 of the 3 available surveys
Subject: Final Survey Request

Dear Candidate, *Personalized with name

Thank you participating in the first two surveys of our study! We appreciate your willingness to take part in this study as we work towards a better understanding of the student teacher-cooperating teacher relationship. The third and final survey of our study is now available online. This survey will take approximately 10 to 15 minutes to complete.

We realize this is a very busy time for you being National FFA week and midway into your school year. The success and results of this study depend on the participation of student teachers like you. You are an essential piece to our research. We hope that you will take the time out of your busy schedule to participate in our final survey. This survey requires only 10-15 minutes to complete, it can be accessed in the following way: *(Please copy and paste the link below into an internet browser)*

Survey 3: Mentor-Protégé Questionnaire
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

The last day to participate is: Friday, March 6, 2009

If you have any questions about this study do not hesitate to contact us.
Thank you for your participation!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 3-3-09 to Candidates that had not completed any of the available surveys
Subject: Student Teacher Survey-Deadline Friday

Dear Candidate, *Personalized with name

We are asking student teachers and cooperating teachers about their preferences and opinions.
As of today, we have not received any of the completed surveys from you.
As a courtesy to you for participating in this study you will receive your results from surveys 1 and 2. These survey results are worth over $20 in value!

We have contacted you and others in hopes of obtaining a closer look into the student teaching experience. You are an essential piece to our research as our success depends on the participation of student teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again.

These surveys require only 10-15 minutes each to complete, they can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1. Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
2. Please read the directions provided and answer the questions
3. Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)
4. You will be redirected to Survey 2. Follow the directions below to complete this survey.

Survey 2: The View: An Assessment of Problem Solving Style
1. Go to http://viewstyle.net/
2. Located in the box titled VIEW OnLine, click on English language
3. Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4. Enter the following VIEW Code – 1273
5. Please read the directions before you answer the questions.

Survey 3: Mentor-Protégé Questionnaire
1. Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2. Please read the directions provided and answer the questions
3. Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

The last day to participate is: Friday, March 6, 2009

Thank you for your participation!
If you have any questions about this study do not hesitate to contact us.

Dr. Thomas Broyles   Ms. Laura Stacklin
Assistant Professor   Master's Degree Candidate
tbroyles@vt.edu (540) 231-8188   Lrs14@vt.edu (540) 231-8188

E-mail sent on 3-3-09 to Candidates that had completed one of the three available surveys
Subject: Student Teacher Survey-Deadline Friday

Dear Candidate, *Personalized with name

Thank you for your response to survey one.

This phase of the study also involves your participation in two other online surveys which will take approximately 10-15 minutes each to complete.

As a courtesy to you for participating in this study you will receive your results from surveys 1 and 2.
These survey results are worth over $20 in value!

We have contacted you and others in hopes of obtaining a closer look into the student teaching experience. You are an essential piece to our research as our success depends on the participation of student teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again.

These surveys require only 10-15 minutes each to complete, they can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
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https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

<p align="center">*The last day to participate is: Friday, March 6, 2009*</p>

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 3-3-09 to Candidates that had completed two of the three available surveys
Subject: Student Teacher Survey-Deadline Friday

Dear Candidate, *Personalized with name

Thank you participating in the first two surveys of our study! We appreciate your willingness to take part in this study as we work towards a better understanding of the student teacher-cooperating teacher relationship. The third and final survey of our study is now available online.

As a courtesy to you for participating in this study you will receive your results from surveys 1 and 2.
These survey results are worth over $20 in value!

You are an essential piece to our research as our success depends on the participation of student teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again. These surveys require only 10-15 minutes each to complete, they can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 3: Mentor-Protégé Questionnaire
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

The last day to participate is: Friday, March 6, 2009

If you have any questions about this study do not hesitate to contact us.
Thank you for your participation!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

Letter sent on 3-3-09 to Candidates and Clinical Faculty that had not completed any of the three available surveys. Paper copies of the three assessments and an addressed and stamped return envelope were included with this letter.

VirginiaTech

College of Agriculture
and Life Sciences

Department of Agricultural and Extension Education
2270 Litton Reaves Hall (0343)
Blacksburg, Virginia 24061
540/231-6836 Fax: 540/231-3824
www.aee.vt.edu

March 2, 2009

Dear Candidate or Clinical Faculty, *Personalized with Name

You have been invited to participate in a research study on behalf of the Virginia Tech Department of Agricultural and Extension Education. We are asking student teachers and cooperating teachers about their problem solving styles, interpersonal needs and perceived support. **As of Monday, March 2, 2009, we have not received any completed surveys from you. Please note that you will receive your personal results from surveys 1 and 2 totaling an over $20 value to you!**

We realize this is a very busy time for you, however, we have contacted you and others in hopes of obtaining a closer look into your experience. If you have not received all of our e-mails, we have included a paper version of the assessments for you to complete, or you can e-mail me at LRS14@vt.edu to receive the internet links. We have also included a postage paid, addressed envelope for you to return the completed paper surveys included with this letter.

You are an essential piece to our research; please take the time out of your busy schedule to participate. These surveys require only 10-15 minutes each to complete.

Please place your completed surveys in the mail by Friday, March 13, 2009.

If you have completed any of the enclosed surveys online since March 2, 2009 please complete those you have not taken and return them in the provided envelope.

Thank you for your participation!

If you have any questions about this study do not hesitate to contact us.

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Letter sent on 3-3-09 to Candidates and Clinical Faculty that had completed one of the three available surveys. Paper copies of the 2 assessments they had not taken and an addressed and stamped return envelope were included with this letter.

