

PERSONALITY TYPE AS A PREDICTOR OF INTERACTION BETWEEN
STUDENT TEACHERS AND COOPERATING TEACHERS

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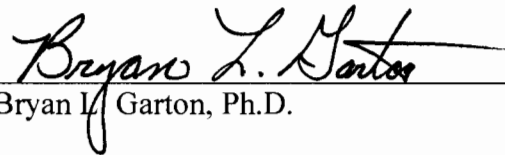
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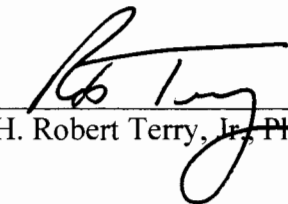
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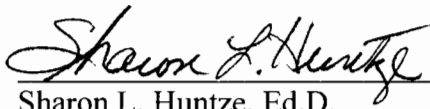
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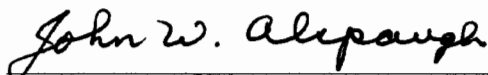
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Dedicated to my loving wife, Laura.
I couldn't have done it without you!

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PERSONALITY TYPE AS A PREDICTOR OF INTERACTION
BETWEEN STUDENT TEACHERS AND COOPERATING TEACHERS

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ABSTRACT

Pairing of student teachers with cooperating teachers has not been studied intently in agricultural education. With student teaching being an important aspect to teacher preparation, it should be a research priority. The purpose of the study was to determine if personality type could predict aspects of interaction between cooperating teachers of agricultural education in two Midwestern states and their student teachers. Student teachers and cooperating teachers in agricultural education for the 2003-2004 school year, from the University of Missouri-Columbia and University of Illinois at Urbana-Champaign, participated in the study.

The study was descriptive-correlational, quantitative research. To measure personality type, the Myers-Briggs Type Indicator was used. To measure interaction aspects, the Mentoring Relationship Questionnaire (Greiman, 2003) was used. Findings suggest that, according to both cooperating teachers and student teachers, that student teachers were receiving psychosocial assistance from cooperating teachers. In addition, according to both student teachers and cooperating teachers, student teachers did not need much, nor did they receive much support related to roles and responsibilities of an

agriculture teacher. Although the study found strength in relationships between overall perceived similarity and interaction satisfaction, personality type was found to have little influence on the variables.

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CHAPTER I

INTRODUCTION

How teachers were prepared in the past is not the same as present day. Taken one step further – how teachers are being prepared today is not the same as how teachers will be prepared in the future. If teacher educators are working to improve the teacher preparation process, appropriate change must occur. Throughout history, teacher education has changed so that teachers will be better prepared teachers. The end result... students learn better.

Historical Perspective of Changes in Teacher Education

In his book, *Teacher Training*, Pushkin (2001) outlined several historical milestones or significant events that have shaped teacher education. In the 1830s, Horace Mann established the first public (grammar) school in Massachusetts. To coincide with the grammar schools, he also established independent or normal schools for teacher education. Throughout the century, the field of education became dominated by women. The domination of women in the field played a significant role in how teachers were treated. By the end of the 1800s, normal schools were intended to be feeder schools to college institutions where students would pursue a liberal arts education. Those few who did matriculate from normal schools to college were admitted as juniors. Those entering the field of education were more likely to enter teaching elementary school (Pushkin, 2001).

Toward the end of the 1800s, teacher education began to improve as both land-grant and colonial-era institutions began offering undergraduate teacher preparation

programs. Although a milestone had been established in teacher preparation, the curricula consisted of lectures based on texts of the history of education, the art and science of teaching, and courses pertaining to the specific subject area in which the teacher would be teaching. In 1883, teacher education training was influenced when Columbia University established the first Ph.D. in education through its Teachers College (Pushkin, 2001).

The first decade of the new century, 1900, the education field began to see a divide in teacher training. Elementary (K-8) teacher education primarily resided in normal schools and students there were primarily female. High schools were not compulsory at this point in history, therefore students who attended high schools were mostly middle- or upper-class. High school teachers were primarily trained through completion of a bachelor's degree and were predominately male. Even with this situation, more than 80% of the teacher workforce was not formally trained. Teacher certification not only varied by state, but by county as well (Pushkin, 2001).

Evolutions in teacher training occurred during the 1920s as normal schools offered bachelor degrees and colleges and universities began legitimizing teaching as a profession. At this point in history, the influence of John Dewey emerged. Dewey's humanistic approach embraced notions of a nurturing teacher who offered instruction using the "project method" that minimized structure in lieu of problem-solving and discovery. In addition, throughout this and the next several decades, universities began to offer full degrees in education (Pushkin, 2001).

As the face of education changed, so did the faces of its teachers. In the 1930s, as educational organizations emerged, the endorsement of married teachers as qualified

candidates surfaced. Prior to this point, married teachers were not deemed as qualified. By the 1940s, behaviorism began to predominate as the choice in teacher preparation. Also in that decade, pressure to improve the quality of science education at the secondary level emerged due to the World War II consequence of a “drain of science talent to the armed forces” (p. 35). As a consequence to such “improvements,” class instruction became more teacher-centered rather than student-centered (Pushkin, 2001).

Because of the Cold War, the 1950s resulted in McCarthyism which brought scrutiny to all, including teachers, who were questioned for not only any ties to communism, but to their sexual orientation. Subject areas emphasized specific pedagogical objectives such as English classes emphasizing literature. It was also during this decade that middle schools and subsequently, junior high schools, emerged to allow more of a transition period between elementary and high school. The Supreme Court decision in the *Brown vs. the Board of Education* case and the launch of Sputnik proved to be events to shape the next decade (Pushkin, 2001).

As a result of the changing times from the 1950s, intervention programs for lower-income, at-risk students began in the 1960s. On the other hand, bilingual education deteriorated. Subject areas changed as well. Due to the launch of Sputnik, math and science education reforms emerged, although not all succeeded. At this same time, physical education and art appreciation became a part of the school’s curriculum as well. Also during this decade, teacher preparation was primarily behavioral in nature. Discussions as to the merits of teacher preparation began as well (Pushkin, 2001).

By the 1970s, normal schools had been phased out and teachers were required to hold bachelor’s degrees. Behaviorism was still predominate to the teacher preparation

curricula. As a part of this continued movement, Madeline Hunter introduced a teaching/supervision model that included *seven essential steps*, which, in practice became more of a seven step lesson plan. Hunter's seven steps were not meant to be essential to every lesson, which would lend itself to non-behaviorist lessons. As a result of this widespread consistency in teaching, teachers were viewed as interchangeable; teachers were to conform to the seven steps or be deemed a failure. Another result of the 1970s was the Equal Educational Opportunity Act as a result of Supreme Court ruling that San Francisco school districts did not adequately meet the needs of its ESL students (Pushkin, 2001).

The publication *A Nation at Risk* sparked several conversations and changes in the 1980s. Questions arose as to the adequacy of applying a subject-area bachelor's degree toward a teaching certificate. As a result, teacher certification requirements were in place prescribing a certain number of professional education courses and by the end of the decade, some form of student teaching was required. Also during this decade, critical thinking arose as an important issue and behaviorism was being subsided by more cognitive ideologies such as reflective thinking (Pushkin, 2001).

Multicultural awareness gained popularity and support in the 1990s, although "half-hearted at times" (Pushkin, 2001, p. 45). Claims of inconsistent certification policies came to the forefront, as did claims that teachers lacked competency. Even though these claims opened the door for many critics, teacher shortages were still occurring. This criticism could have been the cause of alternative certification emerging more prominently. Although not a new notion, accountability tests were becoming quite common. As the 1990s ended and the new century began, President G. W. Bush ushered

in federal legislation to address accountability of education aptly titled *No Child Left Behind* (Pushkin, 2001).

Although this summary was not an exhaustive list, it highlights the changes of education over the decades. The goal of such changes was designed to improve education. Some people, however, would argue whether certain milestones truly contributed to positive or negative change. This evolution in teacher preparation has shaped education and therefore the decisions of teacher educators as they prepare to meet the demands of the ever-changing world.

Historical Perspective of Changes in Agricultural Education

McCracken (1998a) outlined numerous milestones which lie in the historical path of Agricultural Education. These milestones served to change the practices of the local Agricultural Education program and subsequently the preparation of agriculture teachers. As early as 1733, agriculture was taught as a formal subject in schools. Throughout the next 200 years, the development and administration of a large-scale effort to develop agriculture classes throughout the country crept along slowly.

Toward the end of this 200 year span, higher education experienced the advent of land-grant universities with the mission of teaching agricultural and mechanical skills as a means of promoting the practical and liberal arts. This development was a direct result of the Morrill Act of 1862. A second Morrill Act, passed in 1890, would create similar universities for African-Americans. In 1887, the Hatch Act was introduced and passed to create agricultural experiment stations. The key use of these stations was to disseminate information to the local farmers and related industrial class (McCracken, 1998a). These events laid the groundwork for departments and units of agricultural education.

From the standpoint of secondary school, by 1912, around 2000 high schools offered agriculture instruction. It was not until another piece of legislation, the Smith-Hughes Act of 1917, was introduced that programs of agriculture, home economics and industrial education were established on a national level. To be specific, the agriculture programs established were vocational agriculture, not general agriculture, as had been taught previously. In addition to the establishment of secondary vocational agriculture programs, teacher education or the training of teachers was outlined. State boards of education were given authority to plan and carry out teacher training for vocational agriculture teachers (McCracken, 1998a).

Ten years after the Smith-Hughes Act was in place, a student organization associated with agriculture programs was established. In 1928, the National Future Farmers of America organization was funded. This organization opened the door for personal and leadership development, awards and incentive programs (McCracken, 1998a). The National FFA Organization has a rich history in and of itself which is laden with milestones of its own. In addition, this organization was created to be intracurricular versus extracurricular (National FFA Organization, 2003). For teacher educators, this fact has unique implications. If agriculture teachers are expected to advise, then youth organization advisement should be a part of a teacher's training.

The Vocational Education Act of 1963 fostered the philosophy of teaching agriculture outside the boundaries of farming. Occupations related to agriculture were to be included in the program, in addition to farming (McCracken, 1998a). If local programs had to change, teacher preparation programs also had to change.

In 1988, the National Research Council released a report entitled *Understanding Agriculture, New Directions for Education*. The report outlined the current state of agricultural education and the direction the profession should head. The underlying theme was that agricultural education should “update” itself. Some of the themes of improvement included a thrust to agricultural literacy and a science-based curriculum. As a result, Vocational Agriculture programs started changing their names to Agricultural Education programs. The National FFA Organization (2003) moved away from its use of “farmer” in the name and in its publications. Several years later, award programs also became more encompassing of agriculture as a whole and awards were established for agriscience. Once again, teacher educators were expect to change their thrusts to meet the needs of agriculture teachers.

From 1996 to 1999, close to 10,000 individuals participated in a process known as *Reinventing Agricultural Education for the Year 2020*. This process outlined a vision and mission for agricultural education over a 20 year span. The goals called for a stock of well-trained teachers of agriculture, pre-kindergarten through adult. In general, all citizens, according to this document, should be conversationally literate in agriculture (National Council for Agricultural Education, 2000). Because the implementation of this process is in its early stages, its implications were difficult to ascertain. This document, in and of itself, could serve as a milestone in the making. However, many other milestones were not introduced. These other milestones are anticipated to exist and will continue to serve in changing both the secondary schools and how the teachers of those schools are trained.

History Revisited

The preceding milestones of educational history brought about wide span changes. Acts of legislation, major national events, societal changes and the like seemed to have been catalysts for several of these changes in policy and/or practice by both teachers and teacher educators. From the perspective of a teacher educator, how does one impact their respective field without a national event occurring? It is important to investigate the components of teacher education in identifying ways and means to create positive change.

Teacher Preparation

In the 1990s, there were inconsistencies in teacher preparation and development. However, the divisions in curriculum, as Cruickshank (1996) noted as the Modal Curriculum, still seem to apply to most, if not all, teacher preparation programs. Depending on the source, Cruickshank identified several distinct curricular divisions. The National Council for the Accreditation of Teacher Education (NCATE) recognizes those areas as general studies, content studies, professional/pedagogical studies, and integrative studies. Figure 1 illustrates the components' relationship.

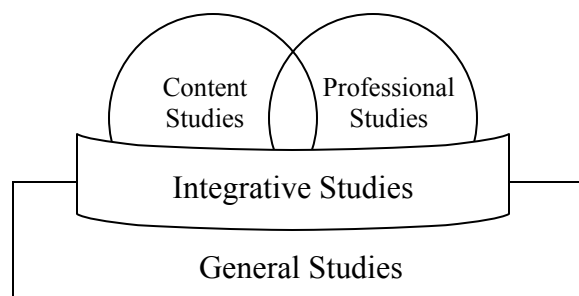


Figure 1. Components of the Modal Curriculum

As the represented in the illustration, General Studies serve as a general foundation of knowledge, typically in social sciences, natural sciences, and humanities. These courses are typically completed in the first part of a student's teacher preparation program. General Studies is not only to be a component of education majors, but other college majors as well (Cruickshank, 1996).

The next component is content studies, which, in Figure 1, is linked purposefully with professional studies. In general, content studies contribute to preservice teachers' body of knowledge concerning their specific content or discipline area. "No one would argue the need for teachers to know their subjects" (Cruickshank, 1996, p. 11).

Cruickshank contended that knowing a subject and being able to teach it well are two different qualities; hence the separate circles in the figure. Over time, however, Cruickshank noted that faculty teaching content studies courses are less and less helpful to preservice teachers in helping them prepare to teach the subject; they are catering more toward preparing professionals in their respective fields. Hence, professional studies take on more of the burden of helping translate the subject knowledge into knowledge that can be taught (Cruickshank, 1996). This explains the overlap in circles for the two components in Figure 1.

Professional education courses prepare preservice teachers for a career in teaching. Typically, courses range from foundations, curriculum, instruction and methods. These courses are designed to help preservice teachers become better teachers and professionals in education (Cruickshank, 1996).

The fourth component of the Modal Curriculum is Integrative Studies. As the name implies, these courses give preservice teachers the opportunity to integrate what

they have learned in their general studies, content studies and professional studies in either a contrived or real teaching setting. These studies include field work, clinical applications, and student teaching (Cruikshank, 1996).

Selecting a Component of Teacher Preparation

When one considers the components of teacher preparation, it can be overwhelming to find one specific area to investigate for the purposes of improving teacher preparation programs. One argument can be to start with components that are early in the teacher preparation process – to start the preservice teachers’ training on a solid footing. Another perspective can be to start with what seems most important. No matter the rationale, university supervisors should use research of the past to help prescribe research of the future.

Need for the Study

The *No Child Left Behind* Act called for the strengthening and improving of teacher quality (Bush, 2002). This act emphasized the need to do what university teacher preparation programs having been doing for years - look for ways to improve the development of preservice teachers. The focus was no different in the development of agricultural education; the only exception is in the implementation of such improvements. As previously outlined, other specific agricultural education milestones, in addition to those milestones of teacher education in general, have affected and driven this discipline’s teacher preparation to its own, separate path.

Agricultural educators have identified that “the student teaching phase of the teacher preparation program is almost universally accepted as the most important part of the professional education of teachers” (Berkey, 1981, p. 161). It should be no surprise

there have been a number of research articles published over the last 15 years in response to importance of student teaching and/or using student teaching as a context (Deeds, Flowers, & Arrington, 1991; Edwards & Briers, 2001; Garton & Cano, 1996; Harlin, Edwards, & Briers, 2002; Norris, Larke, & Briers, 1990; Schumacher & Johnson, 1990). However, such research has spanned across several different topics and areas related to student teaching. A question seems prudent to ask when deciding what to research – what is the most influential aspect of student teaching?

Consistent in teacher education research in agricultural education, the cooperating teacher has been identified as being important and/or influential to the student teacher's success (Deeds, Flowers, & Arrington, 1991; Edwards & Briers, 2001; Garton & Cano, 1996; Harlin, Edwards, & Briers, 2002; Norris, Larke, & Briers, 1990; Schumacher & Johnson, 1990). In reviewing a study by Harlin, Edwards, and Briers (2002), student teachers rated the cooperating teacher-student teacher relationship as the most important student teaching element as compared to the other elements' mean scores. This ranking was consistent both before and after student teaching. Therefore, the role of cooperating teacher, and subsequently the interaction of the student teacher with the cooperating teacher, becomes an important aspect to teacher preparation.

How can the interaction be improved? If the interaction is important to the student teaching process, then the matching of a student teacher with a cooperating teacher also becomes important. The first issue is cooperating teacher selection. The process of cooperating teacher selection has no national standards, however, Morrish (2004) studied the topic in agricultural education. Morrish used the perceptions of “head teacher educators in agriculture regarding important elements in the selection of

cooperating teachers he found the most important item dealt with the cooperating teacher having three years of experience. The least important item was allowing cooperating teachers to select student teachers from a list.

In Missouri, selection of agricultural education cooperating teacher is based upon a set of criteria outlining specific tasks the teachers and/or his/her program must have achieved, such as “exceptional supervised agricultural experience programs” (Appendix A). These requirements, in and of itself, lead to multiple interpretations of what a qualified cooperating teacher should be. Therefore, an element of randomness or haphazardness enters the selection process.

After cooperating teachers have been approved, a wide variety of criteria can be used to place or pair a student teacher with a cooperating teacher. It is important to pair student teachers and cooperating teachers (Pushkin, 2001). Some criteria related and unrelated may include: proximity to the university, proximity to a certain location, previous relationship with the cooperating teacher, personality of the student teacher and cooperating teacher, and success of the program. Morrish’s (2004) study introduced other criteria discussed both previously and in Chapter Two. Unfortunately, some criteria could introduce random and haphazard factors to the interaction, particularly those of proximity. When using proximity and other convenience variables as primary criterion, quality of experience is not always a top concern. The combination of haphazardness and randomness from both the selection process and the placement process brings questions to the overall process of student teacher placement.

As teacher educators make decisions as to student teacher - cooperating teacher placement, a lack of research exists to guide teacher educators to 1) make well-informed

decisions in matching student teachers with cooperating teachers and/or 2) assist in fostering a positive student teacher-cooperating teacher relationship.

Statement of the Problem

While there have been several articles that have investigated student teaching in agricultural education, none were found to have probed into the relationship between the student teacher and cooperating teacher. The proceeding review of literature revealed that most, if not all, research lacked investigating perspectives of both student teachers and cooperating teachers. Putting the pieces together may give teacher educators a more scientific perspective into the dynamics of the student teacher-cooperating teacher relationship.

Interaction between student teachers and cooperating teachers could take on many forms. One such form is a mentoring role (Weasmer & Woods, 2003). In 2003, Greiman studied mentoring relationships, which were similar to student teacher - cooperating teacher relationships. Like student teachers, beginning teachers from Greiman's study were formally assigned to a mentor by a supervisor of sorts. Also in the Greiman study, the relationships and interactions were between mentor teachers and beginning teachers. In particular, Greiman investigated several aspects relating to those interactions including psychosocial functions provided by the mentor teacher, the extent and satisfaction mentor teachers provided assistance in the roles and responsibilities of a first-year teacher, perceived similarity of the pair, perceived satisfaction of the relationship, benefits of being in the pair, and barriers to being a more successful pair. Among the more interesting findings was that the more similar the pair perceived themselves, the higher the level of satisfaction. Perhaps looking at an aspect of identifying similarities, such as

personality type, could be a means of increasing student teacher satisfaction and therefore improving the experience.

Personality type has been used to assist teachers in understanding learning styles, communication style, relationships, teamwork and leadership (Hammer, 1996). All of these applications can arguably be components of a student teacher-cooperating teacher relationship. Given the multiple facets of personality type, as operationally defined by the MBTI[®], can such an instrument bring insight and be able to predict aspects of the student teacher-cooperating teacher relationship?

Purpose of the Study

The purpose of the study was to determine if personality type, as measured by the Myers-Briggs Type Indicator (MBTI[®]), could predict aspects (psychosocial support, agricultural education teacher roles, similarities and overall relationship satisfaction, and perceived benefits and barriers to a successful student teacher-cooperating teacher relationship) of interaction between cooperating teachers of agricultural education in two Midwestern states (University of Missouri-Columbia and University of Illinois at Urbana-Champaign) and their student teachers.

Research Objectives

To achieve the purpose of this study, the following research objectives were developed:

1. Describe demographic characteristics of cooperating teachers (age, gender, and years of teaching experience) and student teachers (gender, cooperating site type – high school or career center, number of instructors at cooperating site, and number of students at cooperating site).

2. Describe the most frequent MBTI[®] opposites among the cooperating teachers and the student teachers.
3. Describe the most frequent MBTI[®] four letter combination among the cooperating teachers and student teachers.
4. Determine the extent of psychosocial support cooperating teachers provided student teachers, as reported by both student teachers and cooperating teachers.
5. Determine the extent student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
6. Determine the level of assistance cooperating teachers provided student teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
7. Identify the perceived benefits of serving as a cooperating teacher, as reported by the cooperating teacher.
8. Identify the perceived benefits of having a cooperating teacher, as reported by the student teacher.
9. Identify the perceived barriers of having a successful student teacher-cooperating teacher relationship, as reported by both student teachers and cooperating teachers.
10. Determine if personality type influences the degree of psychosocial assistance provided by the cooperating teacher, as reported by both the cooperating teacher and student teacher

11. Determine if the personality type of the student teachers influences the extent those student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
12. Determine if the personality type of the cooperating teachers influences the level of assistance cooperating teachers provided those student teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
13. Determine if patterns exist between the personality type (of the cooperating teacher and student teacher, separately) and the perceived benefits and barriers of a successful student teacher-cooperating teacher interaction.
14. Determine the relationship among perceived similarity according to the MRQ, similarity in personality type, and perceived overall satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and cooperating teachers.
15. Determine if the similarity in personality type influences the perceived satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and cooperating teachers.

Definition of Terms

Cooperating Teacher – a teacher selected to supervise, on a day-to-day basis, a student teacher. Cooperating teachers are selected upon certain criteria as defined by the university to which the student teacher is enrolled. Certain criteria could include years teaching, having an active advisory committee, number of student visits,

and FFA chapter success (Appendix A). Cooperating teachers, within the context of student teaching, are also known as mentor teachers and supervising teachers.

Personality Type – a behavior displayed in a characteristic way, which is the character of a similar group (Jung, 1990). For this study, this is being operationally defined as the Myers-Briggs Type Indicator (Myers & McCaulley, 1985).

Psychosocial Functions – Used within a mentoring relationship to “enhance a sense of competence, clarity of identity, and effectiveness in a professional role” (Douglas, 1986, p. 162). The functions identified for this study were acceptance, counsel, friendship, role modeling, and social.

Student Teacher – an individual enrolled in a university studying to be a teacher in the public schools system. The student teacher is responsible for observations of the cooperating teacher and also for teaching under the supervision of the cooperating teacher (University of Missouri-Columbia, 2004). For this study, the student teachers were enrolled in either the University of Missouri-Columbia or the University of Illinois at Urbana-Champaign and were studying agricultural education as their teaching discipline.

Student Teacher-Cooperating Teacher Interactions – for this study, the interactions were investigated in the framework of a mentoring relationship as studied by Greiman (2003). Interaction aspects include psychosocial functions, needs and satisfaction in assisting with the roles and needs of agriculture teachers, perceived similarity, perceived satisfaction, benefits of participating in the relationship, and barriers to having a successful relationship.

Assumptions

For this study, the following were assumed to be true:

1. The respondents provided true and accurate (to the best of their knowledge and/or perception) responses for the Mentor Questionnaire and the MBTI®.
2. The student teacher respondents followed the curriculum for teacher preparation at their respective university
3. The cooperating teacher respondents were fully (not temporarily) certified to teach agriculture in their respective state.
4. There were distinct and inherent similarities between respondents from the University of Illinois at Urbana-Champaign and University of Missouri-Columbia
5. The cooperating teachers and student teachers (as pairs) did not have a strong, previous relationship

Limitations of the Study

The following were identified as limitations of the study:

1. The study used two in-tact groups of student teachers, and their cooperating teachers. Therefore, the sample was not representative of the entire population and non-probabilistic; caution should be exercised when interpreting the results and interpretations should not extend beyond the sample.
2. Although the personality type instrument was hand-delivered, the relationship/interaction instrument could not. Having both could increase response rate and serve to alleviate questions about the instruments.

3. Time was a limitation in that not all student teachers and cooperating teachers could be interviewed; interviewing could have provided more depth, especially to the research objective relating to benefits and barriers.

CHAPTER II

REVIEW OF LITERATURE

Purpose of the Study

The purpose of the study was to determine if personality type, as measured by the Myers-Briggs Type Indicator (MBTI[®]), could predict aspects (psychosocial support, agricultural education teacher roles, similarities and overall relationship satisfaction, and perceived benefits and barriers to a successful student teacher-cooperating teacher relationship) of interaction between cooperating teachers of agricultural education in two Midwestern states (University of Missouri-Columbia and University of Illinois at Urbana-Champaign) and their student teachers.

Context of Student Teaching

Student Teaching in General

Byler and Byler (1984) investigated morale of student teachers before and after student teaching. One hundred fifty-five student teachers and 136 cooperating teachers from the College of Education at Mississippi State University were used as the sample. The Purdue Student-Teacher Opinionnaire (PSTO) and a personal data questionnaire were administered to the student teachers six weeks prior to student teaching and again two weeks prior to ending, along with a questionnaire that gathered information about the student teaching situation. Cooperating teachers also completed the Purdue Teacher Opinionnaire (PTO) approximately two weeks before student teaching ended. The PTO itself has been an operational definition for morale, of which instrument yielded nine

factor scores that included rapport with supervising teacher, rapport with principal, and rapport with students.

One finding of the Byler and Byler (1984) study was that early field experience programs contributed the highest to student teachers' morale before student teaching. When this significant correlation was found "between the student teachers' morale scores and the morale scores of their cooperating teachers," (p. 28) it was recommended that there be attention given to the identification of cooperating teachers.

Kahn (2001) noted that teacher education needs reform and as a part of that reform, student teaching should be investigated. In this research, Kahn interviewed 20 cooperating teachers to find elements of making the experience a success, which were held within the following three themes: (1) portrait of success, (2) some ideas of what it means to be not-so-successful and (3) how to continue and enhance success.

The researcher identified from the participants that the following common elements were essential in developing a 'portrait of success': "(a) evidence provided by the student teacher, (b) attributes of the cooperating teacher, (c) much of the credit given to the student teacher, (d) establishment of a mutual learning relationship (e) absence of comments giving credit to the university" (Kahn, 2001, p. 51). In terms of what it means to be 'not-so-successful', the following two common elements were defined: "(a) poor work ethic/lack of commitment, and (b) poor rapport with cooperating teacher and students in class" (p. 52). For the theme 'how to continue and enhance success', these common elements were identified: "(a) more support from the university, (b) expansion of the traditional cooperating teacher role, and (c) the issue of time" (p. 53).

The objectives of a study conducted by Beck and Kosnik (2002) were to “resolve some of the puzzles of the practicum” (p. 82) from the cooperating teacher’s standpoint. The context of the study was set in a one-year teacher education program for post-baccalaureate students preparing to teach grades kindergarten through six in Toronto. The placement sites resided in Toronto at the lower socio-economic status (SES) study body schools. Eleven student teachers were interviewed, ensuring a mix of sex and teaching grade level.

As a result, 25 practicum issues were identified and consolidated to nine themes. Although the article cited nine themes, the following seven were the only ones reported in terms of what student teachers valued: “emotional support from the associate teacher,” “peer relationship with associate teacher,” “collaboration with the associate teacher,” “flexibility in teaching content and method,” “feedback from the associate teacher,” “sound approach to teaching and learning on the part of the associate teacher,” “heavy but not excessive workload during the practicum” (Beck & Kosnik, 2002, p. 96). The researchers proceeded to give a certain degree of depth, but this supportive detail revealed no new perspective behind the themes, only support. In addition, the authors noted that all feedback by the participants focused on the relationship with the associate teacher versus including school culture and role of the university supervisor.

Similar to the work of Beck and Kosnik, research conducted by Weasmer and Woods (2003) studied the perceived roles of host teachers in student teaching. The study utilized 28 public school teachers ranging in disciplines. Participants were interviewed and completed a demographic questionnaire prior to the interview.

Key roles identified by the participants that emerged from the interview were modeling, mentoring, and guide. In terms of modeling, cooperating teachers reported they are not only attempting to influence in-class behaviors, but also out-of-class behaviors as well, some of which are unconscious, such as speaking with custodians, parents and colleagues. In terms of mentoring, the cooperating teachers mostly reported using an intervention approach, in which the mentor would “observe, take notes, and confer with the novice on strengths and areas where goals should be set” (Weasmer & Woods, 2003, p. 175).

Mentors typically urged critical thinking and asked their respective student teacher to defend their practices. As guides, cooperating teachers reported leading their respective student teacher in such tasks as writing exams and conducting conferences. Through the role of guide, cooperating teachers helped student teachers begin to transition from student to teacher. The authors noted that cooperating teachers should be leaders who build a non-threatening rapport versus being a sympathizer, which could impede the growth process (Weasmer & Woods, 2003).

The authors discussed several concerns about the practices of the cooperating teachers. One cooperating teacher reported that she expected her student teacher to teach her way because student teachers would have their own classroom some day to do what they wanted. Another concern the authors drew upon from the cooperating teachers was a practice of “baptism by fire” in which the absence or neglect by cooperating teachers forced student teachers to learn in a fashion without support. As a concluding comment to both the roles and the aforementioned concerns, the researchers noted the “cooperating

teacher's perception of her or his role as a mentor serves as the framework for the way in which she or he orchestrates that experience" (Weasmer & Woods, 2003, p. 176).

The preceding research used contexts outside of agricultural education. Are there differences in these studies as compared to the discipline of agricultural education? It is worthwhile to investigate such a question and therefore focus the scope of the review to investigate some studies in the field of agricultural education.

Student Teaching in Agricultural Education

There have been several research articles in agricultural education that address different aspects of the student teaching experience. Variables of interest have included student teacher morale, student teacher satisfaction, roles of the cooperating teacher, characteristics of student teacher experiences such as length of experience and number of university visits, characteristics of the cooperating center, use of the problem-solving approach, important elements of student teaching, distribution of time spent in student teaching, cooperating teacher selection and student teaching supervision.

Briers and Byler (1979) studied the morale, or the response to achievement of student teachers at Iowa State University in two different systems: integrated and conventional. Eighteen students participated in the integrated model where, prior to student teaching, students had coursework in methodology integrated prior to and during their student teaching experience. In the conventional model, 27 students completed all coursework prior to student teaching. The morale of student teachers was measured by the Purdue Student-Teacher Opinionnaire (PSTO). The instrument yielded nine factor scores that included rapport with supervising teacher, rapport with principal, and rapport with students.

Briers and Byler (1979) found that the highest morale factor was “rapport with supervising [cooperating] teacher” (p. 46). The authors suggested that a good rapport or relationship emerged between the student teacher and cooperating teacher. In addition, the authors found that the system – integrated or conventional – had little influence on the student teacher’s morale (Briers & Byler, 1979).

Another study sought to “identify the basic roles of the cooperating teacher and outline a systematic approach for supervising teachers” (Martin & Yoder, 1985, p. 16). Martin and Yoder identified a 10-step, systematic approach or procedure to supervision. They argued that such an approach is important for the cooperating teacher “to be effective in helping student teachers develop to their fullest potential” (Martin & Yoder, 1985, p. 17). This approach, as the authors identified in the summary, hinges upon the supervisory climate maintained by and leadership abilities of the cooperating teacher. The steps related to the basic roles of cooperating teachers have been validated, although the process was not described and as synthesized are:

1. The student and supervisory [cooperating] teacher should meet to outline supervising procedures.
2. Plans should be reviewed several days prior to the observation.
3. Plans should be written by the student teacher that address objectives, teacher strategies, student involvement, and knowledge of student completion of objectives.
4. A pre-observation conference between the student teacher and cooperating teacher.

