Mentoring Abilities and Beliefs of Ohio Secondary Agricultural Education Mentor Teachers

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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Abstract

Nearly half of all new teachers leave teaching within the first five years of entering the profession. The exodus from the teaching profession has placed teacher recruitment and retention as an important challenge for public education in the United States. In order for the workforce of teachers to remain sustainable; the field of education recognizes the need for professional development programs, particularly novice teacher induction, to combat the teacher attrition challenge.

A number of studies determined that a positive relationship exists between mentoring and induction programs and teacher retention. Within the context of the relationship between mentoring and teacher retention, the importance of the abilities and beliefs mentor teachers contribute to the process cannot be neglected. Mentoring is a nurturing process that provides an ongoing, caring relationship between mentor and novice teacher, where the attitudes, beliefs, and dispositions of the mentor play a key role in the development of the novice teacher.
An understanding of how mentor teachers perceive themselves in their abilities and beliefs is critical in the selection of mentor teachers. Additionally, an examination of the relationship between mentor teachers’ perceived abilities and beliefs may help in the preparation of quality mentor teachers for the future. Therefore, the problem was that a current measure of mentor teachers’ perceptions about their abilities and beliefs as mentors is needed in the field of agricultural education in order to determine areas of need for mentor selection and training and to prepare novice teachers for the mentor–novice teacher relationship.

The design of the study was descriptive – correlational. Survey research methods were utilized in the data collection process. Two types of data were collected to meet the research objectives. In order to measure the perceptions of the abilities of mentor teachers and the perceptions of the beliefs of mentor teachers, summated rating scales were utilized to collect data on a mailed questionnaire. Additionally, demographic data were collected to describe the sample of mentor teachers. Factor analysis was utilized to determine if the items pertaining to mentor teachers’ abilities and beliefs could be reduced to a more meaningful and interpretable set of variables.

The target population consisted of Ohio secondary agricultural education instructors who served as cooperating teachers for the student teaching field experience in the Agricultural and Extension Education program (teacher education option) at The Ohio State University between the years 2000 and 2007. An 86% usable response rate was achieved through the data collection process.
Overall, mentor teachers strongly agree with the statements related to the perceptions of their abilities and beliefs in terms of the mentor – novice teacher relationship. The relationship between the two variables was described as a substantial association. Through factor analysis, the researcher concluded that 24 of the 26 items from the Components of Professional Practice are a good measure of Mentor Abilities for the Ohio mentor teachers surveyed in this study. Similarly, the 13 items summarized through the literature serve as a good measure of Mentor Beliefs for the Ohio agricultural education mentor teachers who participated in this study.
Dedicated to my family for your everlasting belief in my abilities.
Acknowledgments

Thank you to the Iowa agricultural education instructors who participated in the pilot study. Many of the individuals who were selected to participate in the pilot study happen to be some of the individuals who shaped me as an agricultural educator. Thank you also to the Ohio teachers who participated in the study. I am truly impressed by the response rate!

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Lastly, thank you to my family. I am truly grateful to have such a strong support system. I am forever indebted to you and hope to one day pass on your love and generosity.
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Fields of Study

Major Field: Agricultural and Extension Education

Areas of Specialization: Research Methods, Teacher Education
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Chapter 1: Introduction

Nearly half of all new teachers leave teaching within the first five years of entering the profession (Ingersoll, 2001; Ingersoll & Smith, 2003). The exodus from the teaching profession has placed teacher recruitment and retention as an important challenge for public education in the United States (Molner Kelley, 2004). In order for the workforce of teachers to remain sustainable; the field of education recognizes the need for professional development programs, particularly novice teacher induction, to combat the teacher attrition challenge.

Many school systems provide induction programs as a means to assimilate novice teachers into the profession. One component of induction is mentoring, the pairing of an experienced teacher with a novice teacher to provide personal and professional guidance for the novice teacher (Smith & Ingersoll, 2004). Over the past decade, a number of studies determined that a positive relationship exists between mentoring and induction programs and teacher retention (American Association of State Colleges and Universities [AASCU], 2006; Ingersoll & Kralik, 2004; Molner Kelley, 2004; Smith & Ingersoll, 2004).
A number of variables have yielded a relationship between mentoring/induction participation and teacher retention including teacher characteristics (demographic), school characteristics, nature of the mentor program, induction program activities, and factors related to the workload of mentor teachers and novice teachers (Smith & Ingersoll, 2004).