VirginiaTech
College of Agriculture
and Life Sciences

Department of Agricultural and Extension Education
2270 Litton Reaves Hall (0343)
Blacksburg, Virginia 24061
540/231-6836 Fax: 540/231-3824
www.aee.vt.edu

March 2, 2009

Dear Candidate or Clinical Faculty, *Personalized with Name

You have been invited to participate in a research study on behalf of the Virginia Tech Department of Agricultural and Extension Education. We are asking student teachers and cooperating teachers about their problem solving styles, interpersonal needs and perceived support. **Thank you for your initial participation in this study, as of Monday, March 2, 2009, our records indicate that we have only received 1 of the 3 completed surveys from you. Please note that you will receive your personal results from surveys 1 and 2 totaling an over $20 value to you!**

We realize this is a very busy time for you, however, we have contacted you and others in hopes of obtaining a closer look into your experience. If you have not received all of our e-mails, we have included a paper version of the assessments for you to complete. We have also included a postage paid, addressed envelope for you to return the completed paper surveys included with this letter.

You are an essential piece to our research; please take the time out of your busy schedule to participate. These surveys require only 10-15 minutes each to complete.

Please place your completed surveys in the mail by Friday, March 13, 2009.

If you have completed any of the enclosed surveys online since March 2, 2009 please complete those you have not taken and return them in the provided envelope.

Thank you for your participation!

If you have any questions about this study do not hesitate to contact us.

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Appendix F
Clinical Faculty Contacts

Laura R. Stacklin
Graduate Research Assistant
2270 Litton Reaves Hall
Mail Code: 0343
Blacksburg, VA 24061

Agriculture Department
Clinical Faculty Name
Cooperating School System
Address Line 1
City, State Zip Code

■VirginiaTech
Invent the Future

Dear Clinical Faculty Name,

I am conducting a study on student teachers & cooperating teachers. Within one week you will receive an e-mail from me (lrs14@vt.edu) with further information regarding this study.

I would appreciate it if you could take the time out of your schedule to participate.

Thank you,
Laura

E-mail sent to Clinical Faculty on 2-16-09
Subject: University Research Participation Requested

Dear Clinical Faculty, *Personalized with name

I am writing to request your participation in a study regarding problem solving style, interpersonal needs and perceived support as provided by your cooperating teacher. The student teaching experience is crucial to the development and future career of student teachers. I am conducting a study that will allow me to investigate the relationship of student teachers and cooperating teachers in the southern region of the United States. The success and results of this study depend on the participation of student teachers and cooperating teachers in this region. In order for this study to be successful your participation as well as that of your cooperating teacher is requested. You are an essential piece to my research, I hope that you can take the time out of your schedule to participate.

The first two surveys are now open online; you will find the link and a brief explanation of the survey in this e-mail. These are the first two of three online surveys that you are requested to take.

The survey's can be accessed in the following way:

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1. Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
2. Please read the directions provided and answer the questions
3. Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)
4.   You will be redirected to Survey 2. Follow the directions below to complete this survey.

Survey 2: The View: An Assessment of Problem Solving Style
1. Go to http://viewstyle.net/
2. Located in the box titled VIEW OnLine, click on English language
3. Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4. Enter the following VIEW Code – 1273
5. Please read the directions before you answer the questions.

The last day to participate is: Monday, February 23, 2009

Further information about this study: Virginia Polytechnic Institute and State University Informed Consent for Participants in Research Projects Involving Human Subjects

Title of Project: Comparing candidate and clinical faculty cognitive effect, cognitive affect, and perceived behaviors during the initiation phase of mentoring

Investigators: Dr. Thomas W. Broyles, Assistant Professor, Virginia Tech
Dr. Donna Moore, Assistant Professor, Virginia Tech
Ms. Laura R. Stacklin, Master's Degree Candidate, Virginia Tech

I. Purpose of this research
This research will assist in formatting and methodology for a larger study to follow. It will assist in the explanation of many different personality preferences between student teachers and cooperating teachers. Specifically, the purpose of this study is to closely examine student teacher and cooperating teacher interpersonal needs, problem solving styles, and perceived support. This new knowledge will help to promote better teaching practices in higher education. Participants are student teachers and cooperating teachers at multiple institutions in the AAAE Southern Region.

II. Procedures
You are invited to complete an online survey on The VIEW: An Assessment of Problem Solving Styles, FIRO-B: Fundamental Interpersonal Relations Orientation, and a Mentor-Protégé questionnaire. These surveys require only approximately 15 minutes each to complete. At no time will your individual information or scores be released to anyone other than the researchers involved in the project without your written consent.

III. Risks
This study has been reviewed and approved by the Virginia Tech Institutional Review Board. It received the "Exempt" status which means that it is seen as the safest of all possible research. Individual answers and identities of the participants will be protected at all times.

IV. Benefits
This research will help uncover how problem solving, interpersonal needs and perceived behavior may interact. It will also help to promote better teaching placements within the educational community. No promise or guarantee of benefits can be made to encourage your participation.

V. Extent of Anonymity and Confidentiality
Protecting your identity is a top priority of this study. By participating in this research project, your information will be kept strictly confidential. At no time will information be released that allows an individual to be identified. At no time will the researchers release the results of the study to anyone other than individuals working on the project, without your written consent. Only the research team, Ms. Laura Stacklin, Dr. Tom Broyles and Dr. Donna Moore will have access to your data. It is possible that the Institutional Review Board (IRB) may view this study's collected data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

VI. Compensation
There is no compensation beyond knowing that you are contributing to important research within the educational field.

VII. Freedom to withdraw
Participants are free to withdraw from the study at any time without penalty. Subjects are free to not answer any questions without penalty.

VIII. Subject's responsibilities

I voluntarily agree to participate in this study. I have the responsibility to answer each question on the three assessments to the best of my ability per the researchers' directions.

IX. Subject's permission

I have read and understand the Informed Consent and conditions of this project. I have had all of my questions answered. I hereby acknowledge the above and give my voluntary consent by completing the online surveys.