5. The cooperating teacher asks the student teacher what he or she wants the observation to be focused in or around.
6. The cooperating teacher observes as agreed upon between him or her and the student teacher.
7. A meeting takes place by the end of the day to focus on the student teacher's effectiveness of in addressing objectives, teacher strategies, student involvement, and knowledge of student completion of objectives.
8. A hard copy of the evaluation should be provided; the student teacher should reflect.
9. An agreement should be made in addressing problems and weaknesses.
10. Planning should resume for the next observation.

Borne and Moss (1990) investigated satisfaction of student teaching in agricultural education. First year teachers, cooperating teachers and university supervisors in the southern region of the American Association of Teacher Educators in Agriculture (AATEA) were used as the accessible population. A questionnaire utilizing five-point, Likert-type scales were used.

A majority of the respondents indicated that the length (arbitrarily defined) of student teaching was either "too short" or "about right." The item "effectiveness of cooperating teacher(s)" rated the highest in the effectiveness of selected components of student teaching area, by first year teachers and university supervisors, indicating that the respondents were quite satisfied with the cooperating teachers (Borne & Moss, 1990). On a five-point, Likert-type agreement scale, the mean for the highest-ranking item "student teaching was a positive experience," was 4.31 by the first year teachers, 4.36 by

university supervisors and 4.32 by cooperating teachers (Borne & Moss, 1990). The researchers did not specify whether or not the positive experience of student teaching was positive for the student teacher and not the respondent.

In a study by Norris, Larke, and Briers (1990), “head” teacher educators were surveyed in order to:

compare the actual characteristics of student teaching centers and cooperating teachers in agricultural education programs nationwide with ideal characteristics, and to compare the actual roles of the student teaching center and the supervising (cooperating) teacher with teacher educators’ expectations of those roles (p. 59).

According to teacher educators, on average, cooperating teachers should have 3 years of teaching experience in the school; 4 years of teaching at minimum; be on an 11.5 month contract; and, conduct at least 3 SAE visits per student per year. In addition, cooperating teachers should be responsible for determining 55% of the student teacher’s grade.

Among the 14 items relating to teacher educators’ perceptions of the personal characteristics that cooperating teachers should exhibit, “practice good student management skills in both classroom and lab” and “display continual professional growth” rated the highest. However, a significant difference was found between those perceived mean scores and the mean scores of actual practice for all but one item, “be compensated.” In addition, when all the perceived items in this category were compared against actual practice, statistically, there was a difference between how the cooperating teacher should be and how they actually are (Norris, Larke, & Briers, 1990).

In terms of perceived “ideal” duties of the cooperating teacher, teacher educators ranked “meet with student teacher before first day of class” and “observe student teacher

teach once per day” higher than the other five characteristics. The two items that rated the lowest were “aid on helping student teacher find housing” and “handle major discipline problems.” However, a significant difference was found between those perceived mean scores and the mean scores of actual practice, except for the item “approve all lesson plans prior to use.” When all the perceived items in this category were compared against actual practice, there was a difference between how the cooperating teacher should be and how they actually are (Norris, Larke, & Briers, 1990).

Teacher educators also rated ideal characteristics of cooperating teaching centers. “Have an active FFA chapter” and “have cooperation from the local administration” rated as the highest among the 15 related characteristics. The two lowest-rated characteristics were “have an active adult/young farmer program” and “be multi-teacher departments.” When all the perceived items in this category were compared against actual practice, there was a statistical difference between how the cooperating teacher should be and how they actually are, except for the item “be multi-teacher departments.” (Norris, Larke, & Briers, 1990).

In 1990, Schumacher and Johnson assessed perceptions of student teachers regarding agricultural mechanics laboratory management competencies. This time series analysis aimed to “determine the importance of competencies needed by high school agriculture teachers as they efficiently manage an agricultural mechanics laboratory” (Schumacher & Johnson, 1990, p. 2). Sixteen agricultural education students, who were in an agricultural mechanics teaching methods course participated. A survey instrument was developed and administered at three points in time: before the course; before student teaching; and after student teaching (Schumacher & Johnson, 1990).

Schumacher and Johnson (1990) discovered that the student teachers considered laboratory management important. Thirty-eight of the 50 competencies scores mean values higher than 4 on a 5-point scale, with a 5 indicating utmost importance. Of note, the study found that the student teaching experience helped reinforce the importance of 27 of these competencies. Some of these competencies included: “maintain healthy environmental conditions,” “develop ID system to deter tool/equipment theft,” and “develop an accident reporting system.” (Schumacher & Johnson, 1990).

In 1991, Deeds, Flowers, and Arrington assessed the attitudes and opinions of cooperating teachers regarding to student teaching expectations and policies. In the background of the study, the researchers claimed that teacher educators can be influential in the attitudes of cooperating teachers. However, other research suggests that agriculture teachers felt they had little input on teacher education policies in agriculture, including student teaching (Lelle & Kotrilik, 1987; as cited in Deeds, Flowers, & Arrington, 1991). Therefore, the researchers found it necessary to do this research.

For their study, Deeds, Flowers, and Arrington (1991) utilized a population consisting of 92 agriculture teachers who had served as cooperating teachers from 1983 to 1987 in the states of Florida, Mississippi, and North Carolina. The data collection instrument was developed in three parts that utilized a four-point, Likert-type agreement scale. The study found that cooperating teachers had been, on average, teaching for 15 years with most (64%) holding master’s degrees and having worked with, on average, a little under 3 student teachers over the past five years (Deeds, Flowers, & Arrington, 1991).

Deeds, Flowers, and Arrington (1991) concluded that cooperating teachers in this study, in general, “agreed with the expectations of the universities for the student teaching experience, as well as the policies and procedures used to administer the programs” (p. 7). They also discussed some cautions for teacher educators. Only 17% of the respondents indicated they did not understand their expectations as a cooperating teacher. More than 40% of the cooperating teachers disagreed with the notion of observing the student teacher every day and 39% did not find it important to review lesson plans prior to the student teacher teaching. They recommend that cooperating teacher training should continue with additional training focusing on expectations of the cooperating teachers. Deeds, Flowers, and Arrington (1991) concluded that the cooperating teachers in this study “generally agreed with the expectations of the universities for the student teaching experience” (p. 7).

Because of the interaction between the student teacher and cooperating teacher, use of the problem-solving approach, by both sets of teachers, was the focus of research conducted by Garton and Cano (1996). The authors claimed that the “cooperating teacher has been found to be one of the most significant persons in the professional development of preservice teachers” and that “student teachers continuously study the teaching behaviors of cooperating teachers’ teaching behavior” (Garton & Cano, 1996, p. 49). Such claims laid the theoretical foundation for investigating whether or not there was a relationship between the extent cooperating and student teachers used the problem-solving approach. Fifteen student teachers and 10 cooperating teachers were video-taped and assessed based upon their extent and use of the problem-solving approach.

Garton and Cano (1996) found that student teachers used the problem-solving approach 17% of the time, while cooperating teachers did so 18% of the time. An r coefficient of .66 was found between the extent student teachers used the problem-solving approach and the extent cooperating teachers used the problem-solving approach. They recommended that cooperating teachers be selected based upon their ability to demonstrate desired teacher behaviors such as in the use of the problem-solving approach.

In another study that utilized student teachers, but not necessarily in a way to investigate the student teaching experience, Bell (2000) investigated how effective a cultural diversity practicum was on student teachers' self-perceptions as related to interpersonal competence. This pre-experiment study utilized a one group, pre-test post-test design. Twenty-one student teachers were used in the study, mostly from agricultural education; however six were from home economics. The treatment was a practicum lasting six days. A 32 item multi-cultural inventory was administered prior to and after the treatment, and then again, one year later.

Results indicated that changes occurred in all interpersonal sub-scale items after the one-year follow-up. Between the treatment and the follow-up, nine student teachers had received further training independent of the study. In the area of behavioral teaching skills, the mean subscale score increased from pre- to post-test and again increased from post-test to follow-up. In the areas of cultural awareness and knowledge about cultural diversity, the mean subscale score increased from pre- to post-test and decreased from post-test to follow-up; however, the follow-up mean was higher than the pre-test mean. In the area of student-teacher relationship, the mean subscale score decreased from pre- to

post-test and increased from post-test to follow-up. The follow-up mean score was higher for the follow-up than the pre-test.

The purposes of Edwards' and Briers' (2001) study were to "describe selected teacher characteristics of cooperating teachers and their schools, and to identify what cooperating teachers perceive to be the important elements of the student teaching experience" (p. 33). In addition, the researchers' purpose was to triangulate, through qualitative and quantitative means, to strengthen their finding.

The study used five focus groups consisting of 35 cooperating teachers of agricultural education working with Texas A&M University to develop a questionnaire to be administered to this same group of 35 teachers. These participants were placed into five groups, representing "core" areas of student teaching, including classroom instruction, supervised agricultural experience (SAE), student leadership (FFA), school and community relations, and cooperating teacher-student teacher relationships. As a result, the participants identified, in a fashion not described in the article, that 34 elements of the student teaching experience were 'important' (Edwards & Briers, 2001, p. 34).

The respondents identified instruction and student teacher-cooperating teacher relationship as being the most important element to student teaching. School and community relations ranked the lowest of the five areas. In the area of student teacher-cooperating teacher relationships, the item "a cooperating teacher who has a positive attitude" (Edwards & Briers, 2001, p. 37) yielded the highest mean score in terms of importance. The items of lowest importance were "assistance in job placement" and "reinforcement techniques in teaching" (Edwards & Briers, 2001, p. 37).

In a related study, Harlin, Edwards, and Briers (2002) asked student teachers about their perceptions of important elements before and after the student teaching experience. Participants in this study were 36 student teachers at Texas A&M University in the 2000-2001 academic year. The instrument was comprised of the 34 important elements used in Edwards' and Briers' (2001) study and a personal characteristic section about the student teacher and their cooperating center.

Respondents were approximately split male to female (52% to 47%), and mostly held bachelor's degrees after student teaching. Fifty-eight percent of the participants planned to teach more than six years. In terms of the participants' cooperating centers, close to 78% were in school with 780 students or more. All but 2.8% had more than one agriscience classroom, 97% had an ag mech laboratory, and 55.6% had a greenhouse. It should be noted that the cooperating center data represents 33 cooperating centers where the 36 cooperating teachers were housed (Harlin, Edwards, & Briers, 2002).

Before the student teaching experience, student teachers rated the cooperating teacher-student teacher relationship the most important element of student teaching, as compared to the other elements. This was followed by classroom and laboratory instruction, then school and community relationships, and then by supervised agricultural experience programs and FFA activities, both rating last (Harlin, Edwards, & Briers, 2002).

After the student teaching experience, student teachers continued to rate cooperating teacher-student teacher relationship as most important, as compared to the other elements. This was followed by the elements school and community relationships,

classroom and laboratory instruction, FFA activities and supervised agricultural experience, respectively (Harlin, Edwards, & Briers, 2002).

Of all the variables of interest, supervision by university supervisors has not been researched until until Fritz and Miller (2003a). The researchers sought to “determine the status of student teacher supervision in agricultural education, the extent to which teacher educators in agricultural education used select models of supervisions, and the relationship between the level of supervision and selected indicators of supervisor maturity” (p. 36). The authors developed an “Escalation Model for Instructional Supervisors” where as the level of structure the supervisor provided increased, the amount of reward for the supervisor decreased. In addition, as the maturity of the supervisor increases, the structure decreases.

The sample consisted of 67 teacher educators, representing 67 institutions in charge of supervising student teachers in the 2000-2001 academic year. A questionnaire was developed to obtain characteristics of the sample and to determine the level of Escalation Model the respondents had most frequently used. The researchers found that, on average, supervisors had taught 6 years of high school agriculture, was a cooperating teacher close to 3 times, had 40% of their time dedicated to supervising student teachers that academic year, had supervised 10 years at the university level, and had 10 student teachers out in the field that academic year (Fritz & Miller, 2003a).

In terms of the most frequently used level of the Escalation Model, 46% used a “Structured” approach, 48% used a “Moderately Structured” approach and 6% used a “Relatively Unstructured” approach. Positive negligible to low relationships were found between the selected indicators of “formal training,” “rank,” and “cooperating teacher

experience.” A negative negligible relationship was found between “supervisory experience,” and the level of the Escalation Model (Fritz & Miller, 2003a).

Fritz and Miller (2003b) also explored concerns expressed by student teachers in agricultural education. Forty-one student teachers from Iowa State University were used in the study, spanning two spring semesters of student teaching– 2000 and 2001. The student teachers’ postings on WebCT were used and coded.

In terms of non-teaching and teaching concerns, males had more non-teaching concerns and females had more teaching concerns. In addition, gender was used to compare teacher concerns by category – self-adequacy, teaching tasks and teaching impact. Both males (57%) and females (59%) most frequently had self-adequacy concerns (Fritz & Miller, 2003b).

Morrish (2004) investigated relationships between the level of importance of student teacher placement methods and the quality of the student teacher experience. Head teacher educators, as defined AAAE, ranked the item “use cooperating teachers having at least three years experience” as the most important criteria element in student teacher placement with a cooperating teacher, which was followed by “place student teachers by a joint effort of the agricultural education faculty and the student teacher.” The lowest ranking item was “allow cooperating teachers to pick student teachers from a compiled list.”

Morrish (2004) also studied the “perceptions of student teachers regarding the quality of their student teaching experience” (p. 209). In terms of agreement, the item “as a student teacher, I learned much from my student teaching experience” rated the highest, followed by “student teaching is the most valuable component of the teacher education

program.” The lowest ranked item was “student teaching is a realistic example of actual teaching.”

In 2004, Torres and Ulmer investigated the distribution of time while student teaching in agriculture. Student teachers at the University of Missouri spent most of their time in “teacher-related” activities (33% of the time), followed by planning (26%), teaching (25%), observation (8%) and administrative-related duties (6%). They also found that, over time, teaching increased, then decreased, that planning decreased, the observation decreased, that teaching-related activities increased, and administrative duties stayed fairly consistent.

Torres and Ulmer (2004) also investigated the distribution of time through learning style, as operationally defined by the Group Embedded Figures Test (GEFT), grade performance and gender. They concluded that learning style and grade performance had minimal interaction in the distribution of time. Although there were some differences noted in the findings as to differences in gender, there were no conclusions made as to gender’s influence in time distribution.

Summary

Research about student teaching in agricultural education has taken many directions. Are there themes that arise? In looking at the work by Harlan, Edwards, and Briers (2002), student teachers rated the cooperating teacher-student teacher relationship the most important student teaching element, as compared to the other elements. This ranking was consistent both before and after student teaching. One common thread throughout the research in agricultural education, was that cooperating teachers have been identified as being important and/or influential to the student teacher’s success

(Deeds, Flowers, & Arrington, 1991; Edwards & Briers, 2001; Garton & Cano, 1996; Harlin, Edwards, & Briers, 2002; Norris, Larke, & Briers, 1990; Schumacher & Johnson, 1990). In fact, Morrish (2004) studied the placement of student teacher with the cooperating teacher. If the cooperating teacher is so important, then could it be concluded that the relationship the cooperating teacher has with the student teacher is a factor of success in both satisfaction of the cooperating teacher and the student teaching experience as a whole?

There is concurrence with the research outside of agricultural education. Student teaching morale was linked with the cooperating teacher in the Byler and Byler (1984) study. Kahn (2001) found that a factor of being “not-so-successful” was a “poor rapport with cooperating teacher...” (p. 52). The student teachers valued aspects such as collaboration and feedback from their [cooperating] teacher in a study by Beck and Kosnik (2002). Finally, in Weasmer and Woods (2003) study, the roles of the cooperating teacher were the focus of the research. These roles included mentor, model, and guide. In all, these article focus on how important the cooperating teacher is to the student teacher, and in particular, how that interaction or relationship is important.

Lemma (1993) referred to “convention wisdom in education” (p. 331) that suggests the cooperating teacher is important in shaping the student teacher as a teacher as is supported in materials such as student teaching handbooks by Posner (2000). Grimmet and Ratzlaff (1986) took it a step further and stated the student teacher learns the most about teaching from the cooperating teacher. So, not only has agricultural education professed the importance of the cooperating teacher, but others outside of agricultural education have as well by investigating roles, themes and perceptions of the

cooperating teacher. If the cooperating teacher is an important element in a successful student teaching experience, should not the interaction between the student teacher and cooperating teacher also be a factor? Some believe this relationship to be an element of success in student teaching (Roe & Ross, 1994; Schwebel, Schwebel, Schwebel, & Schwebel, 1996). Graham (1997) stressed the importance of research in the area of student teacher-cooperating teacher interaction because the interaction can be problematic.

Conceptual Framework

In piecing together potential variables of interest in one conceptual framework, the use of Dunkin and Biddle's (1974; as cited in Cruickshank, 1990) model was used (Appendix B). In this model, two sets of variables feed into the observable changes in pupil behavior: presage and context. Presage variables, such as experience and training, are variables influencing the teacher. Context variables, such as experiences, properties or traits, and school and community contexts, are variables influencing the student. As the presage and context variables interact in the classroom, process variables such as teacher and student behaviors, develop. As a result of the interaction and process variable development, product variables result. These product variables can be either immediate or long-term for the pupil. Immediate effects include attitude toward subject and growth of other skills; long-term effects include adult personality and professional or occupational skills.

As written, the context of the entire framework (Appendix B) could be construed as centering on the concept that the pupil is of elementary or secondary age. However, this can also be applied to a student teacher fulfilling the role of pupil and cooperating

teacher fulfilling the role of teacher. Appendix C contains a modified version of the Dunkin and Biddle (1974) framework, put in the perspective of the pupil being a preservice student teacher.

Many of the modifications to the model did not affect the integrity of the original model; however, it did provide a context for the model. The changes were such that aligned examples and wording with the pupil being a preservice teacher. For example, under the context variable, the sub-variable “school and community” was renamed “university community.” Under that sub-variable, an example was provided called “busing.” For preservice teachers, or any college student, busing is probably not as much of a factor as it is for elementary and/or secondary students. Therefore, it was eliminated. The examples under the product variables were changed to reflect the context of the pupil, being a pre-service teacher. For example, subject-matter learning was changed to the more specific topic of pedagogy learning and content-area learning was added.

If the cooperating teacher serves as the major supervisor for the student teacher during student teaching, then they also play the role of the teacher. For student teaching, the “classroom” is the cooperating center, of which the interaction between the student (student teacher) and teacher (cooperating teacher) results in product variables such as immediate student effects and long-term student effects. Therefore, because of the change in venue can occur, from university classroom to a cooperating site, “the classroom” is changed to “learning environment.”

Within the learning environment, there is an interaction between the teacher (cooperating teacher) and student (student teacher). Within this interaction, an implied relationship is built. The relationship can be positive, negative, or somewhere in

between, but whatever the case, it does exist. Therefore the presage and context variables that feed into the interaction, and therefore the student teacher-cooperating teacher relationship, should be investigated.

One of the factors contributing to the behaviors in the classroom is the teacher property “personality traits.” If “personality traits” is a teacher property, then logically, that should be reflected as a student property as well. Therefore the personality of the student (student teacher) and teacher (cooperating teacher) play a role in the “classroom.” Since personality type has yet to be a variable investigated in student teaching, from either the student teacher or cooperating teacher, then it is logical to begin investigating how personality type may influence the student teacher-cooperating teacher interaction. Therefore, for this study, the framework components of interest are focused in Figure 2.

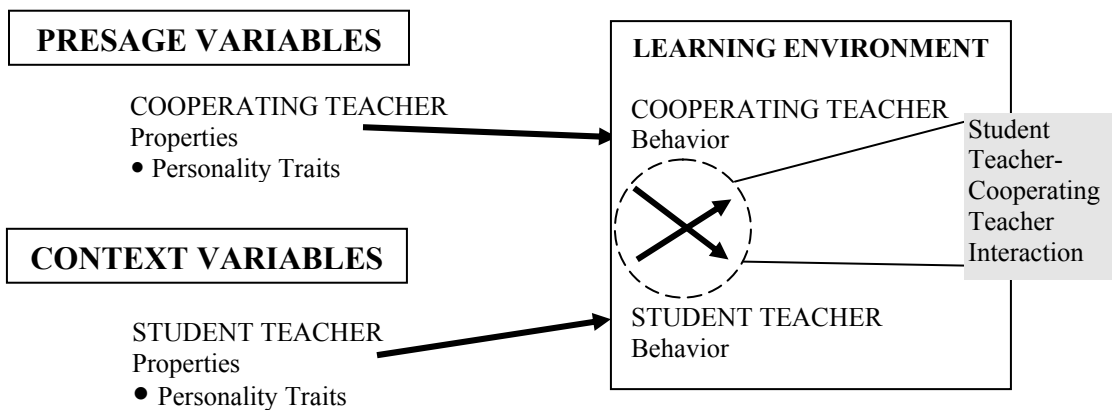


Figure 2. Components and variables of interest in the current study

Student Teacher-Cooperating Teacher Interaction

Although the preceding research did not focus on the relationship of student teachers and cooperating teacher, the research by Graham (1997) did. This particular study focused on qualitative research methodology of English education student teachers and cooperating teachers. Two cases were described in detail to personify two important themes of tension emerging from preliminary analysis – philosophical difference and tolerance of uncertainty. It was concluded that “the student teaching experience is based upon a highly personalized relationship, particularized by the cumulative experiences of the mentor and student teacher...” (Graham, 1997, p. 524). The research provided depth and detail to the relationships, but applied only to two specific cases. Does this apply to all fields and cases, such as those in agricultural education? If so, then the body of knowledge about student teaching can be applied to agricultural education student teacher-cooperating teacher relationships. If not, the uniqueness of agricultural education relationships should be investigated in further detail. Either way, it becomes important to study the student teacher-cooperating teacher relationship within the agricultural education.

Interaction Defined

There are different ways to assess the interaction between a student teacher and cooperating teacher. To some extent, the word “relationship” can be identified as a synonym for interaction; however, for research purposes, the word relationship will be reserved more for the statistical and research definition, than in its literal sense.

The interaction between a student teacher and cooperating teacher can take on many forms and be investigated in many ways. The interaction can be very “work-

driven” from the sense that only characteristics of work performance can be indicators of the success of the interaction. In addition, affective characteristics of the student teacher can serve to describe or define the quality of interaction. If a student teacher was satisfied with the experience, then it would be inferred that the interaction was satisfying as well. In a similar study by Greiman (2003) discovered several aspects between mentors and beginning teachers. Mentor teachers aid beginning teachers in their acclimation to the profession, much as a cooperating teacher does with a student teacher. The only major difference is the intensity or amount of exposure the different pairs have. A student teacher-cooperating teacher pair spends more time together. Given the similarity of interaction between mentor-beginning teacher and cooperating teacher-student teacher, Greiman’s (2003) aspects were investigated in this study.

Psychosocial functions. Throughout the literature, cooperating teachers have been known by several titles such as supervising teacher, and host teacher. However, the synonym that most accurately reflects the student teacher-cooperating teacher relationship aspect is mentor teacher. Hall (1986, p. 161) describes “relationships between junior and senior colleagues that contribute to career development” as mentoring relationships. The cooperating teachers, or senior colleague, assists the student teacher, or junior colleague, in career development.

The most recent study looking at mentoring in agricultural education was by Greiman, Birkenholz and Stewart (2003) who studied the perceptions of formal mentors and novice teachers in terms of psychosocial assistance. This research was a component of Greiman’s (2003) dissertation. Kitchel, Burris, Greiman, and Torres (2004) replicated the original Greiman, et al. (2003) study with the following year of mentor teachers. In

the Greiman, et. al. (2003) and Greiman (2003) studies, the formal mentors were teachers within the beginning teachers' school district. Some mentor teachers were agricultural education teachers and some were not. In the Kitchel, et al. (2004) study, all of the mentor teachers were agricultural education teachers outside of the school district.

Both studies utilized a framework developed by Kram (1985; Hall, 1986), in which four psychosocial functions emerged. Kram's work did not start in education in particular. The theory was applied to organization and career development of the business sector from a general sense. Therefore, psychosocial functions have a broad perspective of applications. According to Douglas (1986), these psychosocial functions "enhance a sense of competence, clarity of identity, and effectiveness in a professional role" (p. 162). The psychosocial functions are role modeling, counseling, acceptance and confirmation, and friendship. In 1990, Ragins and McFarlin identified that cross-gender mentoring may bring about a social and parenting function. As a result, Greiman (2003), and subsequently Kitchel, et al. (2004), added a fifth psychosocial function to their studies, the social function.

The role modeling function is when one is "demonstrating valued behaviors, attitudes and/or skills that aid the junior in achieving competence, confidence, and a clear professional identity" (Douglas, 1986, p. 162). Ragins and McFarlin (1990, p. 329) used the following items in their instrument in assessing this function:

- Serves as a role model for me.
- Represents who I want to be.
- Is someone I identify with.

The counseling function is when a mentor teacher would be “providing a helpful and confidential forum for exploring personal and professional dilemmas. Excellent listening, trust, and rapport that enable both individuals to address central development concerns” is also a component (Hall, 1986, p. 162). Rags and McFarlin (1990, p. 329) used the following items in their instrument in assessing this function:

- Guides my personal development.
- Serves as a sounding board for me to develop and understand myself.
- Guides my professional development.

When someone provides “mutual caring and intimacy that extends beyond the requirements of daily work tasks” and is “sharing experiences outside the immediate work setting,” then that person is providing the friendship function (Hall, 1986, p. 162). Rags and McFarlin (1990, p. 328) used the following items in their instrument in assessing this function:

- Is someone I can confide in.
- Provides support and encouragement.
- Is someone I can trust.

In providing support related to the acceptance function, a mentor teacher would be “providing ongoing support, respect, and admiration, which strengthens self-confidence and self-image” in addition to “regularly reinforcing both are highly valued people and contributors to the organization” (Hall, 1986, p. 162). Rags and McFarlin

(1990, p. 329) used the following items in their instrument in assessing the acceptance function:

- Accepts me as a competent professional.
- Thinks highly of me.
- Sees me as being competent.

Greiman (2003, p. 22) identified the social function as one that includes “social interaction and informal exchanges about work and outside work experiences.” Although this function is similar to the friendship role, the friendship role focuses on the mentor becoming a confidant, as reflected in the items from Ragins and McFarlin (1990). Ragins and McFarlin (1990, p. 328) used the following items in their instrument in assessing this function, with the stem “my mentor and I frequently...”:

- Have one-on-one, informal social interactions outside of the work setting.
- Socialize one-on-one outside the work setting.

Psychosocial functions can assist individuals in their early career years in developing competence, confidence, and a clear sense of professional identity (Greiman, 2003). In general, these years are noted by new beginnings, initiation, exploration of career paths, and the development of skills toward career advancement.

Greiman (2003) found that there were no significant differences between the extent mentors met psychosocial needs, as perceived by beginning teachers and mentors. On a 7-point Likert scale, where 7 indicated *very large extent*, the psychosocial functions of acceptance, counseling and friendship rated 5.0 or higher by both mentor and

beginning teacher. Role modeling had a mean of 5.05 for mentors and a 4.76 for beginning teachers. The social function mean was 3.95 for beginning teachers and a 3.88 for mentors. In other words, mentors and beginning teachers agreed that mentors were providing the psychosocial functions of acceptance, counseling, friendship and role modeling to a *large extent*. Given the similarity of the relationship, student teachers and cooperating teachers may also perceive this to be true as well. However, given the daily contact by the cooperating teacher, these scores may potential increase, or decrease.

Professional roles and responsibilities. Another way to investigate the interaction between the cooperating teacher and student teacher is to investigate the development of roles and responsibilities the student teacher should be learning. Greiman (2003) assessed beginning and mentor teachers on the perceived extent of assistance the beginning teacher needed in terms of professional roles/responsibilities of beginning agriculture teachers. In addition, he also assessed the level of satisfaction of assistance provided in terms of professional roles/responsibilities of beginning agriculture teachers. By the end of student teaching, student teachers will be entering the field as beginning teachers. These professional roles/responsibilities of beginning agriculture teachers that Greiman (2003) identified could be transferred as roles and responsibilities that student teachers should be aiming for and such roles that cooperating teachers should be assisting in developing.

In terms of the professional roles/responsibilities, Greiman (2003) found that both beginning teachers and mentor teachers considered “awareness of school politics” as the item that beginning teachers needed the most assistance. In comparing their rankings, beginning teachers and mentor teachers agreed on seven of the top 10

roles/responsibilities in terms of the level of assistance needed by beginning teachers. A list of the professional roles/responsibilities as utilized by Greiman can be found in Part B of the instrument used in this study (Appendix F; Appendix G).

In terms of professional roles/responsibilities, Greiman (2003) found that beginning teachers and mentor teachers agreed on four out of the top 12 items (there was a three-way tie for the 10th ranked item) in terms of the how satisfied each group was with the mentors' assistance. Beginning teachers felt "act in a professional manner" was the most satisfying role that mentor teachers assisted with. Mentor teachers indicated "use of educational technology" was the most satisfying role in which they assisted their beginning teacher.

Satisfaction and similarity. Greiman's (2003) study of beginning and mentor teachers also sought to determine the satisfaction of the formal mentoring and the similarity of the dyad (pair) relationship. In the study, formal mentors were found to be more satisfied with the formal mentoring than beginning teachers. The formal mentors also perceived the dyad to be more similar than the beginning teachers perceived it to be. A significant relationship was found between the perceived satisfaction with formal mentoring and perceived similarity of the dyad relationship. Could this finding apply to the student teacher-cooperating teacher pair (or dyad)? If a relationship exists between perceived similarity and satisfaction, like the one found in Greiman's (2003) study, similarity could be a factor in pairing student teachers with cooperating teachers. In that case, similarity criteria or variables should be investigated, such as gender, personality, or teaching philosophy.

Benefits and barriers. In identifying benefits of being a student teacher or cooperating teacher and the barriers of having better interaction, certain aspects may arise. Greiman (2003) sought to determine benefits and barriers to the mentoring process. In asking open-ended questions, Greiman found that beginning agriculture teachers reported “willingness to discuss problems or answer questions” as the most frequent benefit to mentoring. Mentor teachers reported “learn new ideas and new teaching techniques” as the most frequent benefit to mentoring. In terms of barriers, both beginning teachers and mentor teachers reported “not enough time to meet, mentor, observe, etc.” most frequently. In assisting the student teacher-cooperating teacher relationship, could university faculty utilize this type of information in enhancing those aspects that are beneficial and minimizing those aspects that are barriers?

Given the attributes of the mentoring-type relationship, as described through by Greiman (2003), what factors influence student teacher-cooperating teacher interaction? Lemma’s (1993) case study provided “insight into the intensive and intimate relationship that develop between a cooperating teacher and a student teacher” (p. 329). This one case, studied intensively, suggested that part of the success in the student teacher experience was with the cooperating teacher’s training as a mentor. As a result of Graham’s (1997) research, this current study looked at dealing with personality differences in the relationship. Therefore, does personality of the student teacher and cooperating teacher play a role in the relationship?

In reviewing the Dunkin and Biddle (1974) model (Appendix E), using personality type made sense as an area of investigation. In context variables, a student, and in this scenario, the student teacher brings to the interaction certain properties. Some

properties are abilities, knowledge, and attitude; however, personality type would also be a property as well. The original Dunkin and Biddle model currently acknowledges personality as a teacher property; it only makes sense to include it as a property to be investigated by both.

Personality Type

Overview

Descriptions of personality types have been around since the days of Hippocrates. He used four descriptors such as Sanguine, Choleric, Phlegmatic, and Melancholic, to describe different types of people (True Colors Communication Group, 1998). Since then, there have been a number of measures of personality. Most fall under the categories of inventories or projective techniques. Some inventories include the California F-Scale, Cattell's Sixteen Personality Factor Questionnaire, Minnesota Multiphasic Personality Inventory, and the Guilford-Zimmerman Temperament Survey. Some of the better known projective techniques include the Rorschach Test and Thematic Apperception Test (Ary, Jacobs, & Razavieh, 2002). For this study, given its extensive use and array of application, the Myers-Briggs Type Indicator (MBTI®) was selected. The MBTI® was developed from the psychological type work conducted by Jung.