Within the context of the relationship between mentoring and teacher retention, the importance of the abilities and beliefs mentor teachers contribute to the process cannot be neglected. Anderson (1987) described mentoring as a nurturing process that provides an ongoing, caring relationship between mentor and novice teacher. The definition provided by Anderson suggested attitudes, beliefs, and dispositions that mentor teachers should hold. To that end, the researcher was unable to find a measure of the abilities and beliefs of mentor teachers.

According to Rowley (1999), a good mentor possesses six qualities: A good mentor is committed to the role of mentoring, accepting of the beginning teacher, skilled at providing instructional support, effective in different interpersonal contexts, a model of a continuous learner, and communicates hope and optimism.

In a qualitative study that described the personal relationship between mentors and novice teachers, Abell, Dillon, Hopkins, McInerney, & O’Brien (1995) identified characteristics of favorable mentors. The mentors in the Abell et al. (1995) study believed in the importance of working with interns, that it was their responsibility as a professional; assumed helping roles rather than the role of an evaluator; and worked to build respect and trust in the mentor/novice teacher relationship. Similarly, Anderson
and Shannon (1988) identified three mentor dispositions to frame a mentoring model. The three dispositions suggest that mentors should open themselves to novice teachers, be able to lead their novice teachers incrementally over time, and express care and concern about the personal and professional well being of their novice teachers (Anderson & Shannon, 1988).

Problem Statement

The popularity of required, formal mentoring and induction programs is relatively young in the field of public school education, based on the available literature on the topic. Therefore, much can be learned about the best practices in selecting and training mentor teachers. Wong (2002) reinforced the importance of induction programs in the following statement:

If we want quality teachers in our classrooms, we must make new teacher training, support, and retention top priorities. School districts that develop and implement new teacher induction programs send a message to teachers that the district values them, wants them to excel, and hopes they will stay (p. 54).

While Abell et al. (1995), Anderson and Shannon (1988), and Rowley (1999) reported characteristics important for a positive mentoring relationship, little is known about the extent to which mentors perceive their abilities and beliefs in the mentoring relationship. Due to the relationship between mentoring and induction programs and novice teacher retention (AASCU, 2006; Ingersoll & Kralik, 2004; Molner Kelley, 2004; Smith & Ingersoll, 2004), an understanding of how mentor teachers perceive themselves in these constructs is critical in the selection of mentor teachers for field experiences, like
the student teaching experience; and to serve as mentors for early career (novice) teachers. Additionally, an examination of the relationship between mentor teachers’ perceived abilities and beliefs may help in the preparation of quality mentor teachers for the future. Therefore, the problem is that a current measure of mentor teachers’ perceptions about their abilities and beliefs as mentors is needed in the field of agricultural education in order to determine areas of need for mentor selection and training and to prepare novice teachers for the mentor – novice teacher relationship.

**Purpose and Objectives**

The purpose of the study was to describe mentor teachers’ abilities and beliefs related to the mentor – novice teacher relationship. Furthermore, the study sought to explore meaningful factors that will aid in the development and selection of mentor teachers. The following research objectives guided the study:

1. Describe the perceptions of the abilities of mentor teachers.
2. Describe the perceptions of the beliefs of mentor teachers.
3. Describe the relationship between mentor teachers’ perceptions of abilities and perceptions of beliefs.
4. Determine if the items related to mentor teachers’ perception of abilities and beliefs can be reduced to a more meaningful and interpretable set of variables.
   a. Determine if the 39 items that measure mentor teachers’ perceptions of abilities and beliefs can be reduced to a more meaningful and interpretable set of variables.
b. Determine if the 26 items that measure mentor teachers’ perceptions of abilities can be reduced to a more meaningful and interpretable set of variables.

c. Determine if the 13 items that measure mentor teachers’ perceptions of beliefs can be reduced to a more meaningful and interpretable set of variables.

*Definition of Terms*

*Perceptions of the Abilities of Mentor Teachers*

Perceptions of the abilities of mentor teachers was defined as mentor teachers’ perceptions of their ability to assist novice teachers with the Components of Professional Practice (Educational Testing Service, 2001). The perceptions of the abilities of mentor teachers was operationally defined as the self-reported scores on an eight point summated rating scale for the 26 items related to the construct. The description of each point was as follows: 1 = very strongly disagree, 2 = strongly disagree, 3 = moderately disagree, 4 = mildly disagree, 5 = mildly agree, 6 = mildly agree, 7 = strongly agree, 8 = very strongly agree.
**Perceptions of the Beliefs of Mentor Teachers**

Perceptions of the beliefs of mentor teachers was defined as the beliefs mentor teachers hold about the mentor – novice teacher relationship. The perceptions of the beliefs of mentor teachers was operationally defined as the self-reported scores on an eight point summated rating scale for the 13 items related to the construct. The description of each point was as follows: 1 = very strongly disagree, 2 = strongly agree, 3 = moderately disagree, 4 = mildly disagree, 5 = mildly agree, 6 = moderately agree, 7 = strongly agree, 8 = very strongly agree.