Should I have pertinent questions about this research, I may contact:

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-6836

Dear Clinical Faculty, *Personalized with name

The student teaching experience is critical in the development of your student teacher. I am conducting a study that will allow me to investigate the relationship of student teachers and cooperating teachers in the southern region of the United States. The success and results of this study depend on the participation of student teachers and cooperating teachers in this region.

You are an essential piece to my research. I hope that you will take the time out of your busy schedule to participate. These surveys require only 10-15 minutes each to complete, they can be accessed in the following way:

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1. Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
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3. Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4. Enter the following VIEW Code – 1273
5. Please read the directions before you answer the questions.

The last day to participate is: Monday, February 23, 2009

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

Dear Candidate or Clinical Faculty, *Personalized with name

Thank you for your response to survey one.

This phase of the study also involves your participation in one other online survey which will take approximately 10-15 minutes to complete.

You are an essential piece to my research. I hope that you will take the time out of your busy schedule to participate in my other survey. This survey requires only 10-15 minutes to complete, it can be accessed in the following way:

Survey 2: The View: An Assessment of Problem Solving Style
1. Go to http://viewstyle.net/
2. Located in the box titled VIEW OnLine, click on English language
3. Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4. Enter the following VIEW Code – 1273
5. Please read the directions before you answer the questions.

The last day to participate is: Monday, February 23, 2009

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-20-09 Clinical Faculty that had completed all available surveys
Subject: Thank you!

Dear Clinical Faculty, *Personalized with name

Thank you participating in the first two surveys of my study! I appreciate your willingness to take part in this study as we work towards a better understanding of the student teacher-cooperating teacher relationship.

Please look for another e-mail from me in the near future requesting your participation in my final survey. The final survey will take approximately 10 to 15 minutes to complete.
Thank you once again for your initial participation!

Gratitude is something of which none of us can give too much.
-- A. J. Cronin

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-23-09 to Clinical Faculty that had not completed any of the available surveys
Subject: University Research-Last Day to Participate

Dear Clinical Faculty, *Personalized with name

The student teaching experience is critical in the development of your student teacher. I am conducting a study that will allow me to investigate the relationship of student teachers and cooperating teachers in the southern region of the United States.

You are an essential piece to my research. I hope that you will take the time out of your busy schedule to participate. **Please note that you will receive your personal results from the surveys below at the conclusion of this study.** These surveys require only 10-15 minutes each to complete, they can be accessed in the following way:

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)
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1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4.   Enter the following VIEW Code – 1273
5.   Please read the directions before you answer the questions.

Today is the last day to participate in this study.
Please take the above surveys by midnight tonight!

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-23-09 to Clinical Faculty that had completed one of the two available surveys
Subject: University Research-Last Day to Participate

Dear Clinical Faculty, *Personalized with name

Thank you for your response to survey one.

This phase of the study also involves your participation in one other online survey which will take approximately 10-15 minutes to complete. **Please note that you will receive your personal results from this survey at the conclusion of this study.**

You are an essential piece to my research. I hope that you will take the time out of your busy schedule to participate in my other survey. This survey requires only 10-15 minutes to complete, it can be accessed in the following way:

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5.   Please read the directions before you answer the questions.

Today is the last day to participate in this study.
Please take the above surveys by midnight tonight!

If you have any questions about this study do not hesitate to contact us.

Thank you!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-23-09 to Clinical faculty that had completed all of the available surveys
Subject: Thank you!

Dear Clinical Faculty, *Personalized with name

Thank you participating in the first two surveys of my study! I appreciate your willingness to take part in this study as we work towards a better understanding of the student teacher-cooperating teacher relationship.

Please look for another e-mail from me in the near future requesting your participation in my final survey. The final survey will take approximately 10 to 15 minutes to complete.
Thank you once again for your initial participation!

Gratitude is something of which none of us can give too much.
-- A. J. Cronin

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-25-09 to Clinical Faculty that had not completed any of the available surveys
Subject: Cooperating Teacher Survey

Dear Clinical Faculty, *Personalized with name

About a week ago you received survey via e-mail on behalf of the Virginia Tech Department of Agricultural and Extension Education. We are asking student teachers and cooperating teachers about their preferences and opinions. As of today, we have not received the completed surveys from you.

We realize this is a very busy time for you being National FFA week and midway into your school year. However, we have contacted you and others in hopes of obtaining a closer look into the student teaching experience. The success and results of this study depend on the participation of cooperating teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again.

You are an essential piece to our research; please take the time out of your busy schedule to participate. These surveys require only 10-15 minutes each to complete, they can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)
4.   You will be redirected to Survey 2. Follow the directions below to complete this survey.

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
4.   Enter the following VIEW Code – 1273
5.   Please read the directions before you answer the questions.

Survey 3: Mentor-Protégé Questionnaire
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

The last day to participate is: Friday, March 6, 2009

Thank you for your participation!
If you have any questions about this study do not hesitate to contact us.

Dr. Thomas Broyles   Assistant Professor   tbroyles@vt.edu   (540) 231-8188

Ms. Laura Stacklin   Master's Degree Candidate   Lrs14@vt.edu   (540) 231-8188

E-mail sent on 2-25-09 to Clinical Faculty that had completed one of the three available surveys
Subject: Cooperating Teacher Survey

Dear Clinical Faculty, *Personalized with name

Thank you for your response to survey one.

This phase of the study also involves your participation in two other online surveys which will take approximately 10-15 minutes each to complete.

We realize this is a very busy time for you being National FFA week and midway into your school year. However, we have contacted you and others in hopes of obtaining a closer look into the student teaching experience. The success and results of this study depend on the participation of cooperating teacher like you. In case the previous survey links have been deleted from your e-mail account, we have included them again.