In the 1920s, Carl Jung (1990), Swiss psychologist, developed and published his take on personality type in his book *Psychological Types*, which was later translated and published in the United States. In his book, Jung described people based upon sets of opposites. The first set was introverted and extraverted, which Jung called attitude-types. There are also two sets of function-types: intuition and sensation; thinking and feeling.

People differ based upon how their attitude-types interact with their function-types, such as an extraverted thinker would act differently than an extraverted feeler.

The mother-daughter team of Katherine Briggs and Isabel Briggs-Myers developed interest in Jungian preferences which resulted in the development of an instrument to measure the types, known as the Myers-Briggs Type Indicator (MBTI®). The first set of questions was developed in 1943. Since then, the MBTI® has evolved. In 1994 alone, over 2,500,000 people completed the MBTI®. Briggs and Myers utilized the similar terminology as Jung, with the addition of the Judging-Perceiving set. The types were known by the first or, in the case on intuition, second letter. The Extraversion-Introversion set is also known as E-I; Sensing-Intuitive as S-N; Thinking-Feeling as T-F; Judging and Perceiving as J-P (Myers & Myers, 1995). Appendix D summarizes the meaning behind each opposite.

The sets act as polar opposites along a continuum. For each set, respondents fall somewhere in between the spectrum of the sets. Depending on the preference for each set, a person could be categorized into one of 16 types: ISTJ, ISTP, ESTP, ESTJ, ISFJ, ISFP, ESFP, ESFJ, INFJ, INFP, ENFP, ENFJ, INTJ, INTP, ENTP, and ENTJ (Myers & McCaulley, 1985). Appendix E summarizes the description of each of the sixteen combinations.

In the late 1960s, David Keirsey took a different approach than that of Briggs, Myers, and Jung. Keirsey describes his personality type theory as temperament types. He proposed that one's type emerges from his/her temperament. He used specific combinations of letters to describe people. The Dionysian temperament is associated

with SPs; Epimethean with SJs; Promethean with NT; Apollonian with NF (Keirsey & Bates, 1984).

Don Lowry followed up on Keirsey’s work and in 1978 introduced the *True Colors* concept. Lowry used the temperaments and marketed them through colors. In its earlier days, the concept involved learning one’s own temperament, via color cards. Then, an entertainment component, in the form of skits, was used to facilitate a deeper understanding of the different colors and their meaning. Those early entertainment components of *True Colors* are currently a part of the system. According to Miscisin (2001) millions of people have been taught the concept and there are more than 3,000 certified trainers in the United States and other countries. The colors used in the system are Blue, Gold, Green, and Orange. Figure 3 is an approximate comparison between *True Colors* and the other aforementioned personality type systems.

True Colors	Blue	Green	Gold	Orange
Hippocrates	Phlegmatic	Choleric	Melancholic	Sanguine
Carl Jung	Feeling	Thinking	Sensation	Intuition
Myers & Briggs	ENFJ, INFJ, ENFP, INFP	ENTJ, INTJ, ENTP, INTP	ESTJ, ISTJ, ESFJ, ISFJ	ESFP, ISFP, ESTP, ISTP
Keirsey	Apollonian (NF)	Promethean (NT)	Epimethean (SJ)	Dionysian (SP)

Note. Adapted (in format, not content) from Miscisin, 2001.

Figure 3. Comparison between True Colors and other related personality type systems

How the MBTI® Works

In reference to the MBTI® “personality type is the result of the interplay of a person’s four preferences, represented by one pole of each dichotomy” (Quenk, 2000, p. 11). Although each person can utilize any of the eight poles (E, I, N, S, T, F, J or P), it’s the dynamic combination and interaction of the four preferred poles that creates a person’s personality type.

Both Jung and Myers and Briggs utilized the dynamic interaction as a part of their theory on personality type. The middle dichotomies (N, S, T, F) was known as functions. Depending on the other opposites (E, I, J, P), an order is constructed out of the four functions. The dominant function is the one used the most; auxiliary is the second most used. There are also the tertiary or third most used and the inferior or least used function. Both the dominant and auxiliary are used consciously, the dominant being under conscious control. The tertiary and inferior are used more unconsciously with the inferior being more unconscious than the tertiary (Quenk, 2000).

The J and P indicate which function one is extroverting or showing the external world. If one prefers to be P, then that person’s second letter – either S or N – is extraverted and the third letter is introverted. If one prefers to be J, then that person’s third letter – either T or F – is extraverted and the second letter is introverted. For example, if one’s type combination was ENTJ, then the J indicates the T is extraverted and the N is introverted. The E-I opposite indicates which function – the second or third letter – is dominant and which is auxiliary. In the example of the N and the T, one will be the dominant function and the other the auxiliary, depending on the E-I scale. In the example, because the preference is for E, then the function that is identified as being

extraverted (in this case, the T) is denoted the dominant function. In this case, T is dominant, and therefore N is auxiliary. The tertiary function is on the opposite pole of the auxiliary; since N is the auxiliary, then S is tertiary, leaving F as inferior (Quenk, 2000). Figure 4 provides a visual of the order.

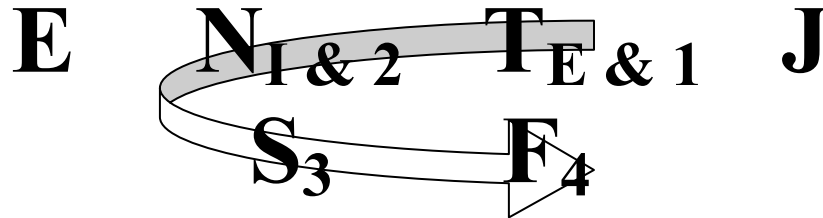


Figure 4. Illustration of Dynamic Function Ordering.

Extensions of the MBTI®

Since its introduction, the MBTI® has been linked to, used to describe, or been studied with topics such as career management, management, leadership, teams, counseling and psychotherapy, learning and cognitive styles, multiculturalism, health, stress, and coping (Hammer, 1996). In higher education alone, the MBTI® has been applied to student development, campus retention, student involvement, academic advising, and other areas such as learning styles (Provost & Anchors, 1987). Fairhurst and Fairhurst (1995) authored a book that related the types of the MBTI® to teaching style and learning style. Related, Nardi (2001) used personality type and multiple intelligences in concert, to assist in understanding one's own potential. Because of its extensive use and application, can the MBTI® be used to help predict aspects of an interaction, such as the one between a student teacher and cooperating teacher?

Hirsh (1992) claimed that “a team that works well together is not a chance event” (p. 6). In particular, a team is operationalized by “a group of two or more people working together to accomplish a task” (p. 6). She stated that by using the MBTI[®], one can better understand one’s self and others on a team. If a cooperating teacher and student teacher are comprised of a group of two, whose common purpose to grow the student teacher, then that could constitute a team. Team members have interaction towards a common task, as would a student teacher and cooperating teacher.

The MBTI[®] has certain uses in terms of team members. According to Hirsh (1992, p. 7), the MBTI[®] can be used in:

- reducing unproductive work
- identifying areas of strengths and possible areas of weaknesses for the team
- clarifying team behavior
- helping to match specific task assignments with teams according to their MBTI[®] preferences
- supplying a framework in which team members can understand and better handle conflict
- helping individuals understand how different perspectives and methods can lead to useful and effective problem solving
- maximizing a team’s diversity in order to reach more useful and insightful conclusions

Hirsch (1992) stated that certain predictions can be made about teams. The more similar the type, the sooner team members will understand each other. The converse is true as well in that the more different, the slower understanding will occur. In addition,

groups that are more alike will decide quicker, but will make more errors due to “inadequate representation of all viewpoints” (McCaulley, 1975; as cited in Hirsch, 1992).

MBTI® and Education

Several studies focus on personality type and teaching. The percentage high school teachers who were sensing (S) was 55% (Myers & McCaulley, 1985). This finding was slightly lower in a study by Sears, Kennedy and Kaye (1997). They found that less than 50% of those early field experience students who were looking to be certified to teach secondary preferred S over N. It should be noted that not all of those students who were included in the frequency, completed a degree in the College of Education, which may influence the findings. Of all students in the study who completed an education degree, no matter the desired teaching grade level, 63% preferred S over N.

MBTI® and Agricultural Education. Barrett, Sorensen, and Hartung (1985) administered the MBTI® to a purposive group of 406 students in a college of agriculture, in order to describe the personality type of college of agriculture students and how and if they differ from the faculty. The students held preferences toward I (54%), S (84%), T (69%), and J (57%). Faculty tended to be more I (63%), N (52%), T (63%), and J (83%).

Watson and Hillison (1991) investigated personality type, via temperament, in addition to job satisfaction of 63 West Virginia agriculture teachers. The findings indicated that a majority of teachers were SJs (58%), followed by SPs, (24%). Fourteen percent were NTs and 5% were NFs (Watson & Hillison, 1991). When taking into account the S-N function, 81% of the teachers preferred S over N. When looking at job

satisfaction and temperament, “little variation in satisfaction by temperament type was found” (p. 26).

Cano, Garton, and Raven (1992) investigated 25 preservice teachers in terms of their learning style, teaching style and personality style at The Ohio State University. In terms of personality style (type), the group tended to be more E(60%), S (76%), T (56%) and J (60%). The large percentage of sensing is consistent with Watson and Hillison’s (1991) study.

Cano and Garton (1994) studied three years of preservice teachers ($n = 82$) at The Ohio State University in terms of their learning styles, as operationalized by the MBTI[®]. The study was consistent with Cano, et al. (1992), as the preservice teachers tended to be more E (62%), S (74%), T (65%) and J (67%). In terms of function combinations, the group was more ST (51%), followed by SF (23%), NT (13%), and then NF (12%). Of the sixteen combinations, ESTJ was the most frequent (23%), followed by ISTJ (18%), and ESFJ (13.4%). The least frequent types was ENFJ (1%) and INFJ (1%).

Garton, Thompson, and Cano (1997) assessed first and second year teachers in Missouri and their students in a modified version of the MBTI[®] called the Individual Learning Preference (ILP) checklist. This particular group was not consistent with Watson and Hillison (1991), Cano, et al. (1992) or Cano and Garton (1994), in relation to S-N scales. This group of teachers was more E (54%), N (54%), T (65%), and J (62%). Their students were more I (55%), S (57%), F (66%), and J (52%).

According to Cano (1999) students who were mostly field-independent (ST/NT) majored in agricultural education, animal sciences, food sciences or horticulture. Those who were field dependent (SF/NF) majored in agribusiness, agricultural communication,

agricultural systems management, construction system management, other and undecided (Cano, 1999).

In a study that encompassed nine years of undergraduate students who majored or minored in agricultural education at The Ohio State University, Kitchel and Cano (2001) looked at the relationship between learning style, as operationalized by the GEFT, and personality type, as operationalized by the MBTI[®]. They found the group to be more E, S, T, and J, when looking at the opposite dichotomies individually. Out of the 16 combinations, ISTJ was the most frequent (20%), followed by ESTJ (17%) and ESFJ (12%). The fourth most frequent, ENFP, included only 7% of the sample. The least frequent combination was INFJ (2%).

Out of the four function combinations of ST, NT, SF, and NF, the most frequent was ST with 48% of the sample, followed by SF (24%), NT (14%), and NF (13%). When determining the relationship between each opposite and the GEFT, the highest r coefficient in magnitude was .13, which was found between the GEFT and S-N scale (Kitchel & Cano, 2001).

Summary

In studies utilizing the MBTI[®] with preservice and/or inservice agriculture teachers, a common thread has emerged. Students in agricultural education preferred sensing (S) over intuition (N), except for the study by Garton, et al. (1997) (Watson & Hillison, 1991; Cano, et al., 1992; Cano & Garton, 1994; Kitchel & Cano, 2001). Why is there such a pull towards the S pole of the S-N spectrum? Kitchel & Cano (2001) suggested that the agriculture tie could be the reason. It was discussed that previous studies had indicated that adult farmers tended to be more sensing (S) than intuitive (N),

based upon their combination frequencies (Bargar, 1989; Homer & Barret, 1987; as both cited in Bargar, Bargar & Clark, 1990). This idea was substantiated by Hammer (1993) who linked the career “Farmer” as an attractive occupation with the ISTP and ESTP combinations. These attractive occupations are a top 10 list of the most attractive occupations as ranked by that particular type combination.

Other evidence linking sensing to agricultural education also comes from Hammer (1993) who found “Teacher: Trade and Technical” to be an attractive occupation to the combination ESTJ. The career “Teacher” (with no designation as to the type of teacher) was found to be an attractive occupation for ISFJ, ESNP, ESFJ, and INFJ. Perhaps there is a connection between teaching, in general, and the sensing pole of the S-N function.

Summary

As previously established, student teaching is an important aspect to teacher development. In addition, cooperating teachers are important to student teaching. The Dunkin and Biddle model takes into account a number of variables both student teachers and cooperating teachers could possess that influence the learning environment. For this study, personality type was selected because it is a variable that can be consistently studied both with student teachers and cooperating teachers. Because there was consistency in subjects and context, the Mentoring Relationship Questionnaire from the Greiman (2003) study was utilized.

CHAPTER III

METHODS AND PROCEDURES

Purpose of the Study

The purpose of the study was to determine if personality type, as measured by the Myers-Briggs Type Indicator (MBTI[®]), could predict aspects (psychosocial support, agricultural education teacher roles, similarities and overall relationship satisfaction, and perceived benefits and barriers to a successful student teacher-cooperating teacher relationship) of interaction between cooperating teachers of agricultural education in two Midwestern states (University of Missouri-Columbia and University of Illinois at Urbana-Champaign) and their student teachers. To achieve the purpose of this study, the following research objectives were developed:

1. Describe demographic characteristics of cooperating teachers (age, gender, and years of teaching experience) and student teachers (gender, cooperating site type – high school or career center, number of instructors at cooperating site, and number of students at cooperating site).
2. Describe the most frequent MBTI[®] opposites among the cooperating teachers and the student teachers.
3. Describe the most frequent MBTI[®] four letter combination among the cooperating teachers and student teachers.

4. Determine the extent of psychosocial support cooperating teachers provided student teachers, as reported by both student teachers and cooperating teachers.
5. Determine the extent student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
6. Determine the level of assistance cooperating teachers provided student teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
7. Identify the perceived benefits of serving as a cooperating teacher, as reported by the cooperating teacher.
8. Identify the perceived benefits of having a cooperating teacher, as reported by the student teacher.
9. Identify the perceived barriers of having a successful student teacher-cooperating teacher relationship, as reported by both student teachers and cooperating teachers.
10. Determine if personality type influences the degree of psychosocial assistance provided by the cooperating teacher, as reported by both the cooperating teacher and student teacher
11. Determine if the personality type of the student teachers influences the extent those student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.

12. Determine if the personality type of the cooperating teachers influences the level of assistance cooperating teachers provided those student teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
13. Determine if patterns exist between the personality type (of the cooperating teacher and student teacher, separately) and the perceived benefits and barriers of a successful student teacher-cooperating teacher interaction.
14. Determine the relationship among perceived similarity according to the MRQ, similarity in personality type, and perceived overall satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and cooperating teachers.
15. Determine if the similarity in personality type influences the perceived satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and cooperating teachers.

Research Design

The research design of this nonexperimental quantitative study was descriptive-correlation in nature. In particular, correlational methods were utilized “to examine the strength and direction of relationship among two or more variables” (Ary, Jacobs, & Razavieh, 2002, p. 25). Determining relationships, assessing consistency, and prediction are all applications of correlational research. Correlational relationship may or may not identify cause-effect relationships (Ary, Jacobs, Razavieh, 2002). There were, however, some, albeit limited, qualitative aspects to this study.

Population and Sample

The target population for this study was agricultural education student teachers and their cooperating teachers from the University of Missouri-Columbia and the University of Illinois at Urbana-Champaign. The sample was a time and place sample of the population for the 2003-2004 academic year, thus yielding 16 pairs of teachers from the University of Missouri and 12 pairs from the University of Illinois. This sample was not selected based upon chance, therefore, the sample was identified as non-probabilistic (Ary, et al., 2002). More specifically, the sample was a convenient sample. The frame of the student teacher-cooperating teacher pairs from the University of Missouri-Columbia were obtained from the faculty member in charge of student teaching in the Department of Agricultural Education. Similarly, the frame of the student teacher-cooperating teaching pairs from University of Illinois at Urbana-Champaign were from the faculty in charge of student teaching in the Department of Human and Community Development. Frame error, or errors in the list of the study's participants, was addressed as this study progressed (McCracken, 1998b). A name was inadvertently left off the list from the University of Illinois; a student teacher did not have an identified cooperating teacher.

Other errors were taken into account. Selection error is when subjects have "a greater probability of being included in the sample than other" (McCracken, 1998b, p. 38). Because the sample was convenient, the only aspect that was taken into account was duplication of names. Sampling error or "estimate of the extent to which the sample may differ from the population" (p. 38) was taken into account, however the error is bound to be larger because the sample was convenient and not random (McCracken, 1998b).

Instrumentation

Two instruments were utilized to collect data. The Myers-Briggs Type Indicator (MBTI[®]) was utilized to assess personality type. The Mentor Relationship Questionnaire developed by Grieman (2003), was used to assess the aspects of the student teacher-cooperating teacher interaction. There were two forms of this instrument; one instrument for the student teacher and one instrument for the cooperating teacher.

MBTI[®]

Form G of the MBTI[®] was administered to the subjects of the study. Form G consists of 126 response items. Part I consisted of 26 questions relating to preference. Questions typically utilized phrases such as “would you rather” or “which do you prefer.” Part II consisted of 45 pairs of words in which subjects were asked to select the word for each pair that appealed to them the most. Part III consisted of 55 questions that were similar in nature to Part I. Across all three parts, different items were used to provide scores for the different MBTI[®] opposites; some questions were not scored because they are used as test questions for further versions of the MBTI[®] (Myers & McCaulley, 1985).

The responses from Parts I, II and III were captured on a “bubble sheet” that was then scored by the researcher using a set of stencils. Each stencil represented a personality opposite, for example, there was a stencil that was used to score only those responses relating to the E-I opposites. For the T-F opposites, two different stencils were used; one for males and one for females. Each stencil was split so the administrator can count up the items related to one of the sides of the opposites at a time (Myers & McCaulley, 1985).

Once scores were obtained for both ends of the opposite, the absolute value of the difference was calculated. Which ends' score is higher indicated which side of the opposite the subject prefers. For example, if a subject's total E score was 17 and total I score was 9, then that subject would have a preference towards E. The absolute value of the difference would be 8; that score would then be converted to a preference score, utilizing the scale provided on stencils. In this scenario, the difference of 8 would then be recorded as "E 15" with E indicating the preferred type of the E-I opposite and 15 indicating strength of preference, not maturity or excellence with that particular preference. The same procedure was used to determine the preferred end of each opposite and corresponding preference score for each opposite. In the end, four letters with corresponding preference scores were recorded (Myers & McCaulley, 1985).

For statistical purposes, each preference score was transformed into a standard score so that one single score indicated the end of the opposite each subject preferred. Therefore, there were four scores for each subject; one indicating E-I, one for S-N, one for T-F, and one for J-P. In using the E-I scale, the following is an example of how the single score transformation was calculated. Each single score is centered on the score 100. If the subject scored E 15, then the single score for E-I was 115. For E, S, T, and J, the preference score was added to 100. If the respondent scored I 15, then the single score for E-I would be 85. For I, N, F, and P, the preference score was subtracted from 100. Therefore, by looking at the single score, one can identify which end of the opposite was preferred and in addition, the preference score (Myers & McCaulley, 1985).

Mentoring Relationship Questionnaires

Grieman (2003) developed two versions of the Mentoring Relationship Questionnaires (MRQ) based upon a review of literature. The two versions developed were the mentor teacher version and beginning teacher version. The elements measured perceptions of both mentor teacher and beginning teacher on psychosocial functions provided by the mentor teacher to the beginning teacher, the extent the beginning teacher needed assistance in beginning teacher roles/responsibilities, the extent the beginning teacher received assistance from the cooperating teacher in the beginning teacher roles/responsibilities, perceived similarity as a pair, perceived satisfaction in participating in the mentoring process, benefits of playing a role in mentoring, barriers to having a successful mentoring relationship, and a section on demographics. All parts of both questionnaires corresponded with each other. Semantic modifications were made to the original MRQ to reflect the student teacher as the beginning teacher and the cooperating teacher as the mentor teacher. Specifics of these modifications are identified in the proceeding questionnaire part descriptions.

For Part A of the questionnaires, 15 items were constructed to assess the psychosocial functions that the cooperating teacher was providing the student teacher. The student teacher version (Appendix F) asked to what extent the cooperating teacher provided and the cooperating teacher version (Appendix G) asked to what extent the cooperating teacher provided the psychosocial functions. The psychosocial functions were role modeling, counseling, acceptance and confirmation, friendship, and social. A 7-point, Likert-type scale was utilized, with 1 = not at all, 3 = some extent, 5 = large extent, and 7 = very large extent. Grieman (2003) drew heavily from the works of Kram (1985)

and Ragins and McFarlin (1990) in developing Part A. Modifications to Part A were only made in referencing mentor teacher as cooperating teacher and beginning teacher as student teacher.

Part B of the questionnaires consisted of 28 roles and responsibilities of agriculture teachers. For each role/responsibility, the student teacher version asked “to what extent did you *need assistance* during your student teaching?” and “to what extent were you *provided assistance* by your cooperating teacher?,” whereas, for each role/responsibility, the cooperating teacher version asked “to what extent did the student teacher *need assistance* during their student teaching?” and “to what extent did you *provide assistance* to the student teacher?” Respondents used the same 5-point Likert-type scale in answering both questions; 1 = never, 2 = rarely, 3 = sometimes, 4 = often and 5 = considerable. Grieman (2003) conducted a review of literature in agricultural education when developing Part B. Modifications were not made to any of the roles and responsibilities. However, as compared to the original MRQ, the questions not only accommodated the student teacher and cooperating teacher language, but were modified so that the same response choices could be used for both questions.

There were ten items in Part C of the MRQ that assessed similarities and overall satisfaction of the student teacher-cooperating teacher interaction. Questions one through five related to perceived similarity of the student teacher-cooperating teacher pair; questions six through ten assessed the perceived satisfaction of the overall interaction. For both versions, both the student teachers and cooperating teachers rated these areas from their respective perceptions. Responses were based upon a 7-point, Likert-type scale where 1 = strongly disagree, 3 = disagree, 5 = agree, and 7 = strongly agree.

Semantic modifications were made only to reflect the student teacher-cooperating teacher language, as opposed to the mentor teacher-beginning teacher language.

Part D of the MRQ for the student teacher version consisted of four questions, two of which were open-ended. The first open-ended question asked what benefits came from having a cooperating teacher; the second question asked to identify barriers in having a more successful experience with their cooperating teacher. The third question, which was close-ended, asked who provided the most beneficial assistance. The fourth question simply asked whether or not they were planning on teaching agriculture the next year.

For the cooperating teacher version of the MRQ, Part D consisted of three open-ended questions. The first question asked if an attempt was made to match them with their student teacher. If the cooperating teacher responded 'yes,' they were asked to identify criteria on which they perceived they were matched. The second question asked to identify benefits of being a cooperating teacher. The third question asked to identify barriers in having a more successful student teacher-cooperating teacher experience. For both versions of Part D of the MRQ, modifications were made to reflect the student teacher-cooperating teacher language, as opposed to the mentor teacher-beginning teacher language.

Part E consisted of demographic information. For the cooperating teacher version, cooperating teachers were asked their age, gender, years taught, subject(s) taught, and certification area(s). For the student teacher version, student teachers were asked about their cooperating site, such as whether they taught in a high school or

AVTS/career center, number of instructors and number of students. The student teachers were also asked to identify their age and gender.

Validity and Reliability

The Classical Test Theory (CTT) operates within the equation that the observed score equals the true score plus error. The observed score is the score the researcher receives from his or her respondents or subjects. The observed score contains the true score. Given that all things being equal and error is eliminated, then the result would be this hypothetical true score. However, with human subjects, error is impossible to eliminate, so the true score is tainted by error. There are two types of error, systematic (non-random) and random error. The equation for the CTT is as follows, whereas “O” represents the observed score, “TS” is the true score, and “E” is error (Torres, 2004).

$$O = TS + E$$

To obtain an observed score that is as close to the true score as possible, error must be eliminated. Systematic error represents error that is present in the research system; it is the error that can be minimized by addressing measurement error. Systematic error directly affects validity (Torres, 2004).

From a historical standpoint, validity has been defined as to what extent a data collection instrument measures what it purports to measure. More recently, the thrust of validity has focused on the interpretation and meaning of scores derived from the instrument (Ary, et al., 2002). Issues with systematic error include instrumentation and administration. In instrumentation, the researcher should ensure that the instrument is a

valid measuring tool for the study. In administration, the instrument should give such that the proper instructions, times and procedures are allotted and/or followed.

There are different types of validity. The simplest form is face validity which meets the objective that the instruments appears to measure what it is suppose to measure (Ary, et al., 2002). The next type of validity is content validity. This type of validity focuses on whether or not an instrument is reflective of a specific area or domain of content and determined by a panel of experts (Lester & Bishop, 1997).

Random error directly affects reliability. Reliability focuses on the consistency of scores a certain instrument will produce; it is not concerned with interpretation.

Therefore, one can have reliability, but not validity (Ary, et al., 2002). Mathematically (and hypothetically), the reliability estimate is a product of the variance in the observed score divided by the variance in the true score. Random error exists because of the human subjects. Certain aspects cannot be controlled or taken into account that could ultimately affect results. For example, a person's mood that day or an interpretation of a question (although it may have been scrutinized for clarity and therefore validity) could ultimately affect the results and produce random error (Ary, et al., 2002).

Reliability can be investigated several ways. A pilot group ($n = 15$ to 30) should be formed of a group that will represent the sample. Test-retest is a lower-bounds or more conservative means to check for reliability with an instrument or questionnaire (Torres, 2004). The pilot group is given the instrument at one point in time and then given the same instrument one to three weeks later. Caution should be placed on the time frame as the subjects may be more informed or attitudes changed as time elapsed. The results are compared from the first to second administration to see if there is a difference.

The *Coefficient of Stability* is reported in the form of percent agreement for continuous items or correlation for more dichotomous items. Similar to test-retest is the parallel or alternative forms reliability. In this case, the instrument is broken into two equal forms and both are delivered at one time to the same group. The forms are compared and correlated with the *Coefficient of Equivalence* reported (Ary, et al., 2002).

Testing for internal consistency is a more upper-bounds or less conservative approach (Torres, 2004). However, it is much less time consuming. A pilot group is still utilize, but there are different ways of estimating consistency. Cronbach's alpha is used on instruments with Likert-type items that can be summated into a meaningful score, that would report some idea or construct. The pilot group is given the instrument and then Cronbach's alpha utilizes an inter-correlation score to report a reliability estimate. Nunnaly (1967) reports that for some earlier stages of research, a .5 to .6 could be acceptable. For more precise research, such as those in medicine, a .9 may not be stringent enough. (Ary, et al., 2002).

MBTI[®]

The validity for the MBTI[®] was based on the instrument's "ability to demonstrate relationships and outcomes predicted" by Jung's theory (p. 175). Several versions have been created with large-scale data collection. In Form G, the most predictive items were placed first, so that an approximation of type could be calculated based upon the first 50 items. Because of its extensive use, a certain degree of assumed validity exists with the MBTI[®]. However, such an assumption has been based on years of validity testing. Although not addressed in detail, content validity was based upon empirical evidence using items as they separate people with opposing preferences. The MBTI[®] was also

correlated with other measures, such as the California Psychological Inventory (CPI). In addition, the MBTI[®] was correlated with other Jungian-type instruments, such as the Gray-Wheelwright; the results indicated both instruments reflected the same ideas, though both had different reliabilities. In summary, a whole chapter of the MBTI[®] manual was dedicated to explaining the instruments validity (Myers & McCaulley, 1985).

Like validity, the MBTI[®] manual also has a chapter on the reliability of the instrument. Split-half reliability studies on the MBTI[®] have been conducted. Results indicated, that for Form G, reliability coefficients remained stable for up to 25 omissions. In addition, reliability was calculated by gender and age. Reliabilities tended to be lower for respondents in their teens, but stable for ages in the twenties and beyond (Myers & McCaulley, 1985).

Test-retest reliability was conducted. It was noted that the “chance probability of choosing all preferences on a retest... is 6.25%. The actual test-retest probabilities are significantly different from chance” (p. 170). Mood was taken into account, as both a mood instrument and the MBTI were administered to psychology volunteers. The results indicated that the moods had significantly changed, but that did not significantly affect the test-retest of the MBTI (Myers & McCaulley, 1985).

MRQ

Greiman (2003) conducted two types of validation: face and content. A panel of experts ($n = 8$) reviewed the MRQ for face and content validity. The instrument was sent to the panel; they in turn reviewed it and provided feedback. The reviewed instruments were then returned and modifications to the scale anchors were made to the 28

professional roles/responsibilities. Clarity of several questions was improved; those specific questions were not identified.

In addition to validity, Grieman (2003) also addressed reliability. A pilot test was conducted for both instruments with second and third year teachers not in the study. As a result of the pilot study, some demographic information was eliminated. In addition, Cronbach's alpha, as a reliability estimate coefficient, was calculated post-hoc on the psychosocial functions, perceived similarity and perceived satisfaction sections. Those alphas ranged from .93 to .99, for the three sections, between both versions, which was well in the parameters established by Nunally (1967).

Data Collection

In collecting data, Dillman's (2000) tailored design method was consulted. The design hinges on the concept that response will increase when "the respondent *trusts* that the expected *rewards* of responding will outweigh the anticipated *cost*" (p. 27). There are tactics one can use to (a) establish trust, (b) increase reward, and (c) reduce social costs. Throughout the description of the process for this study, examples from these elements will appear.

In particular, Dillman (2000) suggests five elements to achieve a high response rate. Those elements are: (1) respondent-friendly questionnaire, (2) four contacts by first class mail, with an additional "special" contact, (3) return envelopes with real first-class stamps, (4) personalization and correspondence, and (5) token prepaid financial incentives.

Variations of these elements were made to meet the needs of the researchers. For element 5, prepaid financial incentives were not provided. Although Dillman (2000)

notes that “promised” incentives are less effective, the incentive of providing MBTI[®] results was made. Of course, this incentive could not have been provided prior to the completion of the MBTI[®], but was sent prior to the completion of the MRQ (if the respondent sent the MBTI[®] in on time). The other variations involve element two; more personalized contact was made in implementing this process. In addition, some contacts were made via e-mail. The rationale behind this decision was that the subjects had been corresponding about the student teaching process via e-mail. In addition, the first questionnaire would be hand-delivered, therefore e-mail was used simply as a pre-notice or reminder. In addition, a “special” contact was not made given the situation of collecting multiple instruments and the means in which they were collected. Specifics of the data collection follow.

MBTI[®] Delivery and Collection

By March 2004, the MBTI[®] was delivered by hand to all subjects. Throughout February 2004, for the cooperating teachers from both universities, a signed, personalized cover letter (Appendix H), MBTI[®] instrument, and MBTI[®] directions (Appendix J), and self-addressed, stamped envelope were hand-delivered by the various university supervisors at both universities. Cooperating teachers were asked to return the instrument by March 15, 2004. E-mail reminders (Appendix K) were sent to non-respondents immediately following March 15. Given the variety of instrument delivery dates, March 15 was chosen to be approximately 2 weeks after the last cooperating teachers received the MBTI[®] packet. Several personal contacts, via e-mail and in one case, a face-to-face conversation, were made to non-respondents up through July 2004.