**Mentor Teacher**

Mentor teacher was defined as a classroom teacher assigned to support a pre-service (novice) teacher in the mentoring process.

**Mentoring**

Mentoring was defined as the personal guidance provided to beginning teachers in schools (Smith & Ingersoll, 2004). The current study examined formal mentoring, where mentor teachers were assigned to pre-service teachers.

**Novice Teacher**

Novice teacher was defined as a candidate in a teacher preparation program, assigned to a student teaching experience in a secondary agricultural education program.

**Limitations of the Study**

The findings of this study were limited to the sample of teachers selected to participate in the study. Therefore, the results may not be generalized to teachers beyond the sample. Another limitation of the study is the extent to which reported attitudes and
beliefs can be generalized. Different measures of mentor teachers’ attitudes and beliefs may provide differing results depending on how mentor teachers’ perceptions of their attitudes and beliefs are measured, and how the items were constructed.

The time at which data are collected served as a limitation as well. Mentor teachers’ attitudes and beliefs were measured during the spring, when no student teachers were in the field. A different timeline of data collection may yield different results.

Basic Assumptions

A major assumption of the study was that the mentor teachers selected had enough mentoring experience to evaluate their perceptions of their abilities and beliefs regarding the mentor – novice teacher relationship. A second assumption was that mentor teachers responded to the items truthfully and did not respond how they believed they were expected to answer the items.

Significance of the Research

Molner Kelley (2004) referred to the success of a novice teacher induction program that was the result of a partnership between a university teacher education unit and local school districts. She wrote that the “university has expanded its conception of teacher education beyond the initial licensure level and committed resources to support practicing teachers early in their professional careers” (Molner Kelley, 2004). The importance of teacher education program involvement in novice teacher induction activities is exemplified by Molner Kelley’s statement.
The researcher has participated in conversations on teacher recruitment that stressed the importance of recruitment as a partnership between classroom teacher, post-secondary offices of admission, and teacher education program faculty members. Similarly, teacher education programs should examine the extent to which partnerships can be created with local school districts and state departments of education in conducting novice teacher induction programs, specifically the mentoring process. Ultimately, the results of the study will provide the field of teacher education with a better understanding of the abilities and beliefs of mentor teachers in order to develop quality mentor training programs. Additionally, future studies can examine the relationship between the perceptions of mentor teachers’ abilities and beliefs and novice teacher retention.
The findings of the current study will aid initial teacher preparation programs in preparing teacher candidates for the mentoring and induction process when candidates begin the student teaching and in-service teaching experiences by sharing with them what they might expect from mentor teachers. Knowledge of the abilities and beliefs of mentor teachers may also be important in order for teacher education faculty members to embed these ideals in the teacher preparation program to develop future mentor teachers. Novice teachers who are taught to expect and appreciate the abilities and beliefs of a positive mentoring experience may come to exhibit these dispositions and share them with novice teachers when the time comes for the former novice teacher to serve in the mentor teacher role. Objectives and learning events for mentor training activities can be guided by the knowledge gained about the abilities and beliefs of mentor teachers sampled in this study.

In addition to the knowledge teacher education faculty will gain about the abilities and beliefs of mentor teachers in the in-service mentoring process, the findings of the study will be useful in the continuous improvement of the mentoring relationship between cooperating teachers and pre-service candidates in field experiences. Additionally, the relationship between cooperating teachers, university supervisors, and pre-service candidates in clinical practice (student teaching) may strengthen with knowledge of mentor teachers’ abilities and beliefs.

Pre-service teachers, novice teachers, and mentor teachers can use the results to better understand the dynamics of the mentoring process. Mentioned previously, pre-service teachers will find the knowledge of the abilities and beliefs useful in determining
their expectations regarding the mentoring process. Similarly, novice teachers can better understand the intentions of the mentor teacher when entering a mentoring relationship. Future and current mentor teachers should acknowledge their abilities and beliefs when planning interactions with novice teachers in the mentoring process.