You are an essential piece to our research. I hope that you will take the time out of your busy schedule to participate in our other survey. This survey requires only 10-15 minutes to complete, it can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 2: The View: An Assessment of Problem Solving Style
1.   Go to http://viewstyle.net/
2.   Located in the box titled VIEW OnLine, click on English language
3.   Enter the following password – 0076AGED (The first two characters are the number 0 not letters)
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1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

<div align="center">

The last day to participate is: Friday, March 6, 2009

</div>

If you have any questions about this study do not hesitate to contact us.

Thank you!
Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

E-mail sent on 2-25-09 to Clinical Faculty that had completed two of the three available surveys
Subject: Final Survey Request

Dear Clinical Faculty, *Personalized with name

Thank you participating in the first two surveys of our study! We appreciate your willingness to take part in this study as we work towards a better understanding of the student teacher-cooperating teacher relationship. The third and final survey of our study is now available online. This survey will take approximately 10 to 15 minutes to complete.

We realize this is a very busy time for you being National FFA week and midway into your school year. The success and results of this study depend on the participation of cooperating teachers like you. You are an essential piece to our research. We hope that you will take the time out of your busy schedule to participate in our final survey. This survey requires only 10-15 minutes to complete, it can be accessed in the following way: *(Please copy and paste the link below into an internet browser)*

Survey 3: Mentor-Protégé Questionnaire
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2.   Please read the directions provided and answer the questions
3.   Click the done button to submit your survey. (If you fail to do this the survey will not be recorded.)

The last day to participate is: Friday, March 6, 2009

If you have any questions about this study do not hesitate to contact us.
Thank you for your participation!

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
 (540) 231-8188

E-mail sent on 3-3-09 to Clinical Faculty that had not completed and of the available surveys
Subject: Cooperating Teacher Survey-Deadline Friday

Dear Clinical Faculty, *Personalized with name

We are asking student teachers and cooperating teachers about their preferences and opinions.
As of today, we have not received any of the completed surveys from you.
As a courtesy to you for participating in this study you will receive your results from surveys 1 and 2. These survey results are worth over $20 in value!

We have contacted you and others in hopes of obtaining a closer look into the student teaching experience. You are an essential piece to our research as our success depends on the participation of cooperating teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again.

These surveys require only 10-15 minutes each to complete, they can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 1: FIRO-B: A Measure of Interpersonal Behaviors
1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=Tw_2b9CE5iG9nbl736DFHckg_3d_3d
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1.   Go to:
https://www.surveymonkey.com/s.aspx?sm=IR5PYxEmSQhhYnXzfm39Qg_3d_3d
2.   Please read the directions provided and answer the questions
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The last day to participate is: Friday, March 6, 2009

Thank you for your participation!
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Ms. Laura Stacklin   Master's Degree Candidate   Lrs14@vt.edu (540) 231-8188

E-mail sent on 3-3-09 to Clinical Faculty that had completed one of the three available surveys
Subject: Cooperating Teacher Survey-Deadline Friday

Dear Clinical Faculty, *Personalized with name

Thank you for your response to survey one.

This phase of the study also involves your participation in two other online surveys which will take approximately 10-15 minutes each to complete.

As a courtesy to you for participating in this study you will receive your results from surveys 1 and 2. These survey results are worth over $20 in value!

We have contacted you and others in hopes of obtaining a closer look into the student teaching experience. You are an essential piece to our research as our success depends on the participation of cooperating teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again.

These surveys require only 10-15 minutes each to complete, they can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

Survey 2: The View: An Assessment of Problem Solving Style
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Master's Degree Candidate
Lrs14@vt.edu (540) 231-8188

E-mail sent on 3-3-09 to Clinical Faculty that had completed two of the three available surveys
Subject: Cooperating Teacher Survey-Deadline Friday

Dear Clinical Faculty, *Personalized with name

Thank you participating in the first two surveys of our study! We appreciate your willingness to take part in this study as we work towards a better understanding of the student teacher-cooperating teacher relationship. The third and final survey of our study is now available online.

As a courtesy to you for participating in this study you will receive your results from surveys 1 and 2.
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You are an essential piece to our research as our success depends on the participation of cooperating teachers like you. In case the previous survey links have been deleted from your e-mail account, we have included them again. These surveys require only 10-15 minutes each to complete, they can be accessed in the following way: *(Please copy and paste the links below into an internet browser)*

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If you have any questions about this study do not hesitate to contact us.
Thank you for your participation!

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Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
 (540) 231-8188

Letter sent on 3-3-09 to Candidates and Clinical Faculty that had not completed any of the three available surveys. Paper copies of the three assessments and an addressed and stamped return envelope were included with this letter.

VirginiaTech

College of Agriculture
and Life Sciences

Department of Agricultural and Extension Education
2270 Litton Reaves Hall (0343)
Blacksburg, Virginia 24061
540/231-6836 Fax: 540/231-3824
www.aee.vt.edu

March 2, 2009

Dear Candidate or Clinical Faculty, *Personalized with Name

You have been invited to participate in a research study on behalf of the Virginia Tech Department of Agricultural and Extension Education. We are asking student teachers and cooperating teachers about their problem solving styles, interpersonal needs and perceived support. **As of Monday, March 2, 2009, we have not received any completed surveys from you. Please note that you will receive your personal results from surveys 1 and 2 totaling an over $20 value to you!**

We realize this is a very busy time for you, however, we have contacted you and others in hopes of obtaining a closer look into your experience. If you have not received all of our e-mails, we have included a paper version of the assessments for you to complete, or you can e-mail me at LRS14@vt.edu to receive the internet links. We have also included a postage paid, addressed envelope for you to return the completed paper surveys included with this letter.

You are an essential piece to our research; please take the time out of your busy schedule to participate. These surveys require only 10-15 minutes each to complete.

Please place your completed surveys in the mail by Friday, March 13, 2009.

If you have completed any of the enclosed surveys online since March 2, 2009 please complete those you have not taken and return them in the provided envelope.

Thank you for your participation!