For the student teachers of both universities, the instrument was delivered in late January at their student teaching seminar. A signed, personalized cover letter (Appendix I), MBTI[®] instrument, and MBTI[®] directions (Appendix J) were hand-delivered. Faculty in charge of the student teaching seminar at both universities collected the instruments and hand-delivered (Missouri) or mailed (Illinois) the instruments to the researchers.

The respondents were given the incentive of their MBTI[®] results with the addition of an interpretation guide (Appendix K), if they completed the MBTI[®]. Student teachers were informed of their results by faculty members in their proceeding student teaching seminars; cooperating teachers received an e-mail (Appendix L) with the interpretation guide attached.

MRQ Delivery and Collection

The MRQ was delivered to the student teachers in a student teaching seminar in April. A signed, personalized cover letter (Appendix M) and the MRQ were hand-delivered. The faculty at both universities collected the instruments and hand-delivered (Missouri) or mailed (Illinois) the instruments to the researchers.

In mid-April 2004, for the cooperating teachers from both universities, a signed, personalized cover letter (Appendix N), MRQ instrument, and a self-addressed, stamped envelope were mailed. Mailed envelopes were sent first-class, with real stamps, not metered. Cooperating teachers were asked to return the instrument by April 30, 2004. On April 22, 2004, following the mailing, an error was found in the instrument; Part B question stems for the right-hand column were incorrect. Therefore two e-mails were sent – one reporting the error (Appendix O) and the next reporting a new instrument would be mailed (Appendix P). A new, signed cover letter (Appendix Q) with the

corrected instrument was sent. Some erroneous instruments were returned; those respondents were contacted individually to either verify they had used the new stems, or to re-complete just that section. A signed, personalized cover letter (Appendix R) and new instrument were sent to those who did not respond; those were asked to be returned by May 28, 2004. Several personal contacts, via e-mail (Appendix S) and in one case, a face-to-face conversation, were made to non-respondents up through July 2004.

Controlling for Non-response

Using data from mail questionnaires can introduce problems. The issue at hand is non-response. In handling non-response, the first strategy Miller and Smith (1983) introduce is getting back as many responses as possible. Because this strategy was used with personalized initial delivery and continuous personal contacts a 96.6% return rate for the MBTI[®] from cooperating teachers, 100% return rate for the MBTI[®] from student teachers, and a 93.3% for the MRQ from cooperating teachers, and 100% return rate on the MBTI[®] from student teachers was achieved and therefore non-response was not an issue for this study.

Data Analysis

Data were analyzed using SPSS version 12 for Windows platform computers. In determining the appropriate analysis of the data, the primary guidance was scales of measurement. Levels of data may be nominal, ordinal, interval, and ratio. Nominal scale data are the most primitive level of measurement and are characterized by its values being categorical in nature. Nominal data cannot be ranked. Ordinal data are rank-ordered in nature, however the distance between ranks or intervals cannot be assumed to be equal. Interval data are characterized by an arbitrary origin and equal intervals

between units of measure. Ratio scale data are the highest level of measurement and are characterized by having equal intervals between values and possessing a true zero, whereas a zero represents a complete absence (Ary, et al., 2002).

For descriptive research, measures of central tendency and measures of variability are reported, depending on the scales of measurement. Measures of central tendency “describe typical, average, or representative scores” (p. 49), whereas measures of variability “describe the extent of difference” (Glass & Hopkins, 1996, p. 66). The measures of central tendency are mode, median, and mean. For nominal data, the mode or most frequent score, is reported. For ordinal data, the mode and the median are used. The median is the point in which half of the scores fall above and half of the scores fall below. For interval and ratio data, the mode, median, and mean are used. The mean is the result of the sum of all scores and then divided by the number of observation. It is also referred to as the average, which is typically avoided in research due to its ambiguity in meaning (Glass & Hopkins, 1996; Torres, 2004).

Several measures of variability include the range, variance and standard deviation. The range is the difference between the largest and smallest scores. Variance is the “sum of squared deviations from the... mean” (p. 69); whereas the standard deviation is the square root value of the variance. Because variance involves squaring values, sometimes its usefulness in interpretations is lost. For example, if inches were the unit of measurement recorded, the variance would be reported as inched squared. This makes little sense in interpretation. Therefore the standard deviation is used and the unit of measurement is inches, not inches squared (Glass & Hopkins, 1996). For nominal data, the appropriate measure of variability would be to simply report frequency of response.

For ordinal data, the range is appropriate. For interval and ordinal data, variance, standard deviation and range are reported (Torres, 2004).

Objective One

Objective one sought to describe demographic characteristics of the cooperating teachers and student teachers. For the cooperating teacher version, cooperating teachers were asked their age, gender, years of teaching, subject(s) taught, and certification area(s). The characteristics age and years taught are a ratio scale item; therefore, mean, median, mode, variance, standard deviation, and range will be reported. Gender, subject(s) taught and certification area(s) are nominal scale items; therefore, mode and frequency and percent were reported.

For the student teacher version, student teachers were asked about their cooperating site, such as whether they taught in a high school or AVTS/career center, number of instructors and number of students. The student teachers were also asked to identify their age and gender. Number of instructors and number of students are ratio scale items and therefore mean, median, mode, variance, standard deviation, and range were reported. Identifying whether or not the cooperating site was a high school or AVTS/career center, and the characteristic gender are nominal scale items and therefore mode and frequency were reported.

Objective Two

Describe the most frequent MBTI[®] opposites among the cooperating teachers and the student teachers was the second objective for this study. This data were coded by preference scores; each opposite has its own score based on a central score of 100. These scores represent interval data, therefore, mean, median, mode, variance, standard

deviation, and range were reported. Depending on which opposite is being referenced, if the preference scores are below 100, this will indicate the group is more E, S, T, or J; if the mean of the preference scores are above 100, this will indicate the group is more I, N, F, or P.

Objective Three

Objective three sought to describe the most frequent MBTI[®] four letter combination among the cooperating teachers and student teachers. For each respondent, a value was assigned relating to each of the 16 possible four-letter combinations. Since this is a nominal scale item, mode, frequency, and percent were reported for the student teachers and the cooperating teachers.

Objective Four

Determine the extent of psychosocial support cooperating teachers provided student teachers, as reported by both the student teachers and cooperating teachers was the fourth objective. Part A of the MRQ was utilized for this. Three of the 15 items relate to a specific psychosocial function, yielding 5 difference psychosocial function scores. Items 1, 3, and 10 were used for the Acceptance function; items 6, 7, and 14 for Counseling; items 5, 8, 15 for Friendship; items 2, 9 and 12 for Role Model, and items 4, 11, and 13 for the Social function. A mean score was calculated for each of those five psychosocial areas for each respondent. This mean represented interval scale data, therefore, mean, median, mode, variance, standard deviation, and range were reported.

Objective Five

Objective five sought to determine the extent student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education

teacher, as reported by both the student teachers and cooperating teachers. The scores were summated to one individual score representing the extend student teachers needed assistance from cooperating teachers in roles and responsibilities. This individual score was interval in nature and therefore mean, median, mode, variance, standard deviation, and range were reported. In addition, for each individual item, the frequencies in responses were reported. Data were analyzed for the student teacher and cooperating teacher groups individually.

Objective Six

Objective six sought to determine the level of assistance cooperating teachers provided student teachers in roles and responsibilities of an agricultural education teacher, as reported by both the student teachers and cooperating teachers. The scores were summated to one individual score representing the level of assistance cooperating teachers provided student teachers in roles and responsibilities of an agricultural education teacher. This individual score was interval in nature and therefore mean, median, mode, variance, standard deviation, and range were reported. In addition, for each individual item, the frequencies and percentages in responses were reported. Data were analyzed for the student teacher and cooperating teacher groups individually.

Objective Seven

Identify the perceived benefits of serving as a cooperating teacher, as reported by the cooperating teacher was the seventh objective. This item in the MRQ was open-ended, therefore qualitative methods were used to determine patterns and themes, and quantitative measures were used to report frequency in those patterns and themes.

Objective Eight

Identify the perceived benefits of having a cooperating teacher, as reported by the student teacher was the eighth objective. This item in the MRQ was open-ended, therefore qualitative methods were used to determine patterns and themes, and quantitative measures were used to report frequency in those patterns and themes.

Objective Nine

Objective nine sought to identify the perceived barriers of having a successful student teacher-cooperating teacher relationship, as reported by both the student teachers and cooperating teachers. This item in the MRQ was open-ended, therefore qualitative methods were used to determine patterns and themes, and quantitative measures were used to report frequency in those patterns and themes.

Objective Ten

Objective ten sought to determine if the personality type of the cooperating teacher could predict the psychosocial function of that cooperating teacher, as reported by both the cooperating teacher and student teacher. This objective was correlational. The variables personality type and psychosocial function were interval in nature; therefore the Pearson's Product Moment correlation was used to calculate the correlation coefficient, represented by the term, r , which is reported in both magnitude and direction – positive or negative. An assumption of this particular correlation is that the variables are normally distributed in score (Ary, et al., 2002). Therefore, a Q-Q plot was created to determine constructed to determine if there was a normal distribution for each variable (Torres, 2004). Because there were four preference scores for personality type and five different psychosocial functions, two correlation tables were constructed with 20

correlation coefficient values. The two tables were created to represent the perceptions of the student teachers and cooperating teachers separately.

In interpreting magnitudes of the correlation coefficients, the Davis' (1971) conventions were adopted. Table 1 outlines the correlation coefficient scale and the corresponding convention or descriptor.

Table 1

Davis Conventions for Correlation Coefficient

Convention	Correlation Coefficient
Perfect	1.00
Very High	.70 - .99
Substantial	.50 - .69
Moderate	.30 - .49
Low	.10 - .29
Negligible	.01 - .09

Objective Eleven

Determine if the personality type of the student teachers could predict to what extent those student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both the student teachers and cooperating teachers was objective 11. This objective was correlational. The variables personality type and extent those student teachers needed assistance... are interval in nature, therefore the Pearson's Product Moment correlation was used to calculate the correlation coefficient. Two correlation coefficient scores were calculated –

one was representing the student teachers' perceptions and one was representing the cooperating teachers' perceptions.

Objective Twelve

Objective 12 was to determine if the personality type of cooperating teachers could predict the level of assistance cooperating teachers provided those student teachers in roles and responsibilities of an agricultural education teacher, as reported by both the student teachers and cooperating teachers. This objective was correlational. The variables personality type and level of assistance cooperating teachers provided those student teachers ... are interval in nature, therefore the Pearson's Product Moment correlation was used to calculate the correlation coefficient. Two correlation coefficient scores were calculated – one was representing the student teachers' perceptions and one was representing the cooperating teachers' perceptions.

Objective Thirteen

Objective 13 was to determine if patterns exist between the personality type (of the cooperating teacher and student teacher, separately) and the perceived benefits and barriers of a successful student teacher-cooperating teacher interaction. Benefits and barriers were grouped by the four-letter MBTI combination and also separated by type of teacher (cooperating and student). Patterns were sought by frequency and likeness of response.

Objective Fourteen

Determine the relationship among perceived similarity according to the MRQ, similarity in personality type, and perceived overall satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and

cooperating teachers was the fourteenth objective. The perceived similarity and perceived overall satisfaction were summated scores from individual items of the MRQ. The personality type similarity score was obtained based upon the number of MBTI opposites the student teacher and cooperating teacher had in common. For example, if a student teacher was ISTJ and a cooperating teacher was ENTJ, the score would be a '2' because the pair had the T and J in common. This similarity score ranged from 0 to 4. MRQ scores approximate an interval scale of measurement while personality type similarity scores were ratio; therefore the Pearson's Product Moment correlations were used to calculate the correlation coefficient. Three correlation coefficients were calculated for student teachers and cooperating teachers separately – one between Perceived Similarity and Personality Type Similarity, one between Perceived Similarity and Satisfaction, and one between Satisfaction and Personality Type Similarity.

Objective Fifteen

Objective 15 was to determine if the similarity in personality type influenced the perceived satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both student teachers and cooperating teachers. The perceived similarity and perceived overall satisfaction were summated scores from individual items off of the MRQ. These summated scores approximate an interval scale of measurement. This data were coded by preference scores; each opposite has its own score based on a central score of 100. These scores represent interval data, therefore, mean, median, mode, variance, standard deviation, and range were reported. Depending on which opposite is being referenced, if the preference scores are below 100, this will indicate the group is more E, S, T, or J; if the mean of the preference scores are above 100, this will

indicate the group is more I, N, F, or P. This was also interval-level data. Therefore the Pearson's Product Moment correlation was used to calculate the correlation coefficient and Q-Q plots for both variables were created to determine the assumption of a normal distribution. Two correlation coefficient tables were created – one representing the student teachers' perceptions and one was representing the cooperating teachers' perceptions.

Summary

The population of this study was agricultural education student teachers and their cooperating teachers; in purposefully selecting those student teachers and cooperating teachers, this study loses its generalizability to the population. Sound instruments were used to gather data on aspects relating to the student teacher-cooperating teacher interaction and personality type. Although there were some issues with the methods, and more specifically, the instrumentation, those issues were eventually rectified. Systematic error was introduced but quickly minimized, if not, eliminated. In the end, a high response rate was achieved from both universities and both instruments.

CHAPTER IV

FINDINGS

Purpose of the Study

The purpose of the study was to determine if personality type, as measured by the Myers-Briggs Type Indicator (MBTI[®]), could predict aspects (psychosocial support, agricultural education teacher roles, similarities and overall relationship satisfaction, and perceived benefits and barriers to a successful student teacher-cooperating teacher relationship) of interaction between cooperating teachers of agricultural education in two Midwestern states (University of Missouri-Columbia and University of Illinois at Urbana-Champaign) and their student teachers.

Population and Sample

The target population for this study was agricultural education student teachers and their cooperating teachers from the University of Missouri-Columbia and the University of Illinois at Urbana-Champaign. The sample was a time and place sample of the population for the 2003-2004 academic year, thus yielding 16 pairs of teachers from the University of Missouri and 12 pairs from the University of Illinois. This sample was not selected based upon chance; therefore, the sample was identified as non-probabilistic (Ary, et al., 2002). More specifically, the sample was a convenient sample.

Objective One

Objective one sought to describe demographic characteristics of the cooperating teachers and student teachers. Table 2 summarizes the nominal-level data findings for both the student teachers and cooperating teachers. For this study, of the 28 student teachers, 11 (39.29%) were male and 17 (60.71%) were female. Twenty-one (72.41%) of the cooperating teachers were male; eight (27.59%) were female. Twenty-two (78.57%) of the student teachers were at a comprehensive high school, while six (21.43%) were at an AVTS or career center.

Table 2

Characteristics for Nominal-level Data for Student Teachers (n = 28) and Cooperating Teachers (n = 29)

Characteristic	Frequency	Percent
Student Teacher Gender		
Male	11	39.29
Female	17	60.71
Cooperating Teacher Gender		
Male	21	72.41
Female	8	27.59
Cooperating School Type (as reported by Student Teacher)		
Comprehensive High School	22	78.57
AVTS/Career Center	6	21.43

Note. Mode_{ST_gender} = female; Mode_{CT_gender} = male; Mode_{school type} = Comprehensive High School

The findings for interval or higher-level data findings for the student teachers are summarized in Table 3. The mean age of the student teachers was 22.15 years ($SD = .95$). Student teachers were at secondary agriculture programs that had an average of 178.38 ($SD = 144.89$) students and an average of 2.50 agriculture instructors ($SD = 2.20$). There was missing data for age and number of students ($n = 27$).

Table 3

Student Teacher Characteristics for Interval or Higher -Level Data (n = 27)

Characteristic	Mean	SD	Range (min-max)
Age	22.15	.95	21-25
Number of Students in Cooperating School's Ag Program	178.38	144.89	41-600
Number of Ag Instructors at Cooperating School ($n = 28$)	2.50	2.20	1-12

Note. Mode_{age} = 22; Mode_{Students} = 100; Mode_{Ag Instr} = 1; Median_{age} = 22; Median_{Students} = 111; Median_{Ag Instr} = 2

The interval or higher-level data findings for the cooperating teachers are summarized in Table 4. The mean age of the cooperating teachers was 36.76 years, with a standard deviation of 6.37. The cooperating teachers taught, on average, 13.97 years ($SD = 6.64$).

Table 4

Cooperating Teacher Demographics for Interval or Higher -Level Data (n = 29)

Characteristic	Mean	Standard Deviation	Range (min-max)
Age	36.76	6.37	27-47
Years Taught	13.97	6.64	5-26

Note. Mode_{age} = 43; Mode_{yrs taught} = 21; Median_{age} = 37; Median_{yrs taught} = 14

Objective Two

Describe the most frequent MBTI® opposites among the cooperating teachers and the student teachers was the second objective for this study. Depending on which opposite is being referenced, preference scores below 100 indicate the group is more E, S, T, or J. Mean preference scores above 100 indicate the group is more I, N, F, or P. Table 5 summarized the findings for both student teachers and cooperating teachers.

Table 5

MBTI Mean Scores by Opposites of Student Teachers and Cooperating Teachers

Opposites	Student Teachers (<i>n</i> = 28)			Cooperating Teachers (<i>n</i> = 30)		
	Mean	<i>SD</i>	Range (min-max)	Mean	<i>SD</i>	Range (min-max)
Extraversion- Introversion	85.29	27.96	51-147	100.93	24.76	53-153
Sensing-Intuition	73.64	29.34	37-139	62.00	21.86	35-131
Thinking-Feeling	90.07	29.29	41-137	77.47	28.95	35-137
Judging-Perceiving	91.79	34.57	45-161	80.60	24.70	45-129

Note. For Student Teachers: Mode_{EI} = 61; Mode_{SN} = 59; Mode_{TF} = 97; Mode_{JP} = 47, 77; Median_{EI} = 79; Median_{SN} = 64; Median_{TF} = 93; Median_{JP} = 88; For Cooperating Teachers: Mode_{EI} = 119; Mode_{SN} = 47; Mode_{TF} = 73; Mode_{JP} = 57, 73, 79; Median_{EI} = 94; Median_{SN} = 56; Median_{TF} = 75; Median_{JP} = 77

Student teachers, based upon the central score of 100, were on the E, S, T, and J sides of the opposites, as a group. In particular, for the Extraversion-Introversion opposite, the mean score was 85.29 (*SD* = 27.96), yielding a difference of 14.71 from the central score of 100. For the Sensing-Intuition opposite, the mean score was 73.64 (*SD* = 29.34), yielding a difference of 26.36 from the central score of 100. For the Thinking-Feeling opposite, the mean score was 90.07 (*SD* = 29.29), yielding a difference of 9.93 from the central score of 100. For the Judging-Perceiving opposite, the mean score was 91.79 (*SD* = 34.57), yielding a difference of 8.21 from the central score of 100 (Table 5). Utilizing the differences from the central score, as a group, the student teachers have preference scores of E 14.71, S 26.36, T 9.93, and J 8.21.

Cooperating teachers, based upon the central score of 100, were more I, S, T, and J sides of the opposites, as a group. In particular, for the Extraversion-Introversion opposite, the mean score was 100.93 ($SD = 24.76$), yielding a difference of .93 from the central score of 100. For the Sensing-Intuition opposite, the mean score was 62.00 ($SD = 21.86$), yielding a difference of 38.00 from the central score of 100. For the Thinking-Feeling opposite, the mean score was 77.47 ($SD = 28.95$), yielding a difference of 22.53 from the central score of 100. For the Judging-Perceiving opposite, the mean score was 80.60 ($SD = 24.70$), yielding a difference of 19.40 from the central score of 100 (Table 5). Utilizing the differences from the central score, as a group, the student teachers have preference scores of I 0.93, S 38.00, T 22.53, and J 19.40.

Objective Three

Objective three sought to describe the most frequent MBTI[®] four letter combination among the cooperating teachers and student teachers. The findings were summarized in Table 6. Student teachers' highest frequency combination was ESFJ ($n = 6$; 21.43%), followed by ESTP ($n = 5$; 17.86%), ISTJ ($n = 5$; 17.86%), and ESTJ ($n = 4$; 14.29%). No student teacher had the combinations of ISTP, ISFP, ENTJ, INFJ, or INFP. Cooperating teachers' highest frequency combination was ISTJ ($n = 9$; 30.00%), followed by ESTJ ($n = 7$; 23.33%), ESTP ($n = 3$; 10.00%), and ESFP ($n = 3$; 10.00%). No cooperating teacher held the combinations of ISFP, INTJ, ENTP, INFJ, ENFJ, INFP, or ENFP.

Table 6

MBTI Four-letter Combination Frequencies for Student and Cooperating Teachers

MBTI Combination	Student Teachers (<i>n</i> = 28)		Cooperating Teachers (<i>n</i> = 30)	
	Frequency	Percent	Frequency	Percent
ISTJ	5	17.86	9	30.00
ESTJ	4	14.29	7	23.33
ISTP	0	0.00	2	6.66
ESTP	5	17.86	3	10.00
ISFJ	1	3.57	2	6.66
ESFJ	6	21.43	2	6.66
ISFP	0	0.00	0	0.00
ESFP	1	3.57	3	10.00
INTJ	1	3.57	0	0.00
ENTJ	0	0.00	1	3.33
INTP	1	3.57	1	3.33
ENTP	1	3.57	0	0.00
INFJ	0	0.00	0	0.00
ENFJ	1	3.57	0	0.00
INFP	0	0.00	0	0.00
ENFP	2	7.14	0	0.00
Total	28	100.00	30	100.00

Note. Mode_{StudentTeacher} = ESFJ; Mode_{CoopTeacher} = ISTJ

Objective Four

Determine the extent of psychosocial support cooperating teachers provided student teachers, as reported by both the student teachers and cooperating teachers was the fourth objective. Three of the 15 items related to a specific psychosocial function, yielding 5 different psychosocial function scores. These findings are summarized in Table 7. Mean scores, frequencies and percents for each item are in Appendix T. Student teachers rated cooperating teachers' ability to provide these psychosocial functions. Ratings were based on a 7-point, anchored scale.

Table 7

Psychosocial Assistance Cooperating Teachers Provided to Student Teachers

Function	Student Teachers (<i>n</i> = 31)		Cooperating Teachers (<i>n</i> = 29)	
	Mean	Standard Deviation	Mean	Standard Deviation
Acceptance	6.02	1.41	6.13	.92
Counseling	5.78	1.41	6.07	.46
Friendship	5.69	1.72	6.03	.61
Role Model	5.43	1.64	5.66	.77
Social	4.25	2.30	3.63	1.78

Note. 1 = not at all, 3 = some extent, 5 = large extent, and 7 = very large extent

For the Acceptance function, the mean was 6.02 (*SD* = 1.41), which is within the real limits of having been provided to a 'very large extent.' For the Counseling function, the mean was 5.78 (*SD* = 1.41). For the Friendship function, the mean score was 5.69 (*SD* = 1.72). The Role Model Function yielded a mean score of 5.43 (*SD* = 1.64). The

lowest mean score came from the Social function with a mean of 4.25 and a standard deviation of 2.30. The remaining four functions were within the real limits of having been provided to a ‘large extent.’ It should be noted that the standard deviations for all functions are 1.4 and higher, indicating low agreement.

Cooperating teachers rated their own ability to provide these psychosocial functions to their student teachers. Ratings were based on a 7-point, anchored scale. For the Acceptance function, the mean was 6.13 ($SD = .92$). The Counseling function mean was 6.07 ($SD = .46$). The Friendship function yield a mean score of 6.03 ($SD = .61$). The three preceding functions were within the real limits of having been provided to a ‘very large extent.’ The Role Model function yielded a mean score of 5.66 ($SD = .77$), which was within the real limits of having been provided to a ‘large extent.’ The lowest mean for the cooperating teachers, as with the student teachers, came from the Social function with a mean of 3.63 ($SD = 1.78$), which was within the real limits of having been provided to ‘some extent.’

Objectives Five and Six

Objective five sought to determine the extent student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both the student teachers and cooperating teachers. Using a 5-point scale, objective six sought to determine the level of assistance cooperating teachers provided student teachers in roles and responsibilities of an agricultural education teacher, as reported by both the student teachers and cooperating teachers. Table 8 contains the summarized and summated values. Appendix U contains the frequencies

and means by item for the extent needed, while Appendix V contains them for extent provided.

Table 8

Extent Student Teachers Needed and Provided Assistance from Cooperating Teachers Regarding Roles and Responsibilities

Assistance	Student Teachers (<i>n</i> = 31)		Cooperating Teachers (<i>n</i> = 29)	
	Mean	Standard Deviation	Mean	Standard Deviation
Extent Needed	2.26	.60	2.30	.57
Extent Provided	2.54	.92	2.82	.78

Note. 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = considerable

Utilizing the real limits generated from responses of the 5-point scale, the extent student teachers needed their cooperating teacher on roles and responsibilities relating to an agriculture teacher was ‘rarely’ ($M = 2.26$; $SD = .60$). The mean score for the extent student teachers were provided assistance from their cooperating concerning the roles and responsibilities relating to an agriculture teacher was 2.54 ($SD = .92$), placing it in the real limits of ‘sometimes’ provided (Table 8).

For cooperating teachers, the extent they perceived their student teachers needing them (the cooperating teacher) on roles and responsibilities relating to an agriculture teacher was ‘rarely’ ($M = 2.30$; $SD = .57$). The mean score for the extent they provided assistance from their student teacher concerning the roles and responsibilities relating to an agriculture teacher was 2.82 ($SD = .78$), placing it in the real limits of ‘sometimes’ provided (Table 8).

Objective Seven

Identify the perceived benefits of serving as a cooperating teacher, as reported by the cooperating teacher was the seventh objective. Because this was an open-ended item, Table 8 displays the findings in the form of themes and frequencies of those themes. Each separate entry idea was considered; therefore, one respondent could have multiple entries in one or more theme. The most frequent benefit themes were ‘obtaining new ideas’ ($n = 13$; 30.95%) and ‘giving back or preparing the future of my profession’ ($n = 11$; 26.19%). There was only one (2.38%) entry provided for the themes ‘benefited my school in some way’ and ‘social interaction’ (Table 9).

Table 9

Cooperating Teachers’ Perceived Benefits of Serving as a Cooperating Teacher ($n = 28$)

Theme	Frequency	Percent
Obtaining new ideas (in teaching or content)	13	30.95
Giving back or preparing the future of my profession	11	26.19
Personal motivation	8	19.05
Good experience/exposure for my students	3	7.14
Good help for me	3	7.14
Assists in my own reflection	2	4.76
Social interaction	1	2.38
Benefited my school in some way	1	2.38
Total	42	100.00

Objective Eight

Identify the perceived benefits of having a cooperating teacher, as reported by the student teacher was the eighth objective. Because this was an open-ended item, Table 10 displays the findings in the form of themes and frequencies of those themes. Each separate entry idea was considered; therefore, one respondent could have multiple entries in one or more theme. The most frequent benefit theme was ‘someone to get advice or expertise or information’ with 28 entries (49.12%), and there was only one (1.75%) entry provided for the themes ‘someone to provide motivation,’ ‘someone to make the experience “real,”’ and ‘someone else who knows the students.’

Table 10

Student Teachers' Perceived Benefits of Having a Cooperating Teacher (n = 28)

Theme	Frequency	Percent
Someone to get advice/expertise/information	28	49.12
Someone to get feedback from	6	10.53
Someone to provide (physical) resources/materials	4	7.02
Someone to talk to/provide support	4	7.02
Having a role model/mentor	4	7.02
Someone to provide independence to learn	3	5.26
Someone to supervise/provide general support	3	5.26
Someone to introduce me to the profession	2	3.51
Someone to provide motivation	1	1.75
Someone to make the experience "real"	1	1.75
Someone else who knows the students	1	1.75
Total	57	100.00

Objective Nine

Objective nine sought to identify the perceived barriers of having a successful student teacher-cooperating teacher relationship, as reported by both the student teachers and cooperating teachers. Because this was an open-ended item, the tables display the findings in the form of themes and frequencies of those themes. Each separate entry idea was considered; therefore, one respondent could have multiple entries in one or more

theme. Table 11 displays perceived barriers identified by student teachers and Table 12 was designated for perceived barriers identified by the cooperating teachers.

Table 11

Student Teachers' Perceived Barriers to a Successful Relationship with their Cooperating Teacher (n = 28)

Theme	Frequency	Percent
Differences in personality type or teaching style	7	25.00
Communication issues	4	14.29
Transition with the students from the cooperating teacher to me	3	10.71
Control issues with the cooperating teacher	2	7.14
Feeling that the cooperating teacher is incompetent	2	7.14
Time issues	2	7.14
Lack of feedback	2	7.14
Cooperating teacher was too busy	1	3.57
Situational issues (with the cooperating site)	1	3.57
Lack of my own space	1	3.57
Timing (time of year) of the student teaching experience	1	3.57
The cooperating teacher was "too old"	1	3.57
Lack of student teacher training	1	3.57
Total	28	100.00

Table 12

Cooperating Teachers' Perceived Barriers to a Successful Relationship with their Student Teacher (n = 28)

Theme	Frequency	Percent
Differences in personality type or teaching style	6	25.00
Time issues	4	16.67
Communication issues	3	12.50
University-related issues	3	12.50
Situational issues (with the cooperating site)	3	12.50
Competence of the student teacher	3	12.50
Too much paperwork	1	4.17
Giving up my own students	1	4.17
Total	24	100.00

The most frequent barriers perceived by student teachers were ‘differences in personality type or teaching style’ ($n = 7$; 25.00%), ‘communication issues,’ ($n = 4$; 14.29%) and ‘transition with the students from the cooperating teacher to me’ ($n = 3$; 10.71%). Those themes with only one (3.57%) entry included: ‘cooperating teacher was too busy,’ ‘situational issues (with the cooperating site),’ ‘lack of my own space,’ ‘timing (time of year) of the student teaching experience,’ ‘the cooperating teacher was “too old”,’ and ‘lack of student teacher training.’ (Table 11). The most frequent barriers perceived by cooperating teachers was ‘differences in personality type or teaching style’

($n = 6$; 25.00%) and ‘time issues’ ($n = 4$; 16.67%). Those themes with only one (4.17%) entry included: ‘too much paperwork,’ and ‘giving up my own students.’ (Table 12).

Objective Ten

Objective ten sought to determine if personality type can predict the degree of psychosocial assistance provided by the cooperating teacher, as reported by both the cooperating teacher and student teacher. The variables, personality type and psychosocial function, were interval in nature. Therefore, the Pearson’s Product Moment correlation was used to calculate the correlation coefficient. Davis’ (1971) conventions were used to describe the relationship in magnitude. Table 13 summarizes the correlations between the student teachers’ MBTI opposite scores and psychosocial functions, whereas Table 14 does the same for cooperating teachers.

Table 13

Pearson Product Moment Correlations between MBTI Opposites and Psychosocial

Functions of Student Teachers ($n = 28$)

Psychosocial Function	E-I	S-N	T-F	J-P
Acceptance	-.18	.01	.18	.01
Counseling	-.11	.02	.30	.08
Friendship	-.01	-.07	.20	-.01
Role Model	-.01	-.14	.14	-.20
Social	-.21	.18	.27	.05

Table 14

*Pearson Product Moment Correlations between MBTI Opposites and Psychosocial**Functions of Cooperating Teacher (n = 28)*

Psychosocial Function	E-I	S-N	T-F	J-P
Acceptance	-.30	.31	.14	.36
Counseling	-.39	.10	-.20	-.09
Friendship	-.30	.03	.05	-.10
Role Model	-.30	.38	.05	.01
Social	-.38	.06	.06	.16

For student teachers, the largest correlation was between the Counseling function and T-F opposites, with the correlation being positive and moderate ($r = .30$). So, the more F the student teacher was, the more likely they perceived their cooperating teacher to provide the Counseling function. Related, all correlations between the T-F opposite and the psychosocial functions were positive and had coefficients of .14 to .30. In addition, the only correlation coefficient between the Friendship function and the MBTI opposites that was not negligible was the T-F opposite ($r = .30$). All other relationships were either low or negligible, without regard to direction (Table 13).