If you have any questions about this study do not hesitate to contact us.

Dr. Thomas Broyles
Assistant Professor
tbroyles@vt.edu
(540) 231-8188

Ms. Laura Stacklin
Master's Degree Candidate
Lrs14@vt.edu
(540) 231-8188

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Letter sent on 3-3-09 to Candidates and Clinical Faculty that had completed one of the three available surveys. Paper copies of the two assessments they had not taken and an addressed and stamped return envelope were included with this letter.

VirginiaTech

College of Agriculture and Life Sciences

Department of Agricultural and Extension Education
2270 Litton Reaves Hall (0343)
Blacksburg, Virginia 24061
540/231-6836 Fax: 540/231-3824
www.aee.vt.edu

March 2, 2009

Dear Candidate or Clinical Faculty, *Personalized with Name

You have been invited to participate in a research study on behalf of the Virginia Tech Department of Agricultural and Extension Education. We are asking student teachers and cooperating teachers about their problem solving styles, interpersonal needs and perceived support. **Thank you for your initial participation in this study, as of Monday, March 2, 2009, our records indicate that we have only received 1 of the 3 completed surveys from you. Please note that you will receive your personal results from surveys 1 and 2 totaling an over $20 value to you!**

We realize this is a very busy time for you, however, we have contacted you and others in hopes of obtaining a closer look into your experience. If you have not received all of our e-mails, we have included a paper version of the assessments for you to complete. We have also included a postage paid, addressed envelope for you to return the completed paper surveys included with this letter.

You are an essential piece to our research; please take the time out of your busy schedule to participate. These surveys require only 10-15 minutes each to complete.

Please place your completed surveys in the mail by Friday, March 13, 2009.

If you have completed any of the enclosed surveys online since March 2, 2009 please complete those you have not taken and return them in the provided envelope.

Thank you for your participation!

If you have any questions about this study do not hesitate to contact us.

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Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Appendix G
The VIEW Sample Instrument

VIEW

An Assessment of Problem Solving Style

Please read these directions before you answer the questions on the other side of the page.

There are 34 sets of statements that ask you about your preferences when you are solving problems. Read both sides of each line. Then, blacken one of the circles between the pair of statements. Blacken the circle closer to the left or right, so it will be nearer to the statement that best describes your personal preference. Your preference is the way you usually do things when you're solving problems. It is the way of working that is most comfortable and natural for you. Your preference or style is the way you are, *not* the way you might wish you could be, or the way others want you to be!

If *both* statements seem accurate to you, but at different times and to different degrees, blacken a circle on or near the center of the row that best describes how you prefer to balance the two. For each item, think about both phrases, at the left and right, before blackening the circle that describes you best; think carefully about the full range of circles when you are deciding where to mark your response.

Example: When I am solving problems, I am a person who prefers...

1. Working in the early morning	○ ○ ○ ● ○ ○ ○	1. Working late at night
2. Working at the last minute	○ ○ ○ ○ ○ ●	2. Working well in advance of deadlines
3. Working on a computer	● ○ ○ ○ ○ ○	3. Working with pencil and paper
4. Working in bright light	○ ○ ○ ● ○ ○	4. Working in soft or low light

Item #1 The person prefers balance between working in the morning and working late at night.
Item #2 The person *strongly* prefers to work with plenty of time, not waiting until the last minute.
Item #3 The person *usually* prefers working on a computer, rather than working with pencil and paper.
Item #4 The person *slightly* prefers to work in soft or low light rather than in bright light.

When you make your choice, blacken the circle completely. Please be sure to mark all 34 items. The statements on one side are not "better" than the statements on the other side, but one might be more accurate in describing your own style.

Be sure to enter your name and complete the other information at the bottom of the page. Once you are finished please turn in the completed form. Please do not open the booklet. Thank you!

Please read the directions on the other side of the page before making your choices.

When responding to these questions, please keep in mind the following:

"When I am solving problems, I am a person who prefers…"

	Left statement		Right statement
1.	To work with the guidance of a clear structure	○○○○○○○	1. To work without boundaries
2.	To follow ideas wherever they lead	○○○○○○○	2. To direct ideas toward the task at hand
3.	To let my ideas flow freely	○○○○○○○	3. To search for practical ideas
4.	Quiet concentration	○○○○○○○	4. Involvement with others
5.	Drawing energy from within	○○○○○○○	5. Drawing energy from talking with others
6.	Looking first at feelings	○○○○○○○	6. Looking first at evidence
7.	Outcomes that are well-reasoned	○○○○○○○	7. Outcomes that maintain harmony
8.	To develop and improve what exists	○○○○○○○	8. To explore new directions
9.	To assume approval and go ahead	○○○○○○○	9. To seek approval before going ahead
10.	To change gradually and carefully	○○○○○○○	10. To go in fresh new directions
11.	Taking time alone for reflection	○○○○○○○	11. Forming ideas through discussion with others
12.	Talking through my ideas with a group	○○○○○○○	12. Writing down my ideas in a quiet place
13.	To recognize people's needs first	○○○○○○○	13. To recognize logical flaws first
14.	To put step-by-step directions aside	○○○○○○○	14. To look for and use step-by-step directions
15.	To define the problem my own way	○○○○○○○	15. To work on the problem as given
16.	Thinking aloud about ideas	○○○○○○○	16. Thinking quietly about ideas
17.	Making decisions in a caring, personal way	○○○○○○○	17. Making decisions in a cool, analytic way
18.	Weighing the evidence	○○○○○○○	18. Weighing the impact on people
19.	To improve on the familiar	○○○○○○○	19. To seek change that leaves the familiar behind
20.	To know and follow the rules	○○○○○○○	20. To modify or change the rules
21.	To be seen as cautious	○○○○○○○	21. To be seen as spontaneous
22.	Following a familiar routine	○○○○○○○	22. Making my own path
23.	Finding solutions to work on with others	○○○○○○○	23. Finding solutions to work on by myself
24.	To be persuaded more by emotions	○○○○○○○	24. To be persuaded more by logic
25.	Ideas that are original	○○○○○○○	25. Ideas that are workable
26.	To explore without limits	○○○○○○○	26. To work creatively within limits
27.	To search widely, following my hunches	○○○○○○○	27. To search efficiently for realistic possibilities
28.	To do the job as directed	○○○○○○○	28. To do the job my own way
29.	Generating options with a group	○○○○○○○	29. Generating options on my own
30.	Fair and just decisions	○○○○○○○	30. Sympathetic and caring decisions
31.	Finding better ways to do the job	○○○○○○○	31. Finding different ways to do the job
32.	To develop my plan as I go	○○○○○○○	32. To develop my plan before I begin
33.	To clarify my thinking by myself	○○○○○○○	33. To clarify my thinking by talking with others
34.	Appreciating careful analysis	○○○○○○○	34. Appreciating people's feelings