For the cooperating teachers, there were eight relationships that were moderate in magnitude. Those that were negative and moderate relationships were between the E-I opposite and the functions Acceptance ($r = -.30$), Counseling ($r = -.39$), Friendship ($r = -.30$), Role Model ($r = -.30$) and Social ($r = -.38$). Thus, the more the cooperating teacher was extraverted, the more likely they perceived they provided the psychosocial functions.

The relationships between the S-N opposite and the Acceptance function ($r = .31$), the S-N function and the Role Model function ($r = .38$), and the J-P opposite and the Acceptance function ($r = .36$) were positive and moderate. For the S-N opposite, the more intuitive the cooperating teacher, the more likely that cooperating teacher perceived they provided the Acceptance and Role Model function. For the J-P model, the more perceiving the cooperating teacher, the more likely that cooperating teacher perceived they provided the Acceptance function. All other relationships were low or negligible in magnitude, irregardless of direction (Table 14).

Objectives Eleven and Twelve

Determine if the personality type of the student teachers can predict the extent those student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both the student teachers and cooperating teachers was objective 11. Objective 12 was to determine if the personality type of the cooperating teachers can predict the level of assistance cooperating teachers provided those student teachers in roles and responsibilities of an agricultural education teacher, as reported by both the student teachers and cooperating teachers. Both objectives involved interval-level data. Therefore, the Pearson's Product Moment correlation was used to calculate the correlation coefficient. Table 15 summarizes the correlations between student teachers' MBTI opposite scores and the extent student teachers perceived they needed and were provided assistance with roles and responsibilities of an agriculture teacher. Data pertaining to cooperating teachers is shown in Table 16.

Table 15

Pearson Product Moment Correlations between Student Teachers' Personality Type and Extent Student Teachers Needed and Cooperating Teachers Provided Assistance in Roles and Responsibilities (n = 28)

Assistance	E-I	S-N	T-F	J-P
Extent Needed	-.02	.32	-.09	.20
Extent Provided	-.08	-.03	.16	-.16

Table 16

Pearson Product Moment Correlations between Cooperating Teachers' Personality Type and Extent Student Teachers Needed and Cooperating Teachers Provided Assistance in Roles and Responsibilities (n =30)

Assistance	E-I	S-N	T-F	J-P
Extent Needed	.01	-.23	.23	-.13
Extent Provided	-.25	-.23	-.09	.17

For student teachers, the only relationship that did not yield a low or negligible relationship was between the extent needed and the S-N opposite ($r = .32$), which was moderate and positive correlation. Thus, the more intuitive the student teachers were, the higher extent they perceived they needed assistance in the roles and responsibilities of an agriculture teacher. For the cooperating teachers, all relationships between extent needed or provided and the MBTI opposites yielded either a low or negligible relationship, regardless of direction.

Objective Thirteen

Objective 13 was to determine if patterns exist between the personality type (of the cooperating teacher and student teacher, separately) and the perceived benefits and barriers of a successful student teacher-cooperating teacher interaction. Benefits and barriers were grouped by the four-letter MBTI combination and also separated by cooperating teacher and student teacher (Tables 17, 18, 19 and 20). In examining the findings, there was no discernable pattern detected amongst all data tables.

Table 17

Benefits of Having a Cooperating Teacher, as Reported by Student Teachers, Sorted by MBTI Personality Type

MBTI Type	Response and Frequency
ISTJ ($n = 5$)	Someone to get advice/expertise/information ($n = 5$)
	Someone to get feedback from ($n = 1$)
	Someone to talk to/provide support ($n = 1$)
ISFJ ($n = 1$)	Someone to get advice/expertise/information ($n = 1$)
	Someone to supervise/provide general support ($n = 1$)
INTJ ($n = 1$)	Someone else who knows the students ($n = 1$)
INTP ($n = 1$)	Someone to provide motivation ($n = 1$)
ESTP ($n = 5$)	Someone to get advice/expertise/information ($n = 4$)
	Someone to provide (physical) resources/materials ($n = 3$)
	Someone to provide independence to learn ($n = 2$)
	Someone to supervise/provide general support ($n = 1$)
ESFP ($n = 1$)	none

continued

Table 16 continued

MBTI Type	Response and Frequency
ENFP ($n = 2$)	Someone to get feedback from ($n = 2$)
	Having a role model/mentor ($n = 1$)
	Someone to make the experience “real” ($n = 1$)
	Someone to get advice/expertise/information ($n = 1$)
ENTP ($n = 1$)	Someone to get advice/expertise/information ($n = 2$)
	Someone to talk to/provide support ($n = 1$)
	Someone to get feedback from ($n = 1$)
ESTJ ($n = 4$)	Someone to get advice/expertise/information ($n = 8$)
	Having a role model/mentor ($n = 1$)
	Someone to get feedback from ($n = 1$)
	Someone to provide (physical) resources/materials ($n = 1$)
	Someone to introduce me to the profession ($n = 1$)
ESFJ ($n = 6$)	Someone to get advice/expertise/information ($n = 8$)
	Someone to supervise/provide general support ($n = 2$)
	Having a role model/mentor ($n = 2$)
	Someone to provide (physical) resources/materials ($n = 2$)
ENFJ ($n = 1$)	Someone to get advice/expertise/information ($n = 1$)
	Someone to get feedback from ($n = 1$)
	Someone to provide (physical) resources/materials ($n = 1$)

Table 18

Benefits of Being a Cooperating Teacher, as Reported by Cooperating Teachers, Sorted by MBTI Personality Type

MBTI Type	Response and Frequency
ISTJ (<i>n</i> = 9)	Giving back or preparing the future of my profession (<i>n</i> = 5)
	Obtaining new ideas (in teaching or content) (<i>n</i> = 4)
	Good experience/exposure for my students (<i>n</i> = 2)
	Assists in my own reflection (<i>n</i> = 1)
	Personal motivation (<i>n</i> = 1)
ISFJ (<i>n</i> = 2)	Obtaining new ideas (in teaching or content) (<i>n</i> = 1)
	Good help for me (<i>n</i> = 1)
	Benefited my school in some way (<i>n</i> = 1)
	Social interaction (<i>n</i> = 1)
ISTP (<i>n</i> = 2)	Obtaining new ideas (in teaching or content) (<i>n</i> = 1)
INTP (<i>n</i> = 1)	Obtaining new ideas (in teaching or content) (<i>n</i> = 1)
	Personal motivation (<i>n</i> = 1)
ESTP (<i>n</i> = 3)	Obtaining new ideas (in teaching or content) (<i>n</i> = 2)
	Good experience/exposure for my students (<i>n</i> = 2)
	Personal motivation (<i>n</i> = 1)
	Giving back or preparing the future of my profession (<i>n</i> = 1)
ESFP (<i>n</i> = 3)	Giving back or preparing the future of my profession (<i>n</i> = 2)
	Personal motivation (<i>n</i> = 2)
	Obtaining new ideas (in teaching or content) (<i>n</i> = 2)

continued

MBTI Type	Response and Frequency
ESTJ ($n = 7$)	Giving back or preparing the future of my profession ($n = 2$)
	Good experience/exposure for my students ($n = 2$)
	Obtaining new ideas (in teaching or content) ($n = 2$)
	Personal motivation ($n = 1$)
	Good help for me ($n = 1$)
	Assists in my own reflection ($n = 1$)
ESFJ ($n = 2$)	Giving back or preparing the future of my profession ($n = 1$)
	Personal motivation ($n = 1$)
	Good help for me ($n = 1$)
ENTJ ($n = 1$)	Obtaining new ideas (in teaching or content) ($n = 1$)

Table 19

Barriers of Having a Successful Student Teacher-Cooperating Teacher Relationship, as Reported by Student Teachers, Sorted by MBTI Personality Type

MBTI Type	Response and Frequency
ISTJ ($n = 5$)	Communication issues ($n = 3$)
	Differences in personality type or teaching style ($n = 1$)
	Lack of feedback ($n = 1$)
	Control issues with the cooperating teacher ($n = 1$)
ISFJ ($n = 1$)	none
INTJ ($n = 1$)	none
INTP ($n = 1$)	none

Table 17 continued

MBTI Type	Response and Frequency
ESTP ($n = 5$)	Differences in personality type or teaching style ($n = 2$) Lack of my own space ($n = 1$) Situational issues (with the cooperating site) ($n = 1$) Feeling that the cooperating teacher is incompetent ($n = 1$)
ESFP ($n = 1$)	Communication issues ($n = 1$)
ENFP ($n = 2$)	Differences in personality type or teaching style ($n = 2$) The cooperating teacher was “too old” ($n = 1$)
ENTP ($n = 1$)	none
ESTJ ($n = 4$)	Differences in personality type or teaching style ($n = 2$) Timing (time of year) of the student teaching experience ($n = 1$) Time issues ($n = 1$) Transition with the students from the CT to me ($n = 1$) Communication issues ($n = 1$)
ESFJ ($n = 6$)	Differences in personality type or teaching style ($n = 1$) Time issues ($n = 1$) Cooperating teacher was too busy ($n = 1$) Control issues with the cooperating teacher ($n = 1$) Lack of feedback ($n = 1$)
ENFJ ($n = 1$)	Transition with the students from the CT to me ($n = 1$)

Table 20

Barriers of Having a Successful Student Teacher-Cooperating Teacher Relationship, as Reported by Cooperating Teachers, Sorted by MBTI Personality Type

MBTI Type	Response and Frequency
ISTJ ($n = 9$)	Differences in personality type or teaching style ($n = 3$) Competence of the student teacher ($n = 1$) Situational issues (with the cooperating site) ($n = 1$) Communication issues ($n = 1$) Time issues ($n = 1$)
ISFJ ($n = 2$)	Differences in personality type or teaching style ($n = 1$) Time issues ($n = 1$) University-related issues ($n = 1$)
ISTP ($n = 2$)	Giving up my own students ($n = 1$)
INTP ($n = 1$)	Communication issues ($n = 1$)
ESTP ($n = 3$)	Differences in personality type or teaching style ($n = 1$)
ESFP ($n = 3$)	Situational issues (with the cooperating site) ($n = 1$) Communication issues ($n = 1$)
ESTJ ($n = 7$)	Competence of the student teacher ($n = 2$) Situational issues (with the cooperating site) ($n = 1$) University-related issues ($n = 2$)
ESFJ ($n = 2$)	Time issues ($n = 1$)
ENTJ ($n = 1$)	Time issues ($n = 1$)

Objective Fourteen

Determine the relationship among perceived similarity according to the MRQ, similarity in personality type and perceived overall satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and cooperating teachers was the fourteenth objective. Table 21 outlines the correlation coefficients between the variables. For student teachers, the relationship between Perceived Similarity according to the MRQ and Satisfaction was positive and very high ($r = .86$). So, the more the student teachers perceived they were similar to their cooperating teacher, the more satisfied the student teachers were with the relationship. The relationships between Perceived Similarity according to the MRQ and Personality Type Similarity was low and positive ($r = .16$). The relationship between Personality Type Similarity and Satisfaction ($r = .05$) was negligible and positive. For cooperating teachers, a positive and very high correlation was found between Perceived Similarity according to the MRQ and Satisfaction ($r = .75$). Therefore, more the cooperating teachers perceived they were similar to their student teacher, the more satisfied the cooperating teachers were with the relationship. The relationships between Perceived Similarity according to the MRQ and Personality Type Similarity ($r = .03$), and Personality Type Similarity and Satisfaction ($r = .06$) were both negligible and positive. Scores, frequencies and percents for each item related to Perceived Similarity and Satisfaction are in Appendix W. Appendix X contains mean scores for Perceived Similarity and Satisfaction as categorized by MBTI Similarity scores.

Table 21

Pearson Product Moment Correlations among Student and Cooperating Teachers'

Perceived Similarity (according to the MRQ), Personality Type Similarity, and Perceived Satisfaction

Characteristic	Student Teacher (<i>n</i> = 28)			Cooperating Teacher (<i>n</i> = 29)		
	Similarity	Similarity	Satisfaction	Similarity	Similarity	Satisfaction
	MRQ	MBTI		MRQ	MBTI	
Similarity (MRQ)	1.00	.16	.86	1.00	.03	.75
Similarity (MBTI)		1.00	.05		1.00	.06
Satisfaction			1.00			1.00

Objective Fifteen

Objective 15 was to determine if the similarity in personality type influenced the perceived satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and cooperating teachers. The findings for the student teachers indicated either low or negligible relationship among similarity, satisfaction and the four personality type opposites; some were positive and some negative relationships (Table 22).

Table 22

Pearson Product Moment Correlations between Student Teachers' Perceived Similarity, Perceived Satisfaction, and Personality Type (n = 28)

Construct	E-I	S-N	T-F	J-P
Similarity	.02	-.13	.04	-.20
Satisfaction	.02	-.13	.08	-.09

The findings for the cooperating teachers indicated either low or negligible relationship among similarity, satisfaction and the three of the personality type opposites – E-I, S-N, and T-F; some were positive and some negative relationships (Table 22). However, for the J-P opposites, a positive, moderate relationship was found with similarity ($r = .40$) and satisfaction of the relationship ($r = .42$). The more the cooperating teachers were P, the more they found similarity with their student teachers and the more satisfied they were with the student teacher-cooperating teacher relationship.

Table 23

Pearson Product Moment Correlations between Cooperating Teachers' Perceived Similarity, Perceived Satisfaction, and Personality Type (n = 28)

Construct	E-I	S-N	T-F	J-P
Similarity	-.23	.13	.12	.40
Satisfaction	-.25	.08	.06	.42

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Purpose of the Study

The purpose of the study was to determine if personality type, as measured by the Myers-Briggs Type Indicator (MBTI[®]), could predict aspects (psychosocial support, agricultural education teacher roles, similarities and overall relationship satisfaction, and perceived benefits and barriers to a successful student teacher-cooperating teacher relationship) of interaction between cooperating teachers of agricultural education in two Midwestern states (University of Missouri-Columbia and University of Illinois at Urbana-Champaign) and their student teachers.

Research Objectives

1. Describe demographic characteristics of cooperating teachers (age, gender, and years of teaching experience) and student teachers (gender, cooperating site type – high school or career center, number of instructors at cooperating site, and number of students at cooperating site).
2. Describe the most frequent MBTI[®] opposites among the cooperating teachers and the student teachers.
3. Describe the most frequent MBTI[®] four letter combination among the cooperating teachers and student teachers.

4. Determine the extent of psychosocial support cooperating teachers provided student teachers, as reported by both student teachers and cooperating teachers.
5. Determine the extent student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
6. Determine the level of assistance cooperating teachers provided student teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
7. Identify the perceived benefits of serving as a cooperating teacher, as reported by the cooperating teacher.
8. Identify the perceived benefits of having a cooperating teacher, as reported by the student teacher.
9. Identify the perceived barriers of having a successful student teacher-cooperating teacher relationship, as reported by both student teachers and cooperating teachers.
10. Determine if personality type influences the degree of psychosocial assistance provided by the cooperating teacher, as reported by both the cooperating teacher and student teacher
11. Determine if the personality type of the student teachers influences the extent those student teachers needed assistance from cooperating teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.

12. Determine if the personality type of the cooperating teachers influences the level of assistance cooperating teachers provided those student teachers in roles and responsibilities of an agricultural education teacher, as reported by both student teachers and cooperating teachers.
13. Determine if patterns exist between the personality type (of the cooperating teacher and student teacher, separately) and the perceived benefits and barriers of a successful student teacher-cooperating teacher interaction.
14. Determine the relationship among perceived similarity according to the MRQ, similarity in personality type, and perceived overall satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and cooperating teachers.
15. Determine if the similarity in personality type influences the perceived satisfaction of the interaction between the student teacher and cooperating teacher, as reported by both the student teachers and cooperating teachers.

Limitations of the Study

The study used two in-tact groups of student teachers, and their cooperating teachers. Therefore, the sample is not representative of the entire population and non-probabilistic. Caution should be exercised when interpreting the results and interpretations should not extend beyond the sample. In addition, although the personality type instrument was hand-delivered, the relationship/interaction instrument was not hand-delivered. Having both sets of instruments hand-delivered could increase response rate and serve to alleviate questions about the instruments.

Research Design

The research design of this non-experimental, quantitative study was descriptive-correlation in nature. In particular, correlational methods were utilized “to examine the strength and direction of relationship among two or more variables” (Ary, Jacobs, & Razavieh, 2002, p. 25). Determining relationships, assessing consistency, and prediction are all applications of correlational research. Correlational relationship may or may not identify cause-effect relationships (Ary, Jacobs, Razavieh, 2002). There are, however, some, albeit limited, qualitative aspects to this study.

Population and Sample

The target population for this study was agricultural education student teachers and their cooperating teachers from the University of Missouri-Columbia and the University of Illinois at Urbana-Champaign. The sample was a time and place sample of the population for the 2003-2004 academic year, thus yielding 16 pairs of teachers from the University of Missouri and 12 pairs from the University of Illinois. More specifically, the sample was a convenient sample. The frame of the student teacher-cooperating teacher pairs from the University of Missouri-Columbia were obtained from the faculty in charge of student teacher in the Department of Agricultural Education. Similarly, the frame of the student teacher-cooperating teacher pairs from University of Illinois at Urbana-Champaign were from the faculty in charge of student teacher in the Department of Human and Community Development.

Instrumentation

Two instruments were utilized to collect data. The Myers-Briggs Type Indicator (MBTI[®]) was utilized to assess personality type. The Mentor Relationship Questionnaire, (Grieman, 2003), was used to assess the aspects of the student teacher-cooperating teacher interaction. There were two forms of this instrument: one instrument for the student teacher and one instrument for the cooperating teacher.

MBTI[®]

Form G of the MBTI[®] was administered to the subjects of the study. Form G consisted of 126 response items. Part I consisted of 26 questions relating to preference. Questions typically utilized phrases such as “would you rather” or “which do you prefer.” Part II consisted of 45 pairs of words in which subjects were asked to select the word for each pair that appealed to them the most. Part III consisted of 55 questions that were similar in nature to Part I. Across all three parts, different items were used to provide scores for the different MBTI[®] opposites; some questions were not scored because they are used as test questions for further versions of the MBTI[®] (Myers & McCaulley, 1985).

The responses from Parts I, II and III were captured on a “bubble sheet” that was then scored by the researcher using a set of stencils. Each stencil was split so the administrator could count up the items related to one of the sides of the opposites at a time. For statistical purposes, each preference score was transformed into a standard score so that one single score indicates the end of the opposite each subject preferred. Therefore, there were four scores for each subject: one indicating E-I, one for S-N, one for T-F, and one for J-P. Therefore, by looking at the single score, one can identify

which end of the opposite was preferred and in addition, the preference score (Myers & McCaulley, 1985).

Mentoring Relationship Questionnaires

Grieman (2003) developed two versions of the Mentoring Relationship Questionnaires (MRQ) based upon a review of literature. The two versions were the mentor teacher version and beginning teacher version. The elements measured perceptions of both mentor teachers and beginning teachers on psychosocial functions provided by the mentor teacher to the beginning teacher, the extent the beginning teacher needed assistance in beginning teacher roles/responsibilities, the extent the beginning teacher received assistance from the cooperating teacher in the beginning teacher roles/responsibilities, perceived similarity as a pair, perceived satisfaction in participating in the mentoring process, benefits of playing a role in mentoring, barriers to having a successful mentoring relationship, and a section on demographics. All parts of both questionnaires corresponded with each other. Semantic modifications were made to the original MRQ to reflect the student teacher as the beginning teacher and the cooperating teacher as the mentor teacher. Specifics of these modifications are identified in the proceeding questionnaire part descriptions.

For Part A of the questionnaires, 15 items were constructed to assess the psychosocial functions that the cooperating teacher was providing the student teacher. The student teacher version (Appendix F) asked to what extent the cooperating teacher provided and the cooperating teacher version (Appendix G) asked to what extent the cooperating teacher provided the psychosocial functions. The psychosocial functions were role modeling, counseling, acceptance and confirmation, friendship, and social. A 7-

point, Likert-type scale was utilized, with a scale of: 1 = not at all, 3 = some extent, 5 = large extent, and 7 = very large extent.

Part B of the questionnaires consisted of 28 roles and responsibilities of agriculture teachers. For each role/responsibility, the student teacher version asked “to what extent did you *need assistance* during your student teaching?” and “to what extent were you *provided assistance* by your cooperating teacher?,” whereas, for each role/responsibility, the cooperating teacher version asked “to what extent did the student teacher *need assistance* during their student teaching?” and “to what extent did you *provide assistance* to the student teacher?” Respondents used the same 5-point Likert-type scale in answering both questions. The scale was: 1 = never, 2 = rarely, 3 = sometimes, 4 = often and 5 = considerable.

There were ten items in Part C of the MRQ that assessed similarities and overall satisfaction of the student teacher-cooperating teacher interaction. Questions one through five related to perceived similarity of the student teacher-cooperating teacher pair. Questions six through ten assessed the perceived satisfaction of the overall interaction. For both versions, both the student teachers and cooperating teachers rated these areas from their respective perceptions. Responses were based upon a 7-point, Likert-type scale where: 1 = strongly disagree, 3 = disagree, 5 = agree, and 7 = strongly agree.

Part D of the MRQ for the student teacher version consisted of four questions, two of which were open-ended. The first open-ended question asked what benefits came from having a cooperating teacher. The second question asked to identify barriers in having a more successful experience with their cooperating teacher. The third question, which was close-ended, asked who provided the most beneficial assistance. The fourth

question simply asked whether or not they were planning on teaching agriculture the next year.

For the cooperating teacher version of the MRQ, Part D consisted of three open-ended questions. The first question asked if an attempt was made to match them with their student teacher. If the cooperating teacher responded ‘yes,’ then they were asked to identify criteria in which they perceived they were matched. The second question asked to identify benefits of being a cooperating teacher. The third question asked to identify barriers in having a more successful student teacher-cooperating teacher experience.

Part E consisted of demographic information. In the cooperating teacher version, cooperating teachers were asked their age, gender, years taught, subject(s) taught, and certification area(s). In the student teacher version, student teachers were asked about their cooperating site, such as whether they taught in a high school or AVTS/career center, number of instructors and number of students. The student teachers were also asked to identify their age and gender.

Validity and Reliability

MBTI[®]. The validity for the *MBTI*[®] was based on the instrument’s “ability to demonstrate relationships and outcomes predicted” by Jung’s theory (p. 175). Several versions have been created with large-scale data collection. In Form G, the most predictive items were placed first so that an approximation of type could be calculated based upon the first 50 items. Because of its extensive use, a certain degree of assumed validity exists with the *MBTI*[®]. However, such an assumption has been based on years of validity testing. Although not addressed in detail, content validity was based upon empirical evidence using items as they separate people with opposing preferences. The

MBTI[®] was also correlated with other measures, such as the California Psychological Inventory (CPI). In addition, the MBTI[®] was correlated with other Jungian-type instruments, such as the Gray-Wheelwright. The results indicated both instruments reflected the same ideas, though both had different reliabilities. In summary, a whole chapter of the MBTI[®] manual was dedicated to explaining the instruments validity (Myers & McCaulley, 1985).

Like validity, the MBTI[®] manual also has a chapter on the reliability of the instrument. Split-half reliability studies on the MBTI[®] have been conducted. Results indicated, that for Form G, reliability coefficients remained stable for up to 25 omissions. In addition, reliability was calculated by gender and age. Reliabilities tended to be lower for respondents in their teens, but stable for ages in the twenties and beyond (Myers & McCaulley, 1985).

Test-retest reliability was conducted. It was noted that the “chance probability of choosing all preferences on a retest... is 6.25%. The actual test-retest probabilities are significantly different from chance” (p. 170). Mood was taken into account, as both a mood instrument and the MBTI were administered to psychology volunteers. The results indicated that the moods had significantly changed, but that did not significantly affect the test-retest of the MBTI (Myers & McCaulley, 1985).

MRQ. Greiman (2003) conducted two types of validation: face and content. A panel of experts ($n = 8$) reviewed the MRQ for face and content validity. The instrument was sent to the panel; they in turn reviewed it and provided feedback. The reviewed instruments were then returned and modifications to the scale anchors were made to the

28 professional roles/responsibilities. Clarity of several questions or items was improved. Those specific questions or items were not identified.

In addition to validity, Grieman (2003) also addressed reliability. A pilot test was conducted for both instruments with second and third year teachers not in the study. As a result of the pilot study, some demographic information was eliminated. In addition, Cronbach's alpha, as a reliability estimate coefficient, was calculated post-hoc on the psychosocial functions, perceived similarity and perceived satisfaction sections. Those alphas ranged from .93 to .99, for the three sections, between both versions, which was well in the parameters established by Nunally (1967).

Data Collection

MBTI[®] Delivery and Collection

By March 2004, the MBTI[®] was delivered by hand to all subjects. Throughout February 2004, a signed, personalized cover letter (Appendix H), MBTI[®] instrument, MBTI[®] directions (Appendix J) and self-addressed, stamped envelope were hand-delivered by the various university supervisors at both universities to cooperating teachers. Cooperating teachers were asked to return the instrument by March 15, 2004. E-mail reminders (Appendix K) were sent to non-respondents immediately following March 15. Given the variety of instrument delivery dates, March 15 was chosen to be approximately 2 weeks after the last cooperating teachers received the MBTI[®] packet. Several personal contacts, via e-mail and in one case, a face-to-face conversation, were made to non-respondents up through July 2004.

For the student teachers of both universities, the instrument was delivered in late January at their student teaching seminar. A signed, personalized cover letter (Appendix

I), MBTI[®] instrument, and MBTI[®] directions (Appendix J) were hand-delivered. Faculty in charge of the student teaching seminar at both universities collected the instruments and hand-delivered (Missouri) or mailed (Illinois) the instruments to the researchers.

The respondents were given the incentive of their MBTI[®] results with the addition of an interpretation guide (Appendix K) for completing the MBTI[®]. Student teachers were informed of their results by faculty members in their subsequent student teaching seminars. Cooperating teacher received an e-mail (Appendix L) with the interpretation guide attached.

MRQ Delivery and Collection

The MRQ was delivered to the student teachers in a student teaching seminar in April. A signed, personalized cover letter (Appendix M) and the MRQ were hand-delivered. The faculty at both universities collected the instruments and hand-delivered (Missouri) or mailed (Illinois) the instruments to the researchers.

In mid-April 2004, a signed, personalized cover letter (Appendix N), MRQ instrument, and a self-addressed, stamped envelope were mailed to cooperating teachers. Mailed envelopes were sent first-class, with stamps, not meter marks. Cooperating teachers were asked to return the instrument by April 30, 2004. On April 22, 2004, following the mailing, an error was found in the instrument. Part B question stems for the right-hand column were incorrect. Therefore, two e-mails were sent – one reporting the error (Appendix O) and the next reporting a new instrument would be mailed (Appendix P). A new, signed cover letter (Appendix Q) with the corrected instrument was sent. Some erroneous instruments were returned. Those respondents were contacted individually to either verify they had used the new stems, or to re-complete just that

section. A signed, personalized cover letter (Appendix R) and new instrument were sent to those who did not respond. Those instruments were to be returned by May 28, 2004. Several personal contacts, via e-mail (Appendix S) and in one case, a face-to-face conversation, were made to non-respondents up through July 2004.

Controlling for Non-response

Using data from mailed questionnaires can introduce problems. This is an issue of non-response. In handling non-response issues, the first strategy Miller and Smith (1983) introduced was to get back as many responses as possible. Because this strategy was used with personalized initial delivery and continuous personal contacts, non-response was not an issue for this study. A 96.6% return rate for the MBTI[®] from cooperating teachers, 100% return rate for the MBTI[®] from student teachers, and a 93.3% for the MRQ from cooperating teachers, and 100% return rate on the MBTI[®] from student teachers was achieved.

Data Analysis

Data were analyzed using SPSS version 12 for Windows platform computers. In determining the appropriate analysis of the data, the primary guidance was scales of measurement. In objective one, for the cooperating teacher version, the characteristics age and years therefore, mean, median, mode, variance, standard deviation, and range will be reported. For gender, subject(s) taught and certification area(s), mode and frequency and percent were reported. In the student teacher version, for the characteristics of number of instructors and number of students, mean, median, mode, variance, standard deviation, and range were reported. Mode and frequency were

reported for the characteristic identifying whether or not the cooperating site was a high school or AVTS/career center, and the characteristic gender.

For objective two, the MBTI[®] data were coded by preference scores; each opposite has its own score based on a central score of 100; therefore, mean, median, mode, variance, standard deviation, and range will be reported. Depending on which opposite is being referenced, if the preference scores are below 100, this will indicate the group is more E, S, T, or J; if the mean of the preference scores are above 100, this will indicate the group is more I, N, F, or P. Objective three was met by reporting mode, frequency, and percent on the possible MBTI[®] combinations.

For objective four a mean score was calculated for each of those five psychosocial areas for each respondent; three of the 15 items relate to a specific psychosocial function, yielding 5 difference psychosocial function scores. Mean, median, mode, variance, standard deviation, and range were reported.

In meeting objective five, scores were summated to one individual score representing the extend student teachers needed assistance from cooperating teachers in roles and responsibilities. Mean, median, mode, variance, standard deviation, and range were reported. In addition, for each individual item, the frequencies in responses were reported. For objective six, the scores were summated to one individual score representing the level of assistance cooperating teachers provided student teachers in roles and responsibilities of an agricultural education teacher. Mean, median, mode, variance, standard deviation, and range were reported. In addition, for each individual item, the frequencies and percentages in responses were reported.

Qualitative methods were used to determine patterns and themes, and quantitative measures were used to report frequency in those patterns and themes for objectives seven, eight and nine in identifying benefits of the being and having a cooperating teacher, and barriers to having a successful relationship or interaction.

Objective ten was correlational. The variables personality type and psychosocial function were used to calculate a Pearson's Product Moment. Similarly, objective 11 was also correlational. The variables personality type and extent those student teachers needed assistance... were used to calculate a Pearson's Product Moment correlation. Additionally, objective 12 was correlational. The variables personality type and level of assistance cooperating teachers provided those student teachers... were used to calculate a Pearson's Product Moment correlation. In interpreting magnitudes of the correlation coefficients, the Davis' (1971) conventions were adopted.

For objective 13, benefits and barriers responses were grouped by the four-letter MBTI combination and also separated by type of teacher (cooperating and student). Patterns were sought by frequency and likeness of response.

In research objective 14, the perceived similarity and perceived overall satisfaction were summated scores from individual items off of the MRQ. The Pearson's Product Moment correlation was used to calculate the correlation coefficient. Additionally, for objective 15, the Pearson's Product Moment correlation was used to calculate the correlation coefficient for satisfaction and similarities on personality type.

Summary of Findings

Objective One

Eleven (39%) of the student teachers were male and 17 (61%) were female, while twenty-one (72%) of the cooperating teachers were male. Eight (28%) were female. Twenty-two (79%) of the student teachers were at a comprehensive high school. Six (21%) were at an AVTS or career center. The mean age of the student teachers was 22 years ($SD = .95$). Student teachers were at secondary agriculture programs that had an average of 178 ($SD = 144.89$) students and an average of 2.5 agriculture instructors ($SD = 2.20$). The mean age of the cooperating teachers was approximately 37 years ($SD = 6.37$), and the cooperating teachers had taught agriculture close to 14 years ($SD = 6.64$).

Objective Two

Student teachers, based upon the central score of 100, were more E, S, T, and J as a group. In particular, for the E-I opposite, the mean score was 85.29 ($SD = 27.96$). For the S-N opposite, the mean score was 73.64 ($SD = 29.34$). For the T-F opposite, the mean score was 90.07 ($SD = 29.29$), and for the J-P opposite, the mean score was 91.79 ($SD = 34.57$). Utilizing the differences from the central score, as a group, the student teachers have preference scores of E 14.71, S 26.36, T 9.93, and J 8.21.