Please press firmly and fill the circle completely. Please do not open the booklet.

Name: _____   Date: _____

For research use only: Age: _____ Job: _____   Male ☐   Female ☐

Form 2.1 © 2002, E. C. Selby, D. J. Treffinger, and S. G. Isaksen

Appendix H
FIRO-B Permission and Sample Instrument

PERMISSION AGREEMENT
ADDENDUM

January 14, 2009

Laura R. Stacklin
Virginia Polytechnic Institute & State University
1820 Litton-Reaves Hall (0343)
Blacksburg, VA 24061

Dear Ms. Stacklin:

In response to your request of January 13, 2009, upon receipt by CPP, Inc. of this signed letter, permission will be granted for you to increase the number of your administrations from 88 to 350 as a modified edition of the FIRO-B® Instrument for delivery via Surveymonkey.com. This permission is for research use only, in connection within your Research entitled, *"Comparing Candidate and Clinical Faculty Cognitive Effect, Cognitive Affect, and Perceived Behaviors During the Initiation Phase of Mentoring"*. Permission will be extended through March 10, 2009. Please remit the signed letter by February 14, 2008. The following credit line will accompany the above referenced inventory:

"Modified and reproduced by special permission of the Publishers, CPP, Inc., Mountain View, CA 94043 from FIRO-B® Instrument is based on the work of W. Schutz. Copyright 1996 by CPP, Inc. All rights reserved. Further reproduction is prohibited without the Publisher's written consent."

This letter constitutes a part of the Permission Agreement between Laura R. Stacklin and CPP, Inc. This letter dated January 14, 2009 is attached as a rider to the Permission Agreement dated November 11, 2008 (17523).

CPP, INC.

By _____Eliza M'Lane_____
Authorized Representative

Date _____1/15/09_____

I AGREE TO THE ABOVE CONDITIONS:

By _____Laura R Stacklin_____
Laura R. Stacklin

Date _____1-14-09_____

FIRO-B® Instrument
by Will Schutz

Directions: This questionnaire explores the typical ways you interact with people. There are no right or wrong answers. Sometimes people are tempted to answer questions like these in terms of what they think a person *should* do. This is *not* what is wanted here. We would like to know how you actually behave. Some items may seem similar to others. However, each item is different so please answer each one without regard to the others. There is no time limit, but do not debate long over any item.

Expressed Behavior

For each statement below, decide which of the following answers best applies to you. Place the number of the answer to the left of the statement. Please be as honest as you can.
1. never 2. rarely 3. occasionally 4. sometimes 5. often 6. usually

Control
_____ I try to be the dominant person when I am with people.

Inclusion
_____ I try to include other people in my plans.

Affection
_____ I try to have close relationships with people.

Wanted Behavior

For each of the next group of statements, choose one of the following answers:
1. nobody   2. 1 or 2   3. a few   4. some 5. many   6. most
              people   people   people people   people

Control
_____ I let other people control my actions.

Inclusion
_____ I like people to include me in their activities.

Affection
_____ I like people to act close and personal with me.

Appendix I
Mentor-Protégé Questionnaire-Candidate Version

Mentor-Protégé Questionnaire-Candidate Version

Student Teacher & Cooperating Teacher Page 1 of 5

*1. To collect and match responses from previous instruments, please provide your name.

*2. Please select the statement that best describes you.

- ○ Cooperating Teacher
- ○ Student Teacher

*1. To what extent do you agree with the following statements?

	Agree very strongly	Agree strongly	Agree	Disagree	Disagree strongly	Disagree very strongly	Unsure
My cooperating teacher helps me to finish tasks or meet deadlines that would otherwise have been difficult for me to complete	○	○	○	○	○	○	○
My cooperating teacher increases my contact with people likely to influence my future advancement	○	○	○	○	○	○	○
My cooperating teacher gives me tasks which enhance my administrative skills	○	○	○	○	○	○	○
My cooperating teacher gives me assignments that present opportunities to learn new skills	○	○	○	○	○	○	○
My cooperating teacher positively encourages me in preparation for career advancement	○	○	○	○	○	○	○
I trust my cooperating teacher	○	○	○	○	○	○	○
My cooperating teacher trusts me	○	○	○	○	○	○	○
My cooperating teacher possesses admirable traits	○	○	○	○	○	○	○
My cooperating teacher sees me as possessing admirable traits	○	○	○	○	○	○	○
I respect and admire my cooperating teacher	○	○	○	○	○	○	○
My cooperating teacher respects and admires me	○	○	○	○	○	○	○
My cooperating teacher conveys empathy for any concerns and feelings I discuss with him/her	○	○	○	○	○	○	○
My cooperating teacher conveys feelings of respect for me as an individual	○	○	○	○	○	○	○
My cooperating teacher interacts with me on a social basis (more like a friend)	○	○	○	○	○	○	○

✱1. How similar to you is your cooperating teacher in respect of...

	Notably similar	Similar	Slightly Similar	Slightly Dissimilar	Dissimilar	Notably Dissimilar	Unsure
Intelligence	○	○	○	○	○	○	○
Personality	○	○	○	○	○	○	○
Ambition	○	○	○	○	○	○	○
Approach to work	○	○	○	○	○	○	○
Social attributes	○	○	○	○	○	○	○
Communication skills	○	○	○	○	○	○	○
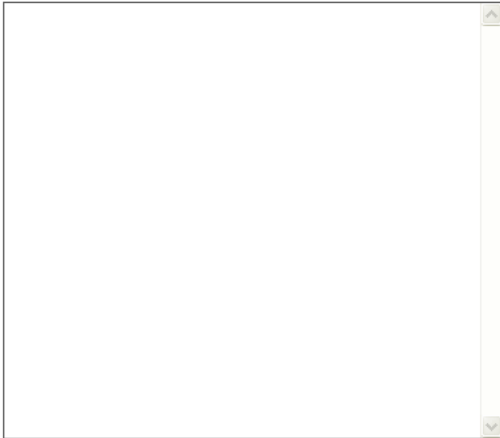
✱1. What week is this of your student teaching experience?
Please answer in the form of weeks.(Example: 5 weeks)
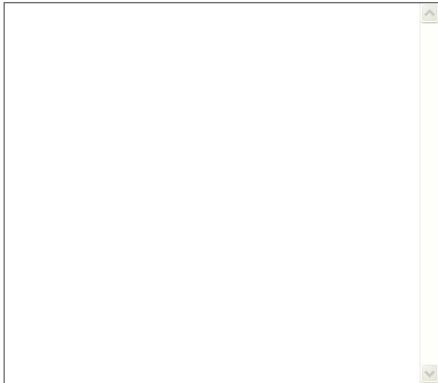
✱2. Describe the relationship you have with your cooperating teacher. Please explain.

✱3. What are the qualities of your cooperating teacher that you appreciate the most? Please explain.
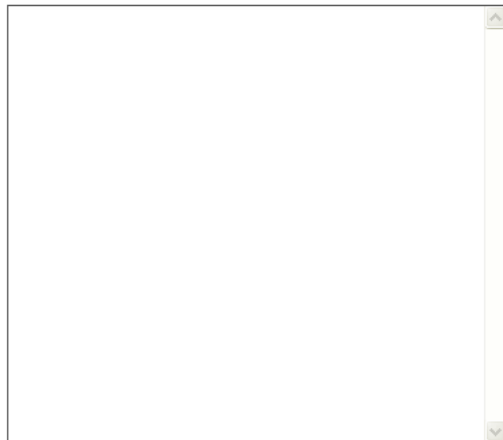
✱4. What are the qualities of your cooperating teacher that you least appreciate or are the source of frustration? Please explain.

✱5. What has your cooperating teacher done to help you transition into your student teaching experience? Please be specific.

✱6. Are there any other factors that you feel are affecting your relationship with your cooperating teacher? Please explain.

Student Teacher & Cooperating Teacher Page 5 of 5

Thank you for your participation!

Please click "DONE" to submit your responses.

If you have any additional questions, please contact me at LRS14@vt.edu.

Appendix J
Mentor-Protégé Questionnaire-Clinical Faculty Version

Mentor-Protégé Questionnaire Clinical Faculty Version

Welcome

Thank you for participating in this study!

Your open and honest responses are appreciated.

Please note that all responses are confidential and your cooperating teacher(s)/student teacher(s) and university supervisor(s)/faculty will never see your individual responses.

Once you enter the survey you will need to answer all questions before exiting. You will be able to review your answers as many times as necessary before submission by following the Prev. button on the survey.

Please read the following statements and choose the best possible response based on your relationship with your student teacher or cooperating teacher.

Student Teacher & Cooperating Teacher Page 1 of 5

✱1. To collect and match responses from previous instruments, please provide your name.

✱2. Please select the statement that best describes you.

⚪ Cooperating Teacher

⚪ Student Teacher

Cooperating Teacher Page 2 of 5

✱1. To what extent do you agree with the following statements?

	Agree very strongly	Strongly agree	Agree	Disagree	Disagree strongly	Disagree very strongly	Unsure
I help my student teacher finish tasks or meet deadlines that would otherwise have been difficult to complete	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I increase my student teachers contact with people likely to influence their future advancement	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I give my student teacher tasks which enhance their administrative skills	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I give my student teacher assignments that present opportunities to learn new skills	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I positively encourage my student teacher in preparation for career advancement	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I have a great deal of trust in my student teacher	⚪	⚪	⚪	⚪	⚪	⚪	⚪
My student teacher has a great deal of trust in me	⚪	⚪	⚪	⚪	⚪	⚪	⚪
My student teacher possesses admirable traits	⚪	⚪	⚪	⚪	⚪	⚪	⚪
My student teacher believes that I possess admirable traits	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I respect and admire my student teacher	⚪	⚪	⚪	⚪	⚪	⚪	⚪
My student teacher respects and admires me	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I convey empathy for any concerns and feelings my student teacher discusses with me	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I convey feelings of respect for my student teacher as an individual	⚪	⚪	⚪	⚪	⚪	⚪	⚪
I interact with my student teacher on a social basis (more like a friend)	⚪	⚪	⚪	⚪	⚪	⚪	⚪

✱1. How similar to you is your student teacher in respect of...