Cooperating teachers, based upon the central score of 100, were more I, S, T, and J as a group. In particular, for the E-I opposite, the mean score was 100.93 ($SD = 24.76$). For the S-N opposite, the mean score was 62.00 ($SD = 21.86$). For the T-F opposite, the mean score was 77.47 ($SD = 28.95$). For the J-P opposite, the mean score was 80.60 ($SD = 24.70$). Utilizing the differences from the central score, as a group, the student teachers have preference scores of I 0.93, S 38.00, T 22.53, and J 19.40.

Objective Three

Student teachers' highest frequency combination was ESFJ ($n = 6$; 21%), followed by ESTP ($n = 5$; 18%), ISTJ ($n = 5$; 18%), and ESTJ ($n = 4$; 14%). No student teacher had the combinations of ISTP, ISFP, ENTJ, INFJ, or INFP. Cooperating teachers' highest frequency combination was ISTJ ($n = 9$; 37%), followed by ESTJ ($n = 7$; 23%), ESTP ($n = 3$; 10%), and ESFP ($n = 3$; 10%). No cooperating teacher held the combinations of ISFP, INTJ, ENTP, INFJ, ENFJ, INFP, or ENFP.

Objective Four

As reported by student teachers, for the Acceptance function, the mean was 6.02 ($SD = 1.41$), which is within the real limits of having been provided to a 'very large extent.' For the Counseling function, the mean was 5.78 ($SD = 1.41$), for the Friendship function, the mean score was 5.69 ($SD = 1.72$), while the Role Model Function yielded a mean score of 5.43 ($SD = 1.64$). The lowest mean score came from the Social function with a mean of 4.25 and a standard deviation of 2.30. The remaining four functions were within the real limits of having been provided to a 'large extent.'

As reported by cooperating teachers, for the Acceptance function, the mean was 6.13 ($SD = .92$). The Counseling function mean was 6.07 ($SD = .46$), while the Friendship function yield a mean score of 6.03 ($SD = .61$). Those three preceding functions were within the real limits of having been provided to a 'very large extent.' The Role Model Function yielded a mean score of 5.66 ($SD = .77$), which was within the real limits of having been provided to a 'large extent.' The lowest mean for the cooperating teachers, as with the student teachers, came from the Social function with a

mean of 3.63 ($SD = 1.78$), which was within the real limits of having been provided to a ‘some extent.’

Objective Five and Six

The extent student teachers needed their cooperating teacher on roles and responsibilities relating to an agriculture teacher was ‘rarely’ ($M = 2.26$; $SD = .60$). The mean score for the extent student teachers were provided assistance from their cooperating concerning the roles and responsibilities relating to an agriculture teacher was 2.54 ($SD = .92$), which places it in the real limits of ‘sometimes’ provided.

For cooperating teachers, the extent they perceived their student teachers needing them (the cooperating teacher) on roles and responsibilities relating to an agriculture teacher was ‘rarely’ ($M = 2.30$; $SD = .57$). The mean score for the extent they provided assistance from their student teacher concerning the roles and responsibilities relating to an agriculture teacher was 2.82 ($SD = .78$), which places it in the real limits of ‘sometimes’ provided.

Objective Seven

The most frequent themes on benefits of serving as a cooperating teaching was ‘obtaining new ideas’ ($n = 13$; 31%) and ‘giving back or preparing the future of my profession’ ($n = 11$; 26%). There was only one (2%) entry provided for the themes ‘benefited my school in some way’ and ‘social interaction’

Objective Eight

The most frequent theme on the benefits of having a cooperating teacher was ‘someone to get advice or expertise or information’ with 28 entries (49.12%), and there

was only one (1.75%) entry provided for the themes ‘someone to provide motivation,’ ‘someone to make the experience “real,”’ and ‘someone else who knows the students.’

Objective Nine

The most frequent barriers of having a successful interaction or relationship, as perceived by student teachers, were ‘differences in personality type or teaching style’ ($n = 7$; 25%), ‘communication issues,’ ($n = 4$; 14%) and ‘transition with the students from the cooperating teacher to me’ ($n = 3$; 11%). Those themes with only one (4%) entry included: ‘cooperating teacher was too busy,’ ‘situational issues (with the cooperating site),’ ‘lack of my own space,’ ‘timing (time of year) of the student teaching experience,’ ‘the cooperating teacher was “too old”,’ and ‘lack of student teacher training.’ The most frequent barriers perceived by cooperating teachers was ‘differences in personality type or teaching style’ ($n = 6$; 25%) and ‘time issues’ ($n = 4$; 17%). Those themes with only one (4%) entry included: ‘too much paperwork,’ and ‘giving up my own students.’

Objective Ten

For the student teachers, the largest correlation was between the Counseling function and T-F opposites, with the correlation being positive and moderate ($r = .30$). Related, all correlations between the T-F opposite and the psychosocial functions were positive and had coefficients of .14 to .30. In addition, the only correlation coefficient between the Friendship function and the MBTI opposites that was not negligible was the T-F opposite ($r = .30$). All other relationships were either low or negligible, without regard to direction (Table 12).

For the cooperating teachers, there were eight relationships that were moderate in magnitude. Those that were negative and moderate relationships were between the E-I

opposite and the functions Acceptance ($r = -.30$), Counseling ($r = -.39$), Friendship ($r = -.30$), Role Model ($r = -.30$) and Social ($r = -.38$). The relationships between the S-N opposite and the Acceptance function ($r = .31$), the S-N function and the Role Model function ($r = .38$), and the J-P opposite and the Acceptance function ($r = .36$) were positive and moderate. All other relationships were low or negligible in magnitude, irregardless of direction.

Objective Eleven and Twelve

For student teachers, the only relationship that did not yield a low or negligible relationship was between the extent needed and the S-N opposite ($r = .32$), which was moderate and positive correlation. For the cooperating teachers, all relationships between extent needed or provided and the MBTI opposites yielded either a low or negligible relationship, regardless of direction.

Objective Thirteen

Benefits and barriers were grouped by the four-letter MBTI combination and also separated by cooperating teacher and student teacher. Due to the complexity of the data, no summary is provided.

Objective Fourteen

For student teachers, the relationship between perceived similarity (MRQ) and satisfaction was positive and very high ($r = .86$); the same was found with the cooperating teachers ($r = .75$). When looking at the relationship between personality similarity with perceived similarity and with satisfaction, the relationships were between .03 and .16 for both student teachers and cooperating teachers.

Objective Fifteen

The findings for the cooperating teachers indicated either low or negligible relationship among similarity, satisfaction and the three of the personality type opposites – E-I, S-N, and T-F; some were positive and some negative relationships (Table 22). However, for the J-P opposites, a positive, moderate relationship was found with similarity ($r = .40$) and satisfaction of the relationship ($r = .42$). The more the cooperating teachers were P, the more they found similarity with their student teachers and the more satisfied they were with the student teacher-cooperating teacher relationship.

Conclusions, Discussion, and Implications

Based upon the findings of the study, the following conclusions, discussion and implications are made. The gender of the student teachers is more female (61%) than male (39%), whereas the cooperating teachers are more male (72%) than female (28%). In addition, most student teachers are placed in a comprehensive high school (79%) versus a career center (21%). The cooperating sites have a wide range in terms of number of students in the program; the range is 41 to 600 students. Student teachers are, on average, 22 years of age, while cooperating teachers are, on average, 36 years of age.

It is concluded that both student teachers and cooperating teachers are more S, T, and J, which is consistent with the findings of Kitchel and Cano (2001) with agricultural education majors and minors at The Ohio State University. The highest strength score for both student teachers and cooperating teachers is the sensing opposite of the S-N scale. This conclusion is also consistent with previous studies (Watson & Hillison, 1991; Cano, et al., 1992; Cano & Garton, 1994; Kitchel & Cano, 2001). Echoing Kitchel and

Cano (2001), this draw to the sensing end of the S-N scale by individuals in agricultural education could be due to the agriculture component.

The preceding conclusion is consistent when looking at frequencies of the possible MBTI[®] combinations. Student teachers' highest frequency is the combination ESFJ (21%) followed by ESTP (18%), ISTJ (18%) and ESTJ (14%). This is consistent with previous research (Watson & Hillison, 1991; Cano, et al., 1992; Cano & Garton, 1994; Kitchel & Cano, 2001) in terms of the sensing component; however, the F in ESFJ is not consistent with the findings of Kitchel and Cano (2001). One possibility for the higher frequency in the F opposite could be the link between females and the F opposite where Myers and McCaulley (1985) report that 65% of females prefer the F opposite over T.

For cooperating teachers, the highest frequencies were ISTJ (37%), ESTJ (23%), ESTP (10%), which constitutes around 70% of the group. The highest two types, ISTJ and ESTJ, are consistent with the findings of objective two and with the findings of Kitchel and Cano (2001) who found two most frequent combinations were ESTJ and ISTJ among agricultural education majors and minors at The Ohio State University. It can then be implied, given the preceding sets of conclusions, that the likelihood of a student teacher matching their cooperating teacher in one of the four personality type opposites is quite high.

It is further concluded that cooperating teachers are providing psychosocial assistance to their student teachers, as reported by both student teachers and cooperating teachers. These findings are consistent with Greiman, et al. (2003) who looked at similar relationships and interactions between beginning agriculture teachers and their mentors.

The researchers concluded that beginning teachers were being provided psychosocial assistance.

According to student teachers, the Accepting function is being provided more than the functions Counseling, Friendship, Role Model and Social. There is a difference of 1.18 in mean scores between the fourth highest function, Role Model, and the lowest function, Social, leaving gaps between the top, middle three, and bottom function.

By comparison, cooperating teachers believe they are providing the functions Acceptance, Counseling and Friendship to a very large extent while the function Role Model was being provided to a large extent. Similarly, the Social function is being provided the least. The Social function has a noticeable difference in agreement, with a standard deviation of 1.78, as compared to the other standard deviations of the cooperating teachers, which were all under 1.00.

Cooperating teachers perceive their level of assistance to be higher than the student teachers' perceptions of the cooperating teachers' assistance in four of the five psychosocial functions. The function not consistent with this trend was the social function. This conclusion is consistent with findings by Greiman, et al. (2003).

The conclusions related to psychosocial assistance bring about an implication. Psychosocial assistance should be expected to be given to student teachers from cooperating teachers. As student teachers prepare for their experience with their cooperating teacher, concerns of being supported psychosocial can be minimized. As cooperating teachers prepare for the arrival of their student teacher, those cooperating teachers can prepare for opportunities to provide psychosocial assistance.

Student teachers and cooperating teachers both believe that student teachers rarely need and are sometimes provided assistance related to the roles and responsibilities of an agriculture teacher. Given the importance of student teaching (Berkey, 1981) and cooperating teachers (Deeds, Flowers, & Arrington, 1991; Edwards & Briers, 2001; Garton & Cano, 1996; Harlin, Edwards, & Briers, 2002; Norris, Larke, & Briers, 1990; Schumacher & Johnson, 1990), the findings are somewhat inconsistent with literature espousing the importance of both to the preparation of teachers. In addition, this conclusion asks – what are student teachers learning from their cooperating teachers?

Cooperating teachers and student teachers experience a variety of benefits in serving as and having a cooperating teacher, respectively. In particular, several cooperating teachers believed that “obtaining new ideas” was a major benefit of serving as a cooperating teachers. This implies that serving as a cooperating teacher also serves as a form of professional development. Beyond the personal benefits, cooperating teachers also believe that “giving back or preparing the future of my profession” was also a benefit. This conclusion implies that there is also an altruistic or service-related component to serving as a cooperating teacher.

Almost half of the student teachers believed that a benefit of a having a cooperating teacher was “someone to get advice/expertise/information” from. This conclusion implies that cooperating teachers are an excellent source for new ideas, advice and information while student teaching.

In terms of barriers that are keeping the relationship from being successful, student teachers and cooperating teachers most frequent perception was “differences in personality type or teaching style.” This implies that both student teachers and

cooperating teachers seek similarities in a successful relationship and that differences serve as barriers. Given that the findings indicated that personality type, as defined by the MBTI[®], had little influence on the satisfaction of interaction, this conclusion also implies that personality type is being defined differently or in a broader sense.

Personality type opposites have little influence in determining most of the psychosocial functions. Even though there was a larger degree of variance found in the E-I opposite as compared to the other opposites, E-I was shown to have some to no influence, depending on the group of teachers. Cooperating teachers who were more extraverted (on the E-I scale) perceived that they provided their student teacher more psychosocial assistance for all functions. Even though student teachers had similar finding in terms of the direction of relationship, the strength of relationship was much less or practically non-existent.

Personality type has little influence on the extent student teachers need and are provided assistance in roles and responsibilities of an agriculture teacher. According to student teachers, the S-N opposite had the most influence on the extent student teachers needed assistance ($r = .32$). The more intuitive (on the S-N scale) the student teacher is, the more they perceive they need assistance in roles and responsibilities of an agriculture teacher. Similarly, according to cooperating teachers, the S-N opposite has the most influence on the extent student teachers need ($r = -.23$) and are provided ($r = -.23$) assistance, as perceived by cooperating teachers. The more sensing (on the S-N scale) the cooperating teacher, the more they perceived their student teacher to need and are being provided assistance. Other relationships worth noting are between the E-I opposite and extent provided ($r = -.25$) and the T-F scale and extent needed ($r = .23$).

No discernable pattern can be identified when looking at the barriers and benefits as grouped by personality type. The implication is that student teachers and cooperating teachers who have a variety of personality types experience a variety of benefits and barriers related to their interaction.

Perceived similarity is influential in determining satisfaction of interaction, according to both student teachers ($r = .86$) and cooperating teachers ($r = .75$). This conclusion is consistent with the findings of Greiman, et al. (2003), in that the more the mentor-first year teacher pair is perceived to be similar, according to the MRQ, the more satisfied they are in the relationship. Personality type similarity is not influential in determining perceived similarity and satisfaction of interaction. This conclusion implies that similarity may be too broadly defined by personality type as operationally defined by MBTI[®].

Certain personality types are influential in determining perceived similarity and satisfaction, according to the cooperating teachers. The more extraverted the cooperating teacher is (on the E-I scale), the more similar they perceive themselves to be with their cooperating teacher ($r = -.23$) and the more satisfied they are in the relationship ($r = -.25$). The more perceiving the cooperating teacher is (on the J-P scale), the more similar they perceive themselves to be with their cooperating teacher ($r = .40$) and the more satisfied they are in the relationship ($r = .42$).

Recommendations

It is recommended to integrate instruction in the preparation program of agriculture teachers that teach teachers how to meet the needs of student who are more intuitive. Given the strong preference of sensing by both student teachers and cooperating

teachers, secondary students who are more intuitive may feel disconnected with their sensing teacher and student teacher.

In relation to psychosocial assistance, teacher educators should use Kram's (1985) theory on psychosocial assistance as a framework to aid teachers in assimilating into the role of cooperating teacher. Because agriculture teachers, who serve as both cooperating teachers and mentor teachers (Grieman, et al., 2003) have been found to provide this assistance, student teachers should expect to receive this type of assistance.

The Social function of mentoring should either be expected of the cooperating teacher or dropped as a function for the student teaching experience. If kept, then teacher educators should look into experiences and expectations that strengthen the cooperating teachers' ability to provide the Social function. However, given the unique relationship a student teacher has with a cooperating teacher and the amount of time the pair spends together, the Social function may not be necessary.

If student teachers do not need and cooperating teachers are not providing assistance in the roles and responsibilities of an agriculture teacher, then it should be questioned as to what is being learned. Because of the inconsistencies between this and previous data, which overwhelmingly place high priority on student teaching in teacher development, it can be concluded that there is some type of learning occurring. Therefore, learning activities of the student teaching experience should be documented in detail.

Benefits of being a cooperating teacher should be publicized to the profession in recruiting other, highly qualified cooperating teachers. Agriculture teachers who could

potentially service as a cooperating teacher, but may be hesitant, may find it helpful to know why their colleagues serve in such a capacity.

Because it is implied that agriculture teachers find serving as a cooperating teacher to assistant in professional development, teacher educators and state staff should capitalize on what is being learned while serving as a cooperating teacher during professional meeting and in-service programs. Related, student teachers should be encouraged to try new ideas as cooperating teachers see this as a major benefit of serving as a cooperating teacher.

In addition, because it is implied that cooperating teachers are an excellent source for new ideas, advice and information, student teachers should continue to utilize their cooperating teacher in such a capacity beyond the student teaching experience, as they continue to grow as a teacher. As a result, cooperating teachers should be prepared to share their ideas, because student teachers find this aspect of their interaction the most beneficial. Also, once student teachers begin their first year of teaching, they should develop similar relationships with other teachers who can provide advice, information and new ideas.

It is implied that student teachers and cooperating teachers seek similarities. Given the finding that personality type, as defined by the MBTI[®], has little influence on satisfaction of interaction, teacher educators should entertain a broader definition of personality type and perhaps even teaching style, than is defined by the MBTI[®], such as teaching philosophy, which learning theories the teacher prescribes to, or overall personal values.

Personality type, as defined by the MBTI[®], should not be used in predicting the amount of psychosocial assistance a cooperating teacher will provide a student teacher. Given the findings that personality type, as defined by the MBTI[®], has little influence on psychosocial assistance, teacher educators should entertain a broader definition of personality type and perhaps even teaching style, than is defined by the MBTI[®]. Such definitions could include teaching philosophy, which learning theories the teacher prescribes to, or overall personal values.

The findings lead to conclusions that the more intuitive the student teacher, the more that student teacher perceived they needed assistance in the role and responsibilities of an agriculture teacher. Student teachers who are more intuitive may be more reflective in interpreting their shortcomings as an agriculture teacher, because they have a tendency to look at more possibilities and theorize (Myers, 1993). However, this hypothesis built off of personality type theory would contradict any argument related to the conclusion that the more sensing the cooperating teacher, the more that cooperating teacher perceived that their student teacher needed assistance in roles and responsibilities of an agriculture teacher. Therefore, recommendations will be avoided at this time.

Because the variety of benefits and barriers related to student teacher-cooperating teacher interactions span a variety of personality types, perhaps these benefits and barriers can be linked to something external of the interaction, such as the student teaching program designed by the university. For example, a barrier of not having enough feedback may not be related to the interaction or personality type of the cooperating teacher. It could be that the university has failed to establish expectations in ample feedback.

When striving for higher satisfaction on interaction, teacher educators should broaden their definition of personality type beyond the theory provided by the MBTI[®]. As recommended previously, but in different contexts, perhaps other constructs are more appropriate such as teaching philosophy, which learning theories the teacher prescribes to, or overall personal values.

The overall findings of this study should be shared with other universities who coordinate student teaching experiences in agriculture. Although the findings of this study are not generalizable to any other group, the information could be useful when making decisions about pairing student teachers and cooperating teachers.

Recommendations for Further Research

First and foremost, this study should be replicated with other universities and their student teachers and cooperating teachers. Given the limitations in generalizability, this study can only make conclusions about this particular sample.

In addition, a follow-up of the student teachers, in several years, would be warranted to determine if the interaction of the cooperating teacher was still perceived to be beneficial. At present, the perceptions provided in this study have been prior to the start of their career as an agriculture teacher. Would a few years of teaching without the cooperating teachers' guidance change their perceptions?

Separating the data by institution would allow for comparisons of two different groups. Perhaps there are some institutional differences which should be examined. This study should be conducted when the sample size of each institution reaches the current sample size of this study.

Another limitation of the study related to the benefits and barriers piece relates to the more qualitative portion. Given the limited space of the questions and limited time, a more in depth study using qualitative design would provide more depth to the responses relating to the benefits and barriers. Focus groups or personal interviews with select student teachers and cooperating teachers could provide more insight.

Given the gender discrepancy between student teachers and cooperating teachers, an addition to this study could be the role of gender in interactions between student teachers and cooperating teachers. A framework for investigating such a variable could be the Dunkin and Biddle model (1974; cited in Cruickshank, 1990), however a more crafted discussion on the use of gender as a variable of interest would need to be made.

Now that perceived similarity, according to the MRQ, has been concluded to be influential upon perceived satisfaction of interaction, further studies should focus on what, in particular, makes the pair similar. With personality type similarity and personality type, in general, having little influence, what variables of similarity lead to satisfaction?

However, perceived satisfaction of interaction may be only one piece of the bigger picture. Items for the satisfaction part of the MRQ related directly to the student teacher or cooperating teacher's partner of the student teacher-cooperating teacher pair. The items did not look at the overall satisfaction of the student teaching experience. Therefore, a bigger picture approach could result in different findings.

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APPENDIX A

Cooperating Teacher Selection Criteria for Missouri

2/2004

CRITERIA FOR SELECTING STUDENT TEACHING CENTERS

Student teaching centers and cooperating teachers will be selected by the Joint Staff. The following criteria will be utilized in making the selections.

A. Student teaching center will have:

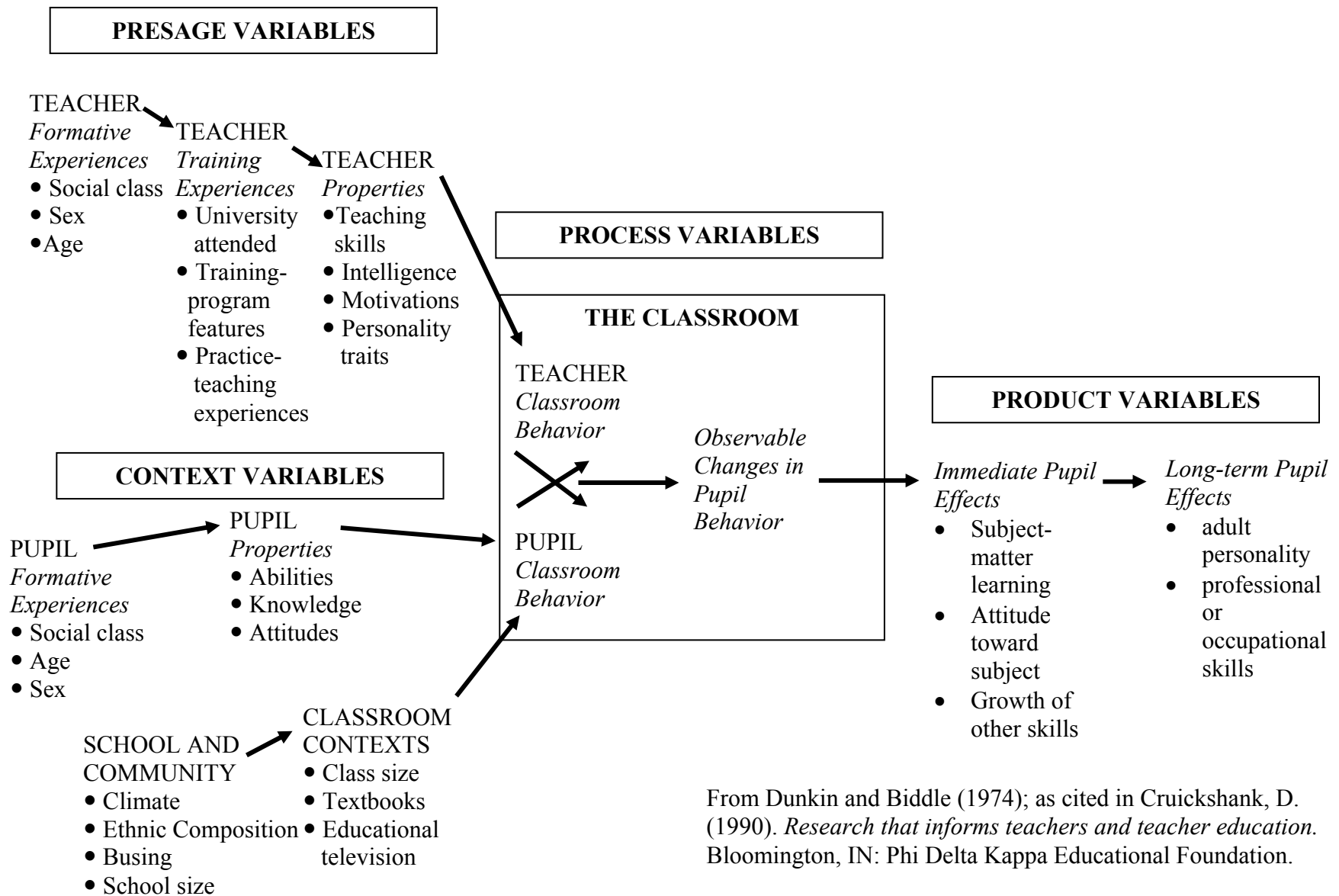
1. Desirable facilities
 - a. Size and equipment adequate for the instructional program.
 - b. High level of housekeeping and safety practiced.
2. An active adult education program in operation. (blue book) The adult criteria might be waived in light of innovative ways of getting this experience.
3. Students in ownership and placement supervised agricultural experience programs.
4. Special need, minority and/or female students enrolled in 2 or more classes.
5. Support of local administration.
6. A full-time instructor of agriculture in a year-round program.
7. An exceptional supervised agricultural experience program and be using the Missouri record book system and provide superior supervision. **(Revised 2/6/04)**
8. Adequate and up-to-date references and instructional materials keyed to the instructional program.
9. An FFA Chapter with a superior rating or above for two of the past three years.
10. A reasonable student enrollment.
11. An active advisory committee.
12. A member in good standing of the MVATA.
13. All ag teachers should have a minimum of 1 year teaching experience at the present school. **(Adopted 5/19/98, Revised 5/01)**

B. Cooperating teacher will:

1. Have taught agricultural education three years with two in the present job. **(Adopted 1/22/99)**
2. Have their masters degree or be actively pursuing that degree.
3. Use a course layout and teaching calendar for all classes.
4. Use a variety of problem solving teaching techniques.
5. Attend the training session for cooperating teachers or have had a student teacher once or more in the past four years. **(Adopted 1/23/98, Revised 2/06/04)**

APPENDIX B

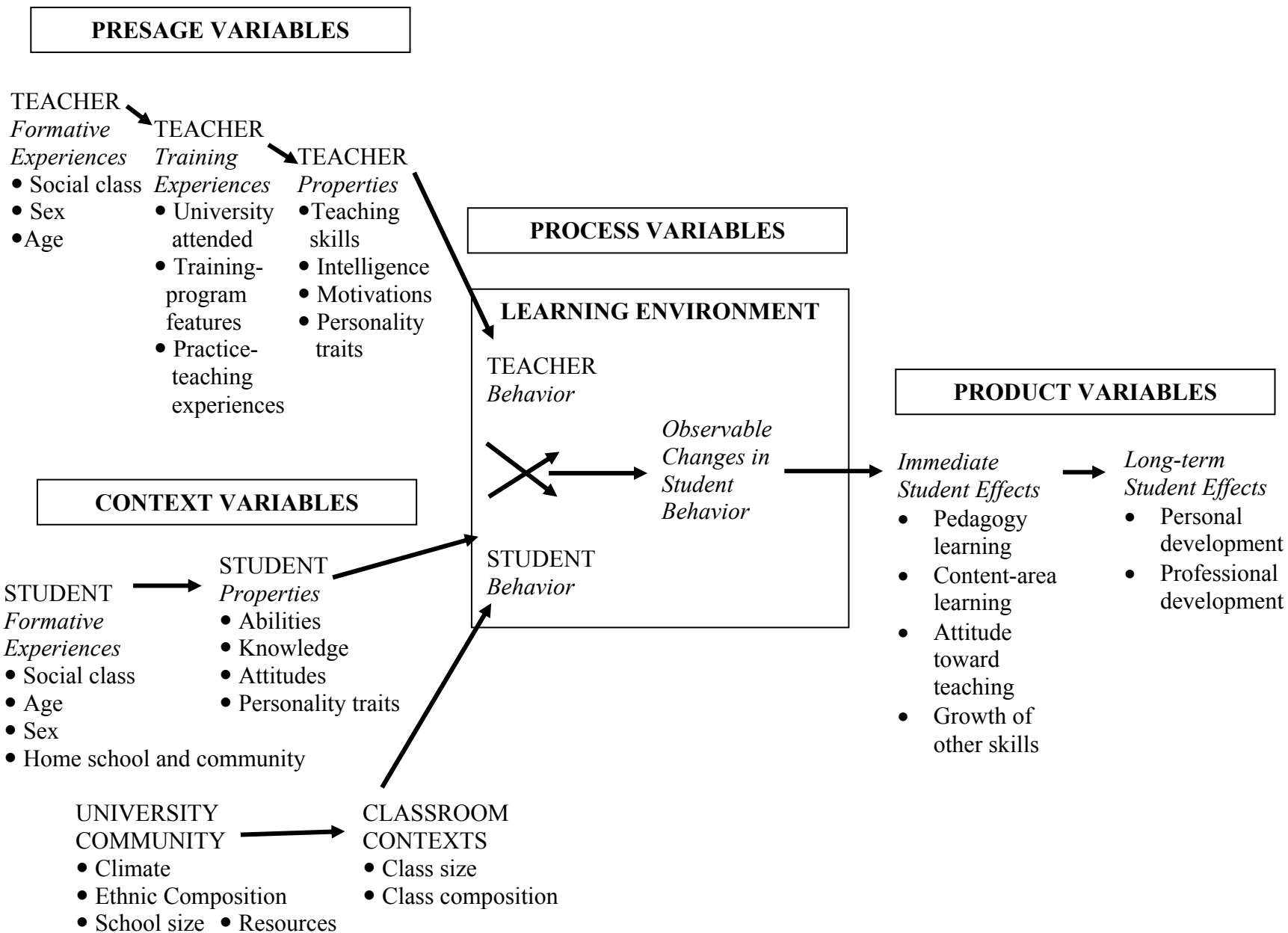
Model for the Study of Classroom Teaching



From Dunkin and Biddle (1974); as cited in Cruickshank, D. (1990). *Research that informs teachers and teacher education*. Bloomington, IN: Phi Delta Kappa Educational Foundation.

APPENDIX C

Adjusted Model for the Study of Classroom Teaching



APPENDIX D

Myers-Briggs Type Indicator: Characteristics of Each Opposite

Characteristics of Each MBTI Opposite

Where Do You Prefer to Focus Your Attention?

Extraversion (E)

- Attuned to external environment
- Prefer to communicate by talking
- Learn best through doing or discussing
- Breadth of interests
- Tend to speak first, reflect later
- Sociable and expressive
- Take initiative in work and relationships

(p. 4)

Introversion (I)

- Drawn to their inner worlds
- Prefer to communicate by writing
- Learn best by reflection, mental “practice”
- Depth of interest
- Tend to reflect before acting or speaking
- Private and contained
- Focus readily

(p. 4)

How Do You Take in Information, Find Out About Things?

Sensing (S)

- Focus on what is real and actual
- Value practical applications
- Factual and concrete, notice detail
- Observe and remember sequentially
- Present-oriented
- Want information step-by-step
- Trust experience

(p. 4)

Intuitive (N)

- Focus on “big picture,” possibilities
- Value imaginative insight
- Abstract and theoretical
- See patterns and meaning in facts
- Future-oriented
- Jump around, leap in anywhere
- Trust inspiration

(p. 4)

How Do You Make Decisions?

Thinking (T)

- Analytical
- Logical problem-solvers
- Use cause-and-effect reasoning
- “Tough-minded”
- Strive for impersonal, objective truth
- Reasonable
- Fair

(p. 5)

Feeling (F)

- Sympathetic
- Assess impact on people
- Guided by personal values
- “Tender-hearted”
- Strive for harmony and individual validation
- Compassionate
- Accepting

(p. 5)

How Do You Orient Toward the Outer World?

Judging (J)

- Scheduled
- Organized
- Systematic
- Methodical
- Plan
- Like closure – to have things decided
- Avoid last-minute stresses

(p. 5)

Perceiving (P)

- Spontaneous
- Open-ended
- Casual
- Flexible
- Adaptive
- Like things loose and open to change
- Feel energized by last-minute pressures

(p. 5)

Myers, I.B. (1993). *Introduction to Type*. Palo Alto, CA: Consulting Psychologists Press, Inc.

APPENDIX E

Myers-Briggs Type Indicator: Characteristics of Each Combination

Characteristics of Each MBTI Combination

ISTJ	ISFJ	INFJ	INTJ
Serious, quiet, earn success by concentration and thoroughness. Practical orderly, matter-of-fact, logical, realistic, and dependable. See to it that everything is well organized. Take responsibility. Make up their own minds as to what should be accomplished and work toward it steadily, regardless of protests or distractions.	Quiet, friendly, responsible, and conscientious. Work devotedly to meet their obligations. Lend stability to any project or group. Thorough, painstaking, accurate. Their interests are usually not technical. Can be patient with necessary details. Loyal, considerate, perceptive, concerned with how other people feel.	Succeeded by perseverance, originality, and desire to do whatever is needed or wanted. Put their best work efforts into their work. Quietly forceful, conscientious, concerned for others. Respected for their firm principles. Likely to be honored and followed for their clear visions as to how best to serve the common good.	Have original minds and great drives for their own ideas and purposes. Have long-range vision and quickly find meaningful patterns in the external events. In fields that appeal to them, they have a fine power to organize a job and carry it through. Skeptical, critical, independent, determined, have high standards of competence and performance.
ISTP	ISFP	INFP	INTP
Cool onlooker – quiet, reserved, observing and analyzing life with detached curiosity and unexpected flashes of original humor. Usually interested in cause and effect, how and why mechanical things work, and in organizing facts using logical principles. Excel at getting to the core of a practical problem and finding the solution.	Retiring, quietly friendly, sensitive, kind, modest about their abilities. Shun disagreements, do not force their opinions or values on others. Usually do not care to lead but are often loyal followers. Often relaxed about getting things done because they enjoy the present moment and do not want to spoil it by undue haste or exertion.	Quiet observers, idealistic, loyal. Important that outer life be congruent with inner values. Curious, quick to see possibilities, often serve as catalysts to implement ideas. Adaptable, flexible, and accepting unless a value is threatened. Want to understand people and ways of fulfilling human potential. Little concern with possessions or surroundings.	Quiet and reserved. Especially enjoy theoretical or scientific pursuits. Like solving problems with logic and analysis. Interested mainly in ideas, with little liking for parties or small talk. Tend to have sharply defined interests. Need careers where some strong interest can be used and useful.
ESTP	ESFP	ENFP	ENTP
Good at on-the-spot problem solving. Like action, enjoy whatever comes along. Tend to like mechanical things and sports, with friends on the side. Adaptable, tolerant, pragmatic; focused on getting results. Dislike long explanations. Are best with real things that can be worked, handled, taken apart, or put together.	Outgoing, accepting, friendly, enjoy everything and make things more fun for others by enjoyment. Like action and making things happen. Know what's going on and join in eagerly. Find remembering facts easier than mastering theories. Are best in situations that need sound common sense and practical ability with people.	Warmly enthusiastic, high-spirited, ingenious, imaginative. Able to do almost anything that interests them. Quick with a solution for any difficulty and ready to help anyone with a problem. Often rely on their ability to improvise instead of preparing in advance. Can usually find compelling reasons for whatever they want.	Quick, ingenious, good at many things. Stimulating company, alert and outspoken. May argue for fun on either side of a question. Resourceful in solving new and challenging problems, but may neglect routine assignments. Apt to turn to one new interest after another. Skillful in finding logical reasons for what they want.
ESTJ	ESFJ	ENFJ	ENTJ
Practical, realistic, matter-of-fact, with a natural head for business or mechanics. Not interested in abstract theories; want learning to have direct and immediate application. Like to organize and run activities. Often make good administrators; and decisive, quickly move to implement decisions; take care of routine details.	Warm-hearted, talkative, popular, conscientious, born cooperators, active committee members. Need harmony and may be good at creating it. Always doing something nice for someone. Work best with encouragement and praise. Main interest is in things that directly and visibly affect people's lives.	Responsive and responsible. Feel real concern for what others think or want, and try to handle things with due regard for other's feelings. Can present a proposal or lead a group discussion with ease and tact. Sociable, popular, sympathetic. Responsive to praise and criticism. Like to facilitate others and enable people to achieve their potential.	Frank, decisive, leaders in activities. Develop and implement comprehensive systems to solve organizational problems. Good in anything that requires reasoning and intelligent talk, such as public speaking. Are usually well informed and enjoy adding to their fund of knowledge.

(p. 7)

Myers, I.B. (1993). *Introduction to Type*. Palo Alto, CA: Consulting Psychologists Press, Inc.

APPENDIX F

Mentor Relationship Questionnaire – Student Teacher Version

MENTORING RELATIONSHIP QUESTIONNAIRE

Student Teacher
Version - CORRECTED

Spring 2004



Purpose of the Study

The purpose of the study is to determine if personality type, as measured by the Myers-Briggs Type Indicator (MBTI), can predict aspects (psychosocial support, agricultural education teacher roles, similarities, and perceived benefits and barriers to a successful student teacher-cooperating teacher relationship) pertaining to the relationship cooperating teachers of agricultural education. This instrument will look to measure the relationship aspects, not personality type.

We hope that you will make time to participate in the study, and it should take you approximately 10-15 minutes to complete the questionnaire. Your input is very important to us, as the information you provide will be valuable in making future decisions about student teacher-cooperating teacher pairings.

The code number listed on the front cover of the questionnaire will only be used to conduct a follow-up with non-respondents. As only summarized data will be reported, the identity of each individual participant will be protected.

Thank you for participating in this study!

Part A The following questions refer to the experiences with your **cooperating teacher**. Please respond by circling the number corresponding to your answer.

To what extent has your Cooperating teacher:	Not At All		Some Extent		Large Extent		Very Large Extent
1) Thought highly of you	1	2	3	4	5	6	7
2) Served as a role model	1	2	3	4	5	6	7
3) Conveyed feelings of respect	1	2	3	4	5	6	7
4) Interacted with you socially outside of school	1	2	3	4	5	6	7
5) Provided support and encouragement	1	2	3	4	5	6	7
6) Been willing to discuss your questions and concerns	1	2	3	4	5	6	7
7) Served as a sounding board for you to develop and understand yourself	1	2	3	4	5	6	7
8) Been someone you could confide in	1	2	3	4	5	6	7
9) Been someone you wanted to emulate	1	2	3	4	5	6	7
10) Accepted you as a competent colleague	1	2	3	4	5	6	7
11) Socialized with you one-on-one outside of work	1	2	3	4	5	6	7
12) Been someone you identified with	1	2	3	4	5	6	7
13) Got together with you informally after work	1	2	3	4	5	6	7
14) Shared personal experiences as another perspective to your problems	1	2	3	4	5	6	7
15) Been someone you could trust	1	2	3	4	5	6	7

Part B Listed below are professional roles/responsibilities of agriculture teachers.

On the LEFT, please circle the level of assistance needed for each of the professional roles/responsibilities during your student teaching.

On the RIGHT, circle the level of assistance you received from your **cooperating teacher**.

To what extent did you need assistance during your student teaching?					Professional roles/responsibilities of agriculture teachers	To what extent were you provided assistance by your cooperating teacher?				
Never	Rarely	Sometimes	Often	Considerable		Never	Rarely	Sometimes	Often	Considerable
1	2	3	4	5	Act in a professional manner	1	2	3	4	5
1	2	3	4	5	Advise the FFA chapter	1	2	3	4	5
1	2	3	4	5	Assign grades	1	2	3	4	5
1	2	3	4	5	Assist students with SAE	1	2	3	4	5
1	2	3	4	5	Assist students with special needs	1	2	3	4	5
1	2	3	4	5	Awareness of school politics	1	2	3	4	5
1	2	3	4	5	Conduct parent conferences	1	2	3	4	5
1	2	3	4	5	Conduct summer program	1	2	3	4	5
1	2	3	4	5	Counsel students	1	2	3	4	5
1	2	3	4	5	Develop rapport with students	1	2	3	4	5
1	2	3	4	5	Evaluate student work	1	2	3	4	5
1	2	3	4	5	Gain parental support	1	2	3	4	5

To what extent did you <u>need assistance</u> during your student teaching?					Professional roles/responsibilities of agriculture teachers	To what extent were you <u>provided assistance</u> by your cooperating teacher?				
Never	Rarely	Sometimes	Often	Considerable		Never	Rarely	Sometimes	Often	Considerable
1	2	3	4	5	Implement school policies	1	2	3	4	5
1	2	3	4	5	Manage daily tasks of the dept.	1	2	3	4	5
1	2	3	4	5	Manage personal stress	1	2	3	4	5
1	2	3	4	5	Manage the classroom	1	2	3	4	5
1	2	3	4	5	Manage the laboratory	1	2	3	4	5
1	2	3	4	5	Manage time	1	2	3	4	5
1	2	3	4	5	Motivate students	1	2	3	4	5
1	2	3	4	5	Plan adult education programs	1	2	3	4	5
1	2	3	4	5	Plan lessons	1	2	3	4	5
1	2	3	4	5	Practice self-analysis (reflection)	1	2	3	4	5
1	2	3	4	5	Purchase supplies/equipment	1	2	3	4	5
1	2	3	4	5	Supervise students on trips	1	2	3	4	5
1	2	3	4	5	Recruit students	1	2	3	4	5
1	2	3	4	5	Teach effectively	1	2	3	4	5
1	2	3	4	5	Use educational technology	1	2	3	4	5
1	2	3	4	5	Work with advisory committee	1	2	3	4	5

Part C Indicate the extent you agree with each of the following statements by circling the number corresponding to your answer.

My cooperating teacher and I:	Strongly Disagree		Disagree		Agree		Strongly Agree
1) Have similar values and attitudes	1	2	3	4	5	6	7
2) Are alike in a number of areas	1	2	3	4	5	6	7
3) Have similar working styles	1	2	3	4	5	6	7
4) See things much the same way	1	2	3	4	5	6	7
5) Have similar teaching philosophies	1	2	3	4	5	6	7

In regard to the interaction with my cooperating teacher:	Strongly Disagree		Disagree		Agree		Strongly Agree
6) The relationship has been a positive experience	1	2	3	4	5	6	7
7) I am glad I had the opportunity to interact with my cooperating teacher	1	2	3	4	5	6	7
8) The relationship has been successful	1	2	3	4	5	6	7
9) If I had it to do over again, I would want to have the same cooperating teacher	1	2	3	4	5	6	7
10) I was satisfied with the interaction	1	2	3	4	5	6	7

Part D Please answer the following questions. If providing more than one response for the question, please place in order of importance to you.

1) What was the most important **benefit** of having a cooperating teacher?

2) What was the biggest **barrier** to having a more successful student teacher-cooperating teacher experience?

3) Was your cooperating teacher the person who provided you with the **most beneficial assistance** during your student teaching? Yes No

If your answer was “No”, please identify the person who provided you with the most beneficial assistance by checking (✓) the appropriate category. Then provide the necessary information on the designated line.

Teacher in your school district: grade/subject(s) taught _____

Teacher outside your school district: grade/subject(s) taught _____

Other, such as administrator, spouse, etc.: _____

4) Do you plan to teach high school agriculture next year? Yes No

Part E Please complete cooperating school and demographic information by checking (✓) the appropriate blank, or by providing information on the designated line.

School Information

- 1) _____ Comprehensive High School
_____ AVTS / Career Center
- 2) Total number of instructors in your cooperating school's Ag Ed Program
- 3) Number of students enrolled in your cooperating school's Ag Ed Program

Information About Yourself

- 4) Age _____
- 5) Gender
_____ Male
_____ Female

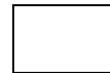
APPENDIX G

Mentor Relationship Questionnaire – Cooperating Teacher Version

MENTORING RELATIONSHIP QUESTIONNAIRE

Cooperating Teacher
Version - CORRECTED

Spring 2004



Purpose of the Study

The purpose of the study is to determine if personality type, as measured by the Myers-Briggs Type Indicator (MBTI), can predict aspects (psychosocial support, agricultural education teacher roles, similarities, and perceived benefits and barriers to a successful student teacher-cooperating teacher relationship) pertaining to the relationship cooperating teachers of agricultural education. This instrument will look to measure the relationship aspects, not personality type.

We hope that you will make time to participate in the study, and it should take you approximately 10-15 minutes to complete the questionnaire. Your input is very important to us, as the information you provide will be valuable in making future decisions about student teacher-cooperating teacher pairings.

The code number listed on the front cover of the questionnaire will only be used to conduct a follow-up with non-respondents. As only summarized data will be reported, the identity of each individual participant will be protected.

Thank you for participating in this study!

Part A The following questions refer to your **experiences while mentoring the student teacher**. Please respond by circling the number corresponding to your answer.

To what extent have you:	Not At All		Some Extent		Large Extent		Very Large Extent
1) Thought highly of the student teacher	1	2	3	4	5	6	7
2) Served as a role model	1	2	3	4	5	6	7
3) Conveyed feelings of respect	1	2	3	4	5	6	7
4) Interacted socially outside of school	1	2	3	4	5	6	7
5) Provided support and encouragement	1	2	3	4	5	6	7
6) Been willing to discuss his/her questions and concerns	1	2	3	4	5	6	7
7) Served as a sounding board for the beginning teacher to develop & understand him/herself	1	2	3	4	5	6	7
8) Been someone to confide in	1	2	3	4	5	6	7
9) Been someone he/she wanted to emulate	1	2	3	4	5	6	7
10) Accepted the student teacher as a competent colleague	1	2	3	4	5	6	7
11) Socialized one-on-one outside of work	1	2	3	4	5	6	7
12) Been someone the student teacher could identify with	1	2	3	4	5	6	7
13) Got together informally after work by yourselves	1	2	3	4	5	6	7
14) Shared personal experiences as another perspective to the student teacher's problems	1	2	3	4	5	6	7
15) Been someone the student teacher could trust	1	2	3	4	5	6	7

Part B Listed below are professional roles/responsibilities of agriculture teachers.

On the LEFT, please circle the level of assistance needed by the student teacher for each of the professional roles/responsibilities during their student teaching.

On the RIGHT, circle the level of assistance you provided the student teacher for each of the professional roles/responsibilities.

To what extent did the student teacher <u>need</u> assistance during their student teaching?					Professional roles/responsibilities of agriculture teachers	To what extent did you <u>provide</u> assistance to the student teacher?				
Never	Rarely	Sometimes	Often	Considerable		Never	Rarely	Sometimes	Often	Considerable
1	2	3	4	5	Act in a professional manner	1	2	3	4	5
1	2	3	4	5	Advise the FFA chapter	1	2	3	4	5
1	2	3	4	5	Assign grades	1	2	3	4	5
1	2	3	4	5	Assist students with SAE	1	2	3	4	5
1	2	3	4	5	Assist students with special needs	1	2	3	4	5
1	2	3	4	5	Awareness of school politics	1	2	3	4	5
1	2	3	4	5	Conduct parent conferences	1	2	3	4	5
1	2	3	4	5	Conduct summer program	1	2	3	4	5
1	2	3	4	5	Counsel students	1	2	3	4	5
1	2	3	4	5	Develop rapport with students	1	2	3	4	5
1	2	3	4	5	Evaluate student work	1	2	3	4	5
1	2	3	4	5	Gain parental support	1	2	3	4	5

To what extent did the student teacher <u>need</u> assistance during their student teaching?					Professional roles/responsibilities of agriculture teachers	To what extent did you <u>provide assistance</u> to the student teacher?				
Never	Rarely	Sometimes	Often	Considerable		Never	Rarely	Sometimes	Often	Considerable
1	2	3	4	5	Implement school policies	1	2	3	4	5
1	2	3	4	5	Manage daily tasks of the dept.	1	2	3	4	5
1	2	3	4	5	Manage personal stress	1	2	3	4	5
1	2	3	4	5	Manage the classroom	1	2	3	4	5
1	2	3	4	5	Manage the laboratory	1	2	3	4	5
1	2	3	4	5	Manage time	1	2	3	4	5
1	2	3	4	5	Motivate students	1	2	3	4	5
1	2	3	4	5	Plan adult education programs	1	2	3	4	5
1	2	3	4	5	Plan lessons	1	2	3	4	5
1	2	3	4	5	Practice self-analysis (reflection)	1	2	3	4	5
1	2	3	4	5	Purchase supplies/equipment	1	2	3	4	5
1	2	3	4	5	Supervise students on trips	1	2	3	4	5
1	2	3	4	5	Recruit students	1	2	3	4	5
1	2	3	4	5	Teach effectively	1	2	3	4	5
1	2	3	4	5	Use educational technology	1	2	3	4	5
1	2	3	4	5	Work with advisory committee	1	2	3	4	5

Part C Indicate the extent you agree with each of the following statements by circling the number corresponding to your answer.

The student teacher and I:	Strongly Disagree		Disagree		Agree		Strongly Agree
1) Have similar values and attitudes	1	2	3	4	5	6	7
2) Are alike in a number of areas	1	2	3	4	5	6	7
3) Have similar working styles	1	2	3	4	5	6	7
4) See things much the same way	1	2	3	4	5	6	7
5) Have similar teaching philosophies	1	2	3	4	5	6	7

In regard to the interaction with the student teacher:	Strongly Disagree		Disagree		Agree		Strongly Agree
6) The relationship has been a positive experience	1	2	3	4	5	6	7
7) I am glad I had the opportunity to interact with the student teacher	1	2	3	4	5	6	7
8) The relationship has been successful	1	2	3	4	5	6	7
9) If I had it to do over again, I would want to have the same student teacher	1	2	3	4	5	6	7
10) I was satisfied with the interaction	1	2	3	4	5	6	7

Part D Please answer the following questions. If providing more than one response for the question, please place in ranked order.

1) Do you think there was an attempt to **match** you with the student teacher? _____ Yes _____ No

If answering "Yes", please identify the criteria you think was utilized in the process to match you with the student teacher.

2) What was the most important **benefit** of mentoring a student teacher?

3) What was the biggest **barrier** to having a more successful student teacher-cooperating teacher experience?

Part E Please provide demographic and school information about yourself by checking (✓) the appropriate blank, or by providing information on the designated line.

1) Age _____

2) Gender

_____ Male

_____ Female

3) Years Taught _____

4) Subject(s) Taught _____

5) Certification Area(s) _____

Thank You for completing this questionnaire!

APPENDIX H

Cooperating Teacher Letter – MBTI

February 10, 2004

«CT_Title» «CT_First_Name» «CT_Last_Name»
«School»
«Address1» «Address2»
«City» «State» «Zip»

Dear «CT_First_Name»:

First of all, we want to take this opportunity to thank you on your contribution towards preparing the next generation of agricultural educators. Our profession needs good teachers and your relationship with your student teacher from the University of Missouri will impact the future.

Faculty in agricultural education at the university level participate in on-going efforts to improve the teacher preparation process. One factor believed to contribute to preparation success is the relationship you have with your student teacher. The study will investigate that relationship and see if personality type can be a predictor for success.

We ask for your help in this study. Your participation is voluntary. We understand your busy schedule. However, as we strive to improve teacher preparation, we need teachers like you to assist us in that process. Your participation in completing both data collection instruments is necessary to get a good snapshot of the relationship between you and your student teacher.

The first instrument assesses personality type and is called the Myers-Briggs Type Indicator (MBTI). The second instrument will look at the relationship with your student teacher and be administered at the conclusion of the student teaching internship. Instructions for the MBTI are attached to the instrument itself.

This instrument is being delivered to you by a University of Missouri supervisor. After using the question booklet, you may discard it. **Please return only the answer sheet to your University Supervisor at their SECOND VISIT.**

If you desire to know your results, we will provide them to you via the faculty at the University of Missouri. In addition, we will provide resources for you to interpret your results.

Thank you for your consideration and participation, Rob. Good luck as you mentor your student teacher towards a very rewarding career!

Sincerely,

Tracy Kitchel
Graduate Assistant

Robert Torres
Associate Professor

APPENDIX I

Student Teacher Letter – MBTI

To: 2004 Agricultural Education Student Teachers
University of _____

From: Tracy Kitchel, Ph.D. Student and Robert Torres, Associate Professor
University of Missouri-Columbia

Date: January 10, 2004

Re: Student Teacher-Cooperating Teacher Relationship Study

First of all, we want to take this opportunity to congratulate you on your final steps in your teacher preparation in agricultural education. Our industry needs good leaders and your preparation at the University of _____ will ensure that your teaching of secondary students will contribute to that need.

Faculty, in agricultural education at the university level, look at ways to improve the teacher preparation process. One factor for preparation success is the relationship you have with your cooperating teacher. The study will investigate that relationship and see if personality type can be a predictor for success within that relationship.

We ask for your help in this study. This process is voluntary; however, Dr. _____ has indicated that the two instruments could be completed at your scheduled inservices as to not take away valuable time during your student teaching.

The first instrument assesses personality type and is called the Myers-Briggs Type Indicator (MBTI). The second instrument will look at the relationship with your cooperating teacher and be administered at the conclusion of your student teaching internship. Instructions for the MBTI are attached to the instrument itself.

Thank you for your consideration and participation. Good luck as you pursue your certification towards a very rewarding career!

APPENDIX J

MBTI Instructions

MBTI Instructions

To complete, please read the following...

1. Use the answer sheet to respond to the questions in the Question Book. Do not mark in the question book.
2. Answer the questions honestly and truthfully; do not consider how you want to be, rather what and who you really are.
3. There are no right or wrong responses.
4. Try to remove roles when considering your responses; there are certain aspects of our jobs (student, teacher, family member, club officer, etc.) that we have to do because we are required, not because we prefer it.
5. Only your name (do not bubble this in) and gender is required on the left hand side of the answer sheet.
6. Bubble in answers on the right hand side; if you use a pen and make a mistake, place an 'X' through the response you do not want considered. A pencil is preferred, but not required
7. If you want your results, I will provide them to you with resources that you can use to interpret your results.
8. Your results will remain confidential; your name will not be shared with anyone.

APPENDIX K

MBTI Interpretation Guide

Interpreting Your MBTI Results

When you get your results, you should have four (4) letters with a number associated with each letter. This is what the letter means:

First Letter: Extraversion (E) or Introversion (I)

Second Letter: Sensing (S) or Intuition (N)

Third Letter: Thinking (T) or Feeling (F)

Fourth Letter: Judging (J) or Perceiving (P)

The score behind each letter indicates **CERTAINTY, NOT AMOUNT**; meaning that the number indicates how certain the instrument is you are that type, not how strong of a particular type you are.

If you score:

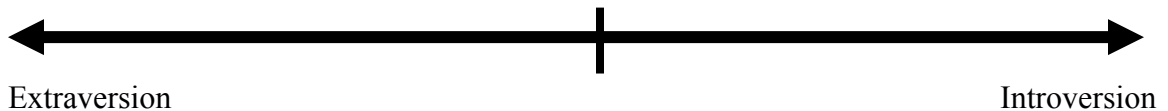
41 and up (highly probable you are that type)

21-40 (clear vote in this direction)

10-19 (sill in that direction; be alert to possible concerns)

1-9 (too close to call; you could be that type, but could very well be the other)

Visualize each set of letters as a spectrum. The MBTI does NOT give you a score to place on the spectrum, but in reality, you fall somewhere between the extremes. You are not either/or; the placement on each spectrum (E/I, S/N, T/F, J/P) combined with our own experiences and life are what make us unique individuals.



Below are some slides to continue with your understanding the differences between the four opposites:

Extraversion-Introversion

Where Do I Prefer to Focus My Attention?

Extraversion (E)	Introversion (I)
■ Attuned to external	■ Drawn to inner world
■ Prefer talking	■ Prefer writing
■ Breadth of interest	■ Depth of interest
■ Sociable, expressive	■ Private, contained
■ Speak first, think second	■ Think first, speak second

Sensing-iNtuition


How Do I Find Out About Things/Take In Information?

Sensing (S)	iNtuitive (N)
■ Focus on real, actual	■ Focus on possibilities
■ Practical application	■ Imaginative insight
■ Present-oriented	■ Future-oriented
■ Step-by-step	■ Jump around
■ Trust experience	■ Trust inspiration

Thinking-Feeling

How Do I Make Decisions?


Thinking (T)	Feeling (F)
<ul style="list-style-type: none"> ■ Analytical ■ "Tough-minded" ■ Strive for impersonal, objective truth ■ Reasonable ■ Fair 	<ul style="list-style-type: none"> ■ Sympathetic ■ "Tender-hearted" ■ Strive for harmony & individual validation ■ Compassionate ■ Accepting



Judging-Perceiving

How Do I Act and React to the Outer World?

Judging (J)	Perceiving (P)
<ul style="list-style-type: none"> ■ Scheduled ■ Organized ■ Systematic ■ Plan ■ Likes closure ■ Stress from the last minute 	<ul style="list-style-type: none"> ■ Spontaneous ■ Open-ended ■ Casual ■ Flexible ■ Likes thing open ■ Energy from the last minute



The following are some web resources for continued interpretation:

www.mbti.com

This is the company that sells MBTI; to actualize use and administer the MBTI takes training that can be costly. There are, however, books that you can be that you don't have to be certified for, such as looking at how MBTI results influence careers and being a student (good for teaching and learning), both of which are fairly inexpensive booklets. *Effective Teaching, Effective Learning* by Fairhurst and Fairhurst is a great book that breaks down the types and reports common habits for both students and teachers.

www.keirsey.com

Keirsey's theory of personality types are based upon work with the MBTI. There is a Temperament Sorter II at the bottom of the page that will allow you are your students to take a different version of the test that will produce similar results. Although not as statistically reliable or valid, it points you in the right direction and can be a fun activity to supplement an Ag Careers course, Employability unit, or use with your FFA officer team.

http://www.personalitypathways.com/type_inventory.html

- More information about the MBTI

The following are some other resources that will assist in interpretation and application of the MBTI:

Fairhurst, A., Fairhurst, L. (1995). *Effective teaching, effective learning: Making the personality connection in your classroom*. Palo Alto, CA: Davies-Black Publishing.

Myers, I.B. (1993). *Introduction to type*. Palo Alto, CA: Consulting Psychologists Press.

Myers, I.B. & Myers, P. (1995). *Gifts differing: Understanding personality type*. Palo Alto, CA: Davies-Black Publishing.

APPENDIX L

MBTI Results E-mail

Name -

I just wanted to say thank you for participating in the student teacher-cooperating teacher relationship study. As promised, your Myers-Briggs Type Indicator (MBTI) results are below and a pdf file has been attached to help you interpret your results.

If you have any other questions about your results, let me know. In a few weeks, be looking for a short instrument in the mail that will measure your relationship with your student teacher.

Tracy Kitchel

E/I #

S/N #

T/F #

J/P #

APPENDIX M

Student Teacher Letter – MRQ

April 20, 2004

«ST_Title» «ST_First» «ST_LastName»
Student Teacher
University of Missouri-Columbia

Dear «ST_First»:

As you may or may not know, we are conducting a study that is looking at personality type as a predictor of the student teacher-cooperating teacher relationship. To measure personality type, we are using the Myers-Briggs Type Indicator (MBTI), in which you filled out either early in the year or in Agricultural Education 380. A second questionnaire is attached, asking you to reflect upon your relationship with your cooperating teacher.

The attached questionnaire asks you to reflect on your student teaching experience in relation to your cooperating teacher. We would appreciate you taking a few minutes to complete the questionnaire and return it in the self-addressed, stamped envelope. Your answers are very important to us because we are interested in developing a better understanding of the student teacher-cooperating teacher relationship. As a result, it is extremely important that you return the completed questionnaire.

This questionnaire should take you approximately 10 to 15 minutes to complete and should be returned to Dr. Robert Torres. We thank you in advance for your participation. If you have any questions about the research project, you may contact Tracy Kitchel at (573) 884-7561.

In accordance with Institutional Review Board (IRB) requirements, you should know that your participation in this study is strictly voluntary, and that your identity will remain confidential. Your decision on participation will not result in any loss of benefits to which you are otherwise entitled. This code number listed on the front cover of the questionnaire will only be used to conduct a follow-up mailing with non-respondents. Returning the enclosed questionnaire will suffice as your agreement to participate in this study. For additional information regarding human participation in research, please contact the IRB at (573) 882-9585.

Thank you for your time and assistance in this study. Good luck as you complete your teacher training, here at Mizzou!

Sincerely,

Tracy Kitchel
Graduate Assistant

Robert Torres
Associate Professor

APPENDIX N

Cooperating Teacher Letter – MRQ

April 20, 2004

«CT_Title» «CT_First_Name» «CT_Last_Name»
«School»
Agricultural Education Instructor
«Address1»
«Address2»
«City» «State» «Zip»

Dear «CT_First_Name»:

Thank you for filling out the Myers-Briggs Type Indicator early this semester. As indicated in the last letter, a second questionnaire would follow. Now, we will ask for you to reflect upon your relationship with your student teacher, «ST_First».

The enclosed questionnaire asks you to reflect upon your relationship with your student teacher. We would appreciate you taking a few minutes to complete the questionnaire and return it in the self-addressed, stamped envelope. Your answers are very important to us because we are interested in developing a better understanding of the student teacher-cooperating teacher relationship. As a result, it is extremely important that you return the completed questionnaire.

This questionnaire should take you approximately 10 to 15 minutes to complete and should be returned by **April 30, 2004**. We thank you in advance for your participation. If you have any questions about the research project, you may contact Tracy Kitchel at (573) 884-7561.

In accordance with Institutional Review Board (IRB) requirements, you should know that your participation in this study is strictly voluntary, and that your identity will remain confidential. Your decision on participation will not result in any loss of benefits to which you are otherwise entitled. This code number listed on the front cover of the questionnaire will only be used to conduct a follow-up mailing with non-respondents. Returning the enclosed questionnaire will suffice as your agreement to participate in this study. For additional information regarding human participation in research, please contact the IRB at (573) 882-9585.

Thank you for your time and assistance in this study. Good luck as you finish out your school year.

Sincerely,

Tracy Kitchel
Graduate Assistant

Robert Torres
Associate Professor

APPENDIX O

Cooperating Teacher E-mail #1: MRQ Correction

SENT: 4/22/2004 2:17 PM

Cooperating Teachers:

You should have received (or will be receiving soon) a questionnaire from me that asks you to evaluate your relationship with the student teacher. When attempting to re-develop the instrument for student teachers and cooperating teachers, an oversight was made on Part B, in the right hand column. At present, the stems do not match the questions. The question is correct, the stems are not.

At present, it reads:

To what extent did you provide assistance to the student teacher?

Very Dissatisfied =1
Somewhat Dissatisfied =2
Neutral =3
Somewhat Satisfied =4
Very Satisfied =5

The stems SHOULD read:

Never =1
Rarely =2
Sometimes =3
Often =4
Considerable =5

**NOTE: These stems are the SAME as those on the left-hand column.

I apologize for the oversight. I hope you all have a successful end of the school year!

Thank you in advance for the time you have put into this!

Tracy Kitchel
Graduate Assistant
University of Missouri-Columbia

APPENDIX P

Cooperating Teacher E-mail #2: MRQ Correction

SENT: 4/22/2004 3:03 PM

Cooperating Teachers:

Sorry about all the inconvenience with this, but after thinking about it further, we would feel better if we just sent you a corrected version of the instrument and make this all right.

If you have already filled out the questionnaire, you may want to hold on to it to transfer your answers for all the parts, EXCEPT PART B. If you have not filled out the questionnaire, discard it, but KEEP THE RETURN ENVELOPE.

We are in the process of re-printing the instrument and will send it out as soon as possible. We will not have a return envelope in this second mailing, so, PLEASE KEEP YOUR RETURN ENVELOPE.

Once again, sorry for any inconvenience.