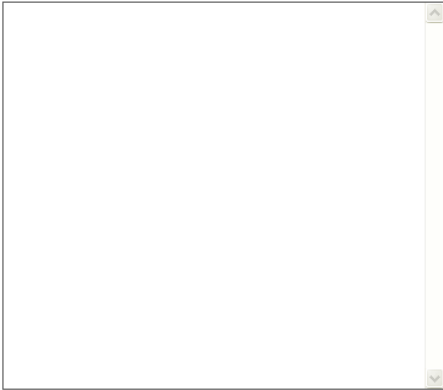|	Notably similar	Similar	Slightly similar	Slightly dissimilar	Dissimilar	Notably dissimilar	Unsure
Intelligence	○	○	○	○	○	○	○
Personality	○	○	○	○	○	○	○
Ambition	○	○	○	○	○	○	○
Approach to work	○	○	○	○	○	○	○
Social attributes	○	○	○	○	○	○	○
Communication skills	○	○	○	○	○	○	○

Cooperating Teacher Page 4 of 5

✱1. Describe the relationship you have with your student teacher. Please explain.
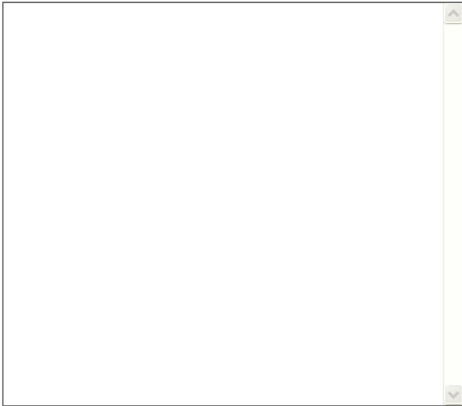
✱2. What are the qualities of your student teacher that you appreciate the most? Please explain.

✱3. What are the qualities of your student teacher that you least appreciate or are the source of frustration? Please explain.

✱4. What have you done to help your student teacher in their transition into their student teaching experience? Please be specific.

✱5. Are there any other factors that you feel are affecting your relationship with your student teacher? Please explain.

Student Teacher & Cooperating Teacher Page 5 of 5

Thank you for your participation!

Please click "DONE" to submit your responses.

If you have any additional questions, please contact me at LRS14@vt.edu.

Appendix K
Results as presented in public defense

VirginiaTech
Invent the Future

Results

Demographics

Candidates	Clinical Faculty
• Response Rate 60.17% • Age: 22.72 Years • Mostly Female 63.40% • Undergraduate GPA: 3.30 • Graduate GPA: 3.81	• Response Rate 71.19% • Age: 40.99 Years • Mostly Male 71.43% • Undergraduate GPA: 3.31 • Graduate GPA: 3.72 • YTE: 16.29 years

VirginiaTech
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Cognitive Effect

Candidates	Clinical Faculty

• Orientation to Change
  • M:83.48 SD:14.54
   • Developer
 • Manner of Processing
  • M:28.97 SD:8.59
   • External
 • Ways of Deciding
  • M:35.24 SD:9.34
   • Task Oriented
	• Orientation to Change
	  • M:79.71 SD:12.51
	   • Developer
	 • Manner of Processing
	  • M:30.84 SD:8.54
	   • External
	 • Ways of Deciding
	  • M:34.67 SD:6.95
	   • Task Oriented

Cognitive Effect

> ## Correlations & ANOVA:

> > Manner of Processing
> > > Low and positive correlation r=0.10 (Davis, 1971)
> > > ANOVA: No significant differences
> > Ways of Deciding
> > > Low and negative correlation r=-0.04
> > > ANOVA: No significant differences
> > Orientation to Change
> > > Low and negative correlation r=-0.15
> > > ANOVA: No significant differences

Cognitive Affect

Candidates		Clinical Faculty	
• el-M:5.04	wl-M:3.93	• el-M:4.33	wl-M:2.83
SD:1.98	SD:3.05	SD:2.10	SD:3.05
• eA-M:4.56	wA-M:3.75	• eA-M:4.14	wA-M:4.14
SD:2.38	SD:2.56	SD:2.43	SD:2.76
• eC-M:3.87	wC-M:3.04	• eC-M:4.08	wC-M:3.00
SD:2.85	SD:2.35	SD:2.48	SD:1.74
• Total e-M:13.48 SD: 5.02		• Total e-M:12.56 SD:5.09	
• Total w-M:10.69 SD:6.17		• Total w-M:9.98 SD:5.74	
• SII-M:24.17 SD:10.22		• SII-M:22.54 SD:9.88	

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Cognitive Affect

➢ **Correlations & ANOVA:**

  ➢ C eI & CF wI r=.027*

    ➢ All Correlations: Negligible or low and +/-

  ➢ Significant differences were found among mean scores in the areas of:

    ➢ Expressed inclusion *p*=.04*

    ➢ Wanted Inclusion *p*=.04*

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Behavior

Candidates
• Career Support
• *M*:10.60 *SD*:3.97
• Psychosocial
• *M*:16.81 *SD*:8.42
• Total Support
• *M*:27.40 *SD*:11.76
• Similarity
• *M*:14.42 *SD*:5.62

Clinical Faculty
• Career Support
• *M*:11.27 *SD*:3.01
• Psychosocial
• *M*:20.63 *SD*:7.23
• Total Support
• *M*:31.90 *SD*:9.07
• Similarity
• *M*:15.30 *SD*:5.02

Behavior

- **Correlations & ANOVA:**
  - Career Support F=1.22
    - Low positive correlation r=0.10
  - Psychosocial Support F=7.96*
    - Low positive correlation r=0.24
  - Total Support F=6.18*
    - Low positive correlation r=0.21
  - Similarity F=0.90
    - Low positive correlation r=0.08

Dyad Scores

- **Matched pairs t-test:**
  - **Cognitive effect-** No significant differences
  - **Cognitive affect**
    - C el & CF wl t=5.27*
    - C eTotal & CF wTotal t=3.88*
    - C wC & CF eC t=-2.97*
    - C wTotal & CF eTotal t=-2.37**
  - Behavior
    - Psychosocial support t=-2.86*
    - Total support t=-2.32*