Tracy Kitchel
Graduate Assistant
University of Missouri-Columbia

APPENDIX Q

Cooperating Teacher Letter – MRQ Correction

April 23, 2004

«CT_Title» «CT_First_Name» «CT_Last_Name»
«School»
Agricultural Education Instructor
«Address1»
«Address2»
«City» «State» «Zip»

Dear «CT_First_Name»:

As stated in an e-mail sent on April 22, 2004, we discovered an error after we had printed and mailed the relationship questionnaire. In doing so, we asked that you hold off sending in the problem questionnaire, keep your return envelope, and anticipate receiving a new one. Enclosed is the **Corrected Questionnaire**. We would like to apologize for any inconvenience this may cause.

The enclosed questionnaire asks you to reflect upon your relationship with your student teacher. We would appreciate you taking a few minutes to complete the questionnaire and return it in the self-addressed, stamped envelope you received in the first packet. Your answers are very important to us because we are interested in developing a better understanding of the student teacher-cooperating teacher relationship. As a result, it is extremely important that you return the completed questionnaire.

This questionnaire should take you approximately 10 to 15 minutes to complete and should be returned by **May 7, 2004** (note the extended deadline). We thank you in advance for your participation. If you have any questions about the research project or need a replacement return envelope, you may contact Tracy Kitchel at (573) 884-7561 or via e-mail at tjk343@mizzou.edu.

In accordance with Institutional Review Board (IRB) requirements, you should know that your participation in this study is strictly voluntary, and that your identity will remain confidential. Your decision on participation will not result in any loss of benefits to which you are otherwise entitled. This code number listed on the front cover of the questionnaire will only be used to conduct a follow-up mailing with non-respondents. Returning the enclosed questionnaire will suffice as your agreement to participate in this study. For additional information regarding human participation in research, please contact the IRB at (573) 882-9585.

We again apologize for any inconvenience. Thank you for your time and assistance in this study. Good luck as you finish out your school year.

Sincerely,

Tracy Kitchel
Graduate Assistant

Robert Torres
Associate Professor

APPENDIX R

Cooperating Teacher Letter – MRQ Follow-up

May 19, 2004

«CT_Title» «CT_First_Name» «CT_Last_Name»
«School»
Agricultural Education Instructor
«Address1»
«Address2»
«City» «State» «Zip»

Dear «CT_First_Name»:

You should have received a questionnaire from us about a month ago. The purpose of the questionnaire is to gain a perspective of the relationship you had with your student teacher, «ST_First_Name». Overall, this study is looking at personality type as a predictor of the student teacher-cooperating teacher relationship. To date, we have not received your questionnaire. Your perspective is important in gathering a complete picture of the relationship between student teachers and cooperating teachers.

This questionnaire should take you approximately 10 to 15 minutes to complete and should be returned by **May 28, 2004** in the self-addressed, stamped envelope. We thank you in advance for your participation. If you have already returned your questionnaire, please disregard this letter. If you have any questions about the research project, you may contact either of us at (573) 884-7561.

Thank you for your time and assistance in this study. Good luck as you complete the end to another school year.

Sincerely,

Tracy Kitchel
Graduate Assistant

Robert Torres
Associate Professor

Enclosure

APPENDIX S

Cooperating Teacher E-mail Letter – MRQ Second Follow-up

Dear Name:

I hope you are finding the end of your school year winding down! A few weeks back, you should have received a corrected version of a questionnaire asking you to share your experiences and relationship with your student teacher. This was a part of a study looking at personality type as a predictor of the student teacher-cooperating teacher relationship. At present, I have not received the questionnaire back. It is important that we get all of your perspectives to relay an accurate “big picture” – therefore your response is quite important.

If you have misplaced your questionnaire and/or return envelope, please let me know and I’ll be more than happy to replace them. If you have already mailed your questionnaire, and I just haven’t received it at the time that I am sending this e-mail, please disregard this e-mail. If you have any questions in general, please e-mail me or call me at 573-884-7561.

Remember, your identity will remain confidential. Thank you, again, for your consideration.

Tracy Kitchel
Agricultural Education
University of Missouri-Columbia

APPENDIX T

Frequencies and Mean Scores by Item for the
Psychosocial Function Item

Table T1

Frequencies and Means by Item for the Psychosocial Functions as Reported by Student Teachers (n = 31)

Item	<i>M</i>	<i>SD</i>	Response ^a													
			<u>7</u> <i>f</i>	<u>7</u> %	<u>6</u> <i>f</i>	<u>6</u> %	<u>5</u> <i>f</i>	<u>5</u> %	<u>4</u> <i>f</i>	<u>4</u> %	<u>3</u> <i>f</i>	<u>3</u> %	<u>2</u> <i>f</i>	<u>2</u> %	<u>1</u> <i>f</i>	<u>1</u> %
Thought highly of you ⁴	6.06	1.29	17	54.8	5	16.1	5	16.1	3	9.7	0	0.0	1	3.2	0	0.0
Served as a role model ⁴	5.81	1.47	13	41.9	9	29.0	3	9.7	4	12.9	1	3.2	0	0.0	1	3.2
Conveyed feelings of respect ¹	5.94	1.55	17	54.8	5	16.1	4	12.9	2	6.5	2	6.5	0	0.0	1	3.2
Interacted socially outside of school ⁵	4.29	2.27	8	25.8	5	16.1	1	3.2	5	16.1	3	9.7	4	12.9	5	16.1
Provided support and encouragement ³	5.71	1.61	14	45.2	7	22.6	3	9.7	3	9.7	3	9.7	0	0.0	1	3.2
Been willing to discuss your questions and concerns ²	5.97	1.45	17	54.8	5	16.1	4	12.9	2	6.5	2	6.5	1	3.2	0	0.0
Served as a sounding board... ²	5.45	1.79	13	41.9	6	19.4	4	12.9	0	0.0	7	22.6	0	0.0	1	3.2
Been someone you could confide in ³	5.48	1.98	14	45.2	6	19.4	4	12.9	2	6.5	1	3.2	1	3.2	3	9.7
Been someone you wanted to emulate ⁴	5.20	1.99	10	33.3	8	26.7	3	10.0	3	10.0	2	6.7	1	3.3	3	10.0

Continued on next page

Table T1 continued

Item	<i>M</i>	<i>SD</i>	Response ^a													
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Accepted you as a competent colleague ¹	6.06	1.55	17	54.8	9	29.0	1	3.2	1	3.2	1	3.2	1	3.2	1	3.2
Socialized with you one-on-one outside of work ⁵	4.35	2.47	11	35.5	3	9.7	1	3.2	4	12.9	1	3.2	5	16.1	6	19.4
Been someone you could identify with ⁴	5.26	1.79	11	35.5	4	12.9	9	29.0	0	0.0	4	12.9	2	6.5	1	3.2
Got together informally with you after work ⁵	4.10	2.43	7	22.6	7	22.6	1	3.2	2	6.5	2	6.5	5	16.1	7	22.6
Shared personal experiences as another perspective to your problems ²	5.94	1.32	15	48.4	6	19.4	5	16.1	4	12.9	0	0.0	1	3.2	0	0.0
Been someone you could trust ³	5.87	1.73	16	51.6	8	25.8	2	6.5	1	3.2	2	6.5	0	0.0	2	6.5

Note. ¹ Acceptance function; ² Counseling function; ³ Friendship function; ⁴ Role Model function; ⁵ Social function

^a Scale: *Note.* 1 = not at all, 3 = some extent, 5 = large extent, and 7 = very large extent

Table T2

Frequencies and Means by Item for the Psychosocial Functions as Reported by Cooperating Teachers (n = 29)

Item	<i>M</i>	<i>SD</i>	Response ^a													
			<i>f</i> ₇	% ₇	<i>f</i> ₆	% ₆	<i>f</i> ₅	% ₅	<i>f</i> ₄	% ₄	<i>f</i> ₃	% ₃	<i>f</i> ₂	% ₂	<i>f</i> ₁	% ₁
Thought highly of the student teacher ¹	6.00	1.39	15	51.7	7	24.1	2	6.9	3	10.3	1	3.4	1	3.4	0	0.0
Served as a role model ⁴	5.90	1.08	11	37.9	7	24.1	9	31.0	1	3.4	1	3.4	0	0.0	0	0.0
Conveyed feelings of respect ¹	6.14	.99	13	44.8	10	34.5	3	10.3	3	10.3	0	0.0	0	0.0	0	0.0
Interacted socially outside of school ⁵	3.90	1.90	3	10.3	4	13.8	4	13.8	4	13.8	9	31.0	0	0.0	5	17.2
Provided support and encouragement ³	6.17	.76	10	34.5	15	51.7	3	10.3	1	3.4	0	0.0	0	0.0	0	0.0
Been willing to discuss his/her questions and concerns ²	6.55	.51	16	55.2	13	44.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Served as a sounding board... ²	5.83	.71	4	13.8	17	58.6	7	24.1	1	3.4	0	0.0	0	0.0	0	0.0
Been someone to confide in ³	5.34	1.37	8	27.6	5	17.2	9	31.0	3	10.3	4	13.8	0	0.0	0	0.0
Been someone he/she wanted to emulate ⁴	5.37	.97	2	7.4	13	48.1	5	18.5	7	25.6	0	0.0	0	0.0	0	0.0

Continued on next page

Table T2 continued

Item	<i>M</i>	<i>SD</i>	Response ^a													
			<u>7</u> <i>f</i> %	<u>6</u> <i>f</i> %	<u>5</u> <i>f</i> %	<u>4</u> <i>f</i> %	<u>3</u> <i>f</i> %	<u>2</u> <i>f</i> %	<u>1</u> <i>f</i> %							
Accepted the student teacher as a competent colleague ¹	6.24	.87	14	48.3	9	31.0	5	17.2	1	3.4	0	0.0	0	0.0	0	0.0
Socialized one-on-one outside of work ⁵	3.52	1.92	1	3.4	5	17.2	5	17.2	2	6.9	6	20.7	4	13.8	6	20.7
Been someone the student teacher could identify with ⁴	5.69	.85	4	13.8	15	51.7	7	24.1	3	10.3	0	0.0	0	0.0	0	0.0
Got together informally after work by yourselves ⁵	3.48	1.98	1	3.4	5	17.2	5	17.2	3	10.3	4	13.8	4	13.8	7	24.1
Shared personal experiences as... student teacher's problems ²	5.83	.81	6	20.7	13	44.8	9	31.0	1	3.4	0	0.0	0	0.0	0	0.0
Been someone the student teacher could trust ³	6.59	.57	18	62.1	10	34.5	1	3.4	0	0.0	0	0.0	0	0.0	0	0.0

Note. ¹ Acceptance function; ² Counseling function; ³ Friendship function; ⁴ Role Model function; ⁵ Social function

^a Scale: Note. 1 = not at all, 3 = some extent, 5 = large extent, and 7 = very large extent

APPENDIX U

Frequencies and Mean Scores by Item for the
Extent Student Teachers Needed Assistance from
Cooperating Teachers on Roles and Responsibilities of an Agriculture Teacher

Table U1
Frequencies and Means by Item for the Extent Student Teachers Needed Assistance from Cooperating Teachers as Reported by Cooperating Teachers (n = 29)

Item	M	SD	Response ^a									
			5		4		3		2		1	
			f	%	f	%	f	%	f	%	f	%
Act in a professional manner	1.41	.69	0	0.0	1	3.4	1	3.4	7	24.1	20	69.0
Advise the FFA chapter	2.48	.79	0	0.0	2	6.9	13	44.8	11	37.9	3	10.3
Assign grades	2.62	.86	1	3.4	2	6.9	13	44.8	11	37.9	2	6.9
Assist students with SAE	2.38	.56	0	0.0	0	0.0	12	41.4	16	55.2	1	3.4
Assist students with special needs	2.72	.80	1	3.4	3	10.3	12	41.4	13	44.8	0	0.0
Awareness of school politics	2.48	.69	0	0.0	1	3.4	14	48.3	12	41.4	2	6.9
Conduct parent conferences	1.90	.94	1	3.4	0	0.0	5	17.2	12	41.4	11	37.9
Conduct summer programs	1.50	.81	0	0.0	1	3.8	2	7.7	6	23.1	17	65.4
Counsel students	2.24	.74	0	0.0	2	6.9	6	20.7	18	62.1	3	10.3
Develop rapport with students	2.03	1.09	1	3.4	2	6.9	5	17.2	10	34.5	11	37.9
Evaluate student work	2.48	.95	1	3.4	2	6.9	11	37.9	11	37.9	4	13.8
Gain parental support	2.03	.82	0	0.0	1	3.4	7	24.1	13	44.8	8	27.6
Implement school policies	2.24	.58	0	0.0	0	0.0	9	31.0	18	62.1	2	6.9
Manage daily tasks of the department	2.55	.91	1	3.4	3	10.3	9	31.0	14	48.3	2	6.9
Manage personal stress	2.59	.95	1	3.4	3	10.3	11	37.9	11	37.9	3	10.3
Manage the classroom	2.62	1.05	2	6.9	2	6.9	12	41.4	9	31.0	4	13.8
Manage the laboratory	2.74	1.06	2	7.4	3	11.1	11	40.7	8	29.6	3	11.1
Manage time	2.52	1.09	2	6.9	2	6.9	10	34.5	10	34.5	5	17.2

Continued on next page

Table U1 continued

Item	<i>M</i>	<i>SD</i>	Response ^a									
			<u>5</u>		<u>4</u>		<u>3</u>		<u>2</u>		<u>1</u>	
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Motivate students	2.59	.98	1	3.4	4	13.8	9	31.0	12	41.4	3	10.3
Plan adult education programs	1.48	.77	0	0.0	1	4.0	1	4.0	7	28.0	16	64.0
Plan lessons	2.72	.92	1	3.4	5	17.2	9	31.0	13	44.8	1	3.4
Practice reflection	2.34	.86	1	3.4	0	0.0	11	37.9	13	44.8	4	13.8
Purchase supplies and equipment	2.32	1.06	0	0.0	4	14.3	9	32.1	7	25.0	8	28.6
Supervise students on trips	2.10	.90	1	3.4	1	3.4	4	13.8	17	58.6	6	20.7
Recruit students	1.97	.91	1	3.4	1	3.4	2	6.9	17	58.6	8	27.6
Teach effectively	2.45	.95	1	3.4	3	10.3	7	24.1	15	51.7	3	10.3
Use educational technology	2.00	.96	1	3.4	1	3.4	4	13.8	14	48.3	9	31.0
Work on advisory committee	1.75	.75	0	0.0	0	0.0	5	17.9	11	39.3	12	42.9

^a Scale: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = considerable

Table U2
Frequencies and Means by Item for the Extent Student Teachers Needed Assistance from Cooperating Teachers as Reported by Student Teachers (n = 31)

Item	<i>M</i>	<i>SD</i>	Responses ^a									
			<u>5</u>		<u>4</u>		<u>3</u>		<u>2</u>		<u>1</u>	
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Act in a professional manner	1.71	.97	1	3.2	1	3.2	2	6.5	11	35.5	16	51.6
Advise the FFA chapter	2.90	1.04	3	9.7	3	9.7	16	51.6	6	19.4	3	9.7
Assign grades	2.48	1.03	2	6.5	2	6.5	9	29.0	14	45.2	4	12.9
Assist students with SAE	2.90	1.22	2	6.5	10	32.3	7	22.6	7	22.6	5	16.1
Assist students with special needs	2.94	1.12	3	9.7	5	16.1	14	45.2	5	16.1	4	12.9
Awareness of school politics	2.71	1.04	2	6.5	4	12.9	11	35.5	11	35.5	3	9.7
Conduct parent conferences	2.16	1.24	2	6.5	3	9.7	5	16.1	9	29.0	12	38.7
Conduct summer programs	1.79	1.17	1	3.2	2	6.5	4	12.9	4	12.9	17	54.8
Counsel students	2.42	1.12	1	3.2	4	12.9	10	32.3	8	25.8	8	25.8
Develop rapport with students	1.93	.98	1	3.2	0	0.0	7	22.6	10	32.3	12	38.7
Evaluate student work	2.26	1.09	1	3.2	3	9.7	8	25.8	10	32.3	9	29.0
Gain parental support	2.20	1.00	1	3.2	2	6.5	6	19.4	14	45.2	7	22.6
Implement school policies	2.42	.89	0	0.0	2	6.5	15	48.4	8	25.8	6	19.4
Manage daily tasks of the department	2.90	.87	2	6.5	.	9.7	17	54.8	8	25.8	1	3.2
Manage personal stress	2.52	1.21	2	6.5	5	16.1	7	22.6	10	32.3	7	22.6
Manage the classroom	2.68	1.19	3	9.7	3	9.7	12	38.7	7	22.6	6	19.4
Manage the laboratory	2.55	1.12	2	6.5	3	9.7	11	35.5	9	29.0	6	19.4
Manage time	2.19	1.17	2	6.5	2	6.5	6	19.4	11	35.5	10	32.3

Continued on next page

Table U2 continued

Item	<i>M</i>	<i>SD</i>	Responses ^a									
			<u>5.</u>		<u>4.</u>		<u>3.</u>		<u>2.</u>		<u>1.</u>	
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Motivate students	2.42	1.23	2	6.5	4	12.9	8	25.8	8	25.8	9	29.0
Plan adult education programs	1.61	1.00	0	0.0	2	6.5	4	12.9	3	9.7	19	61.3
Plan lessons	2.55	.96	1	3.2	3	9.7	12	38.7	11	35.5	4	12.9
Practice reflection	2.19	.98	1	3.2	2	6.5	6	19.4	15	48.4	7	22.6
Purchase supplies and equipment	2.65	1.31	3	9.7	5	16.1	9	29.0	6	19.4	8	25.8
Supervise students on trips	2.13	1.09	1	3.2	3	9.7	5	16.1	12	38.7	10	32.3
Recruit students	1.87	1.18	1	3.2	3	9.7	4	12.9	6	19.4	17	54.8
Teach effectively	2.35	1.17	2	6.5	3	9.7	7	22.6	11	35.5	8	25.8
Use educational technology	2.19	1.11	1	3.2	3	9.7	7	22.6	10	32.3	10	32.3
Work on advisory committee	1.90	1.11	1	3.2	2	6.5	5	16.1	8	25.8	15	48.4

^a Scale: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = considerable

APPENDIX V

Frequencies and Mean Scores by Item for the
Extent Student Teachers Were Provided Assistance from
Cooperating Teachers on Roles and Responsibilities of an Agriculture Teacher

Table V1
Frequencies and Means by Item for the Extent Student Teachers Needed Assistance from Cooperating Teachers as Reported by Cooperating Teachers (n = 29)

Item	<i>M</i>	<i>SD</i>	Response ^a									
			5		4		3		2		1	
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Act in a professional manner	2.38	1.27	3	10.3	3	10.3	3	10.3	13	44.8	7	22.6
Advise the FFA chapter	3.00	1.07	3	10.3	6	20.7	9	31.0	10	34.5	1	3.4
Assign grades	3.03	1.01	3	10.3	5	17.2	12	41.4	8	27.6	1	3.4
Assist students with SAE	2.79	.86	1	3.4	4	13.8	13	44.8	10	34.5	1	3.4
Assist students with special needs	2.90	.94	2	6.9	5	17.2	10	34.5	12	41.4	0	0.0
Awareness of school politics	2.72	.92	1	3.4	4	13.8	12	41.4	10	34.5	2	6.9
Conduct parent conferences	2.17	.97	1	3.4	1	3.4	7	24.1	13	44.8	7	24.1
Conduct summer programs	1.80	1.00	0	0.0	2	8.0	4	16.0	6	24.0	13	52.0
Counsel students	2.71	.90	0	0.0	7	25.0	7	25.0	13	46.4	1	3.6
Develop rapport with students	2.48	1.12	2	6.9	2	6.9	10	34.5	9	31.0	6	20.7
Evaluate student work	2.90	1.05	2	6.9	5	17.2	13	44.8	6	20.7	3	10.3
Gain parental support	2.52	.91	1	3.4	1	3.4	14	48.3	9	31.0	4	13.8
Implement school policies	2.93	1.05	2	7.1	6	21.4	10	35.7	8	28.6	2	7.1
Manage daily tasks of the department	3.17	1.00	3	10.3	7	24.1	12	41.4	6	20.7	1	3.4
Manage personal stress	2.97	.94	2	6.9	5	17.2	13	44.8	8	27.6	1	3.4
Manage the classroom	3.24	1.09	4	13.8	8	27.6	9	31.0	7	24.1	1	3.4

Continued on next page

Table V1 continued

Item	<i>M</i>	<i>SD</i>	Response ^a									
			<u>5</u>		<u>4</u>		<u>3</u>		<u>2</u>		<u>1</u>	
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Manage the laboratory	3.18	1.22	5	17.9	6	21.4	8	28.6	7	25.0	2	7.1
Manage time	2.90	1.21	4	13.8	4	13.8	9	31.0	9	31.0	3	10.3
Motivate students	3.21	1.23	6	21.4	4	14.3	10	35.7	6	21.4	2	7.1
Plan adult education programs	2.30	1.30	2	8.7	2	8.7	5	21.7	6	26.1	8	34.8
Plan lessons	3.36	1.16	7	25.0	4	14.3	9	32.1	8	28.6	0	0.0
Practice reflection	3.00	1.09	3	10.7	4	14.3	14	50.0	4	14.3	3	10.7
Purchase supplies and equipment	2.89	1.28	3	11.1	6	22.2	8	29.6	5	18.5	5	18.5
Supervise students on trips	3.14	1.38	7	25.0	4	14.3	6	21.4	8	28.6	3	10.7
Recruit students	2.71	1.36	4	14.3	4	14.3	6	21.4	8	28.6	6	21.4
Teach effectively	3.11	1.29	5	17.9	7	25.0	4	14.3	10	35.7	2	7.1
Use educational technology	3.00	1.50	8	28.6	2	7.1	4	14.3	10	35.7	4	14.3
Work on advisory committee	2.44	1.12	2	7.4	3	11.1	6	22.2	10	37.0	6	22.2

^a Scale: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = considerable

Table V2
Frequencies and Means by Item for the Extent Student Teachers Needed Assistance from Cooperating Teachers as Reported by Student Teachers (n = 31)

Item	<i>M</i>	<i>SD</i>	Response ^a									
			<u>5.</u>		<u>4.</u>		<u>3.</u>		<u>2.</u>		<u>1.</u>	
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Act in a professional manner	2.19	1.38	3	9.7	3	9.7	5	16.1	6	19.4	14	45.2
Advise the FFA chapter	3.23	1.11	5	16.1	6	19.4	13	41.9	5	16.1	2	6.5
Assign grades	2.94	1.21	4	12.9	5	16.1	11	35.5	7	22.6	4	12.9
Assist students with SAE	2.81	1.42	5	16.1	7	22.6	2	6.5	11	35.5	6	19.4
Assist students with special needs	2.97	1.35	5	16.1	6	19.4	9	29.0	5	16.1	6	19.4
Awareness of school politics	3.42	1.21	7	22.6	7	22.6	12	38.7	2	6.5	3	9.7
Conduct parent conferences	2.26	1.26	3	9.7	2	6.5	5	16.1	11	35.5	10	32.3
Conduct summer programs	1.68	1.28	2	7.1	2	7.1	1	3.6	3	10.7	20	71.4
Counsel students	2.70	1.34	4	13.3	5	16.7	5	16.7	10	33.3	6	20.0
Develop rapport with students	2.35	1.38	3	9.7	4	12.9	6	19.4	6	19.4	12	38.7
Evaluate student work	2.42	1.36	4	12.9	2	6.5	7	22.6	8	25.8	10	32.3
Gain parental support	2.42	1.34	4	12.9	2	6.5	6	19.4	10	32.3	9	29.0
Implement school policies	2.65	1.11	2	6.5	4	12.9	11	35.5	9	29.0	5	16.1
Manage daily tasks of the department	3.16	1.13	5	16.1	6	19.4	10	32.3	9	29.0	1	3.2
Manage personal stress	2.61	1.28	3	9.7	5	16.1	7	22.6	9	29.0	7	22.6
Manage the classroom	2.74	1.37	5	16.1	3	9.7	9	29.0	7	22.6	7	22.6

Continued on next page

Table V2 continued

Item	<i>M</i>	<i>SD</i>	Response ^a									
			<u>5</u>		<u>4</u>		<u>3</u>		<u>2</u>		<u>1</u>	
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Manage the laboratory	2.77	1.36	5	16.1	3	9.7	10	32.3	6	19.4	7	22.6
Manage time	2.19	1.40	4	12.9	1	3.2	6	19.4	6	19.4	14	45.2
Motivate students	2.58	1.39	4	12.9	4	12.9	7	22.6	7	22.6	9	29.0
Plan adult education programs	1.64	1.16	1	3.6	2	7.1	3	10.7	2	7.1	20	71.4
Plan lessons	2.58	1.29	4	12.9	2	6.5	9	29.0	9	29.0	7	22.6
Practice reflection	2.39	1.52	5	16.1	3	9.7	4	12.9	6	19.4	13	41.9
Purchase supplies and equipment	2.55	1.39	4	12.9	3	9.7	9	29.0	5	16.1	10	32.3
Supervise students on trips	2.52	1.41	4	12.9	4	12.9	6	19.4	7	22.6	10	32.3
Recruit students	2.19	1.47	4	12.9	2	6.5	6	19.4	3	9.7	16	51.6
Teach effectively	3.00	1.32	6	19.4	4	12.9	9	29.0	8	25.8	4	12.9
Use educational technology	2.29	1.22	3	9.7	1	3.2	7	22.6	11	35.5	9	29.0
Work on advisory committee	1.94	1.26	3	9.7	0	0.0	5	16.1	7	22.6	16	51.6

^a Scale: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = considerable

APPENDIX W

Frequencies and Mean Scores by Item for the
Satisfaction and Similarity Constructs

Table W1

Frequencies and Means by Item for the Perceived Satisfaction and Perceived Similarity Constructs Reported by Cooperating Teachers (n = 29)

Item	M	SD	Response ^a													
			7		6		5		4		3		2		1	
			f	%	f	%	f	%	f	%	f	%	f	%	f	%
Have similar values and attitudes	5.55	1.35	8	27.6	9	31.0	7	24.1	2	6.9	2	6.9	1	3.4	0	0.0
Are alike in a number of areas	5.38	1.40	7	24.1	8	27.6	8	27.6	2	6.9	3	10.3	1	3.4	0	0.0
Have similar working styles	5.17	1.54	5	17.2	9	31.0	9	31.0	1	3.4	3	10.3	1	3.4	1	3.4
See things much the same way	5.38	1.21	4	13.8	12	41.4	7	24.1	4	13.8	1	3.4	1	3.4	0	0.0
Have similar teaching philosophies	5.31	1.23	3	10.3	14	48.3	4	13.8	6	20.7	1	3.4	1	3.4	0	0.0
The relationship has been a positive experience	6.34	1.23	19	65.5	6	20.7	2	6.9	0	0.0	1	3.4	1	3.4	0	0.0
I am glad I had the opportunity to interact with my cooperating teacher	6.41	1.15	20	69.0	5	17.2	2	6.9	1	3.4	0	0.0	1	3.4	0	0.0

Continued on next page

Table W1 continued

Item	<i>M</i>	<i>SD</i>	Response ^a													
			<u>7</u> <i>f</i> %	<u>6</u> <i>f</i> %	<u>5</u> <i>f</i> %	<u>4</u> <i>f</i> %	<u>3</u> <i>f</i> %	<u>2</u> <i>f</i> %	<u>1</u> <i>f</i> %							
The relationship has been successful	6.38	1.15	19	65.5	6	20.7	2	6.9	1	3.4	0	0.0	1	3.2	0	0.0
If I had it to do over again, I would want to have the same cooperating teacher	6.14	1.64	20	69.0	3	10.3	2	6.9	1	3.4	1	3.4	1	3.4	1	3.4
I was satisfied with the interaction	6.31	1.34	19	65.5	6	20.7	2	6.9	0	0.0	0	0.0	2	6.5	0	0.0

Note. The first five items refer to the construct of Perceived Similarity; the last five for Perceived Satisfaction

^a Scale: 1 = Strongly Disagree; 3 = Disagree; 5 = Agree; 7 = Strongly Agree

Table U2

Frequencies and Means by Item for the Perceived Satisfaction and Perceived Similarity Constructs Reported by Cooperating Teachers (n = 29)

Item	<i>M</i>	<i>SD</i>	Response ^a													
			<u>7</u>		<u>6</u>		<u>5</u>		<u>4</u>		<u>3</u>		<u>2</u>		<u>1</u>	
			<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Have similar values and attitudes	5.45	1.95	13	41.9	6	19.4	6	19.4	1	3.2	1	3.2	1	3.2	3	9.7
Are alike in a number of areas	5.16	1.88	9	29.0	7	22.6	8	25.8	1	3.2	1	3.2	3	9.7	2	6.5
Have similar working styles	4.55	1.96	5	16.1	7	22.6	6	19.4	5	16.1	2	6.5	2	6.5	4	12.9
See things much the same way	4.97	1.94	7	22.6	9	29.0	6	19.4	2	6.5	2	6.5	2	6.5	3	9.7
Have similar teaching philosophies	5.00	1.93	7	22.6	10	32.3	3	9.7	6	19.4	1	3.2	0	0.0	4	12.9
The relationship has been a positive experience	6.03	1.70	20	64.5	4	12.9	2	6.5	2	6.5	0	0.0	2	6.5	1	3.2
I am glad I had the opportunity to interact with the cooperating teacher	6.10	1.58	19	61.3	6	19.4	2	6.5	1	3.2	1	3.2	1	3.2	1	3.2

Continued on next page

Table W2 continued

Item	<i>M</i>	<i>SD</i>	Response ^a													
			<i>f</i> ₇ %	<i>f</i> ₆ %	<i>f</i> ₅ %	<i>f</i> ₄ %	<i>f</i> ₃ %	<i>f</i> ₂ %	<i>f</i> ₁ %							
The relationship has been successful	5.87	1.80	19	61.3	3	9.7	4	12.9	0	0.0	2	6.5	2	6.5	1	3.2
If I had it to do over again, I would want to have the same student teacher	5.87	1.91	20	64.5	4	12.9	0	0.0	1	3.2	4	12.9	0	0.0	2	6.5
I was satisfied with the interaction	5.81	1.89	19	61.3	3	9.7	3	9.7	1	3.2	1	3.2	3	9.7	1	3.2

Note. The first five items refer to the construct of Perceived Similarity; the last five for Perceived Satisfaction

^a Scale: 1 = Strongly Disagree; 3 = Disagree; 5 = Agree; 7 = Strongly Agree

APPENDIX X

Similarity and Satisfaction Construct Mean Scores Reported Categorized by Number of
MBTI Letter Matches within the Student Teacher-Cooperating Teacher Pairs

Table X1
Similarity and Satisfaction Construct Mean Scores Reported Categorized by Number of MBTI Letter Matches within the Student Teacher-Cooperating Teacher Pairs

Construct	Number of MBTI Matches									
	0 Matches		1 Match		2 Matches		3 Matches		4 Matches	
	<i>(n = 1)</i>		<i>(n = 5)</i>		<i>(n = 9)</i>		<i>(n = 8)</i>		<i>(n = 7)</i>	
	<i>M^a</i>	<i>SD^b</i>	<i>M^a</i>	<i>SD</i>	<i>M^a</i>	<i>SD</i>	<i>M^a</i>	<i>SD</i>	<i>M^a</i>	<i>SD</i>
Student Teacher	4.00	--	4.56	2.66	5.58	1.75	4.80	1.35	5.63	1.16
Similarity										
Student Teacher	7.00	--	5.64	2.05	6.40	1.24	5.55	1.92	6.54	.72
Satisfaction										
Coop. Teacher	5.80	--	5.40	1.80	5.49	1.14	4.63	1.13	5.94	.73
Similarity										
Coop. Teacher	7.00	--	5.55	2.40	6.73	.48	5.90	1.52	6.60	.82
Satisfaction										

^a Scale = 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = considerable

^b Not enough cases in this category to report a Standard Deviation

VITA

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