Finally, local school administrators and state departments of education should examine the results of the study in the planning and executing mentoring programs for novice teachers. Local school administrators will find teacher mentor abilities and beliefs useful in planning the selection, training, and support for mentor teachers, while hopefully reducing teacher attrition and the costs associated with the hiring process. State departments of education should consider the results when drafting policy for state mandated mentoring and induction programs.
Chapter 2: Review of Literature

*Purpose and Objectives*

The purpose of the study was to describe mentor teachers’ abilities and beliefs related to the mentor – novice teacher relationship. Furthermore, the study sought to explore meaningful factors that will aid in the development and selection of mentor teachers. The following research objectives guided the study:

1. Describe the perceptions of the abilities of mentor teachers.
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   a. Determine if the 39 items that measure mentor teachers’ perceptions of abilities and beliefs can be reduced to a more meaningful and interpretable set of variables.
   b. Determine if the 26 items that measure mentor teachers’ perceptions of abilities can be reduced to a more meaningful and interpretable set of variables.
c. Determine if the 13 items that measure mentor teachers’ perceptions of beliefs can be reduced to a more meaningful and interpretable set of variables.

**Stages of Teacher Development**

Professional development is a relatively new field of empirical study within teacher education. Evans (2002) wrote that “teacher development has emerged over the last decade as a recognized field of study” (p. 124). As a result, Evans found few definitions of teacher development and little agreement on conceptual models of teacher development. As a result of a review of literature on teacher development by Evans (2002), the following definition of teacher development was constructed: “an ideologically-, attitudinally-, intellectually- and epistemologically-based stance on the part of an individual, in relation to the practice of the profession to which s/he belong, and which influences her/his professional practice” (p. 130).
An underlying, crucial factor in understanding and designing teacher professional development is the change process that takes place within teachers (Guskey, 1986). To that end, Guskey (2002, 1986) described a model of teacher change that started with professional development and ended with change in teachers’ beliefs and attitudes (about professional development). The components of the model that move from the initial action (professional development) to the intended result (change in teachers’ beliefs and attitudes) are change in teachers’ classroom practices and change in student learning outcomes, respectively. The premise of the model, according to Guskey (2000) was that teachers’ beliefs and attitudes about professional development and namely the practices encouraged through professional development will not significantly change until teachers see marked results in student learning outcomes.

Similar to Guskey’s (2002) theory of teacher change is the study of stages of teacher development (Pennington, 1995; Porter, Garet, Desimone, Yoon, & Birman, 2000; Spillane, 2002). The notion was that teachers’ beliefs, attitudes, and abilities change as they progress through each stage of professional development in their careers.

A study of teacher development by Burden (1980) reported three teacher career cycles: the survival cycle that occurred in the first year of teaching, the adjustment cycle that occurred in years two through four, and the mature cycle which emerged in the fifth year of teaching and beyond.

Huberman (1989) wrote of five phases that teachers progress through in their career. Phase one, termed ‘Exploration and stabilization’ is where teachers are concerned with managing teaching tasks on a day-to-day basis and are more concerned with their
immediate duties and student learning is seldom the focus. When teachers reach phase two, ‘Commitment,’ student learning comes into focus and teachers make an effort to meet the needs of all students. Phase three, ‘Diversification,’ is the stage where teachers are concerned about their effectiveness when all students aren’t meeting learning goals. Huberman (1989) noted phase three was the stage where many teachers chose to leave the teaching profession. Teachers who choose to remain in the profession progress to phase four, ‘Serenity or distancing,’ and either reconfirm their commitment to the classroom or move into a different role in education (i.e. administration or teacher education). Lastly, phase five ‘Conservatism and regret,’ is the stage where teachers retire.

The Teacher Career Cycle Model, developed by Fessler and Christensen (1992) was comprised of eight levels: preservice, induction, competency building, enthusiastic and growing, career frustration, stable and stagnant career, wind-down, and career exit. According to Fessler and Christensen (1992), the model considers personal experiences and organizational influences. The first four levels are categorized, in part, by high motivation, high task accomplishment, and teacher identity formation (Sprinthall, Reiman, & Thies-Sprinthall, 1996). Likewise, Berliner (1988) identified five stages of skill development of teachers that began with novice and progressed to advanced beginner, competent teachers, proficient teacher, and expert teacher.

The entry-level stages of teacher development posited by Burden (1980), Huberman (1989), Fessler and Christensen (1992), and Berliner (1988) were similar in identifying novice teachers. Survival was the entry phase posited by Burden (1980),
similar to the exploration and stabilization phase reported by Huberman (1989) where teachers are working to manage the daily needs of a teacher. Fessler and Christensen’s (1992) first two stages in the Teacher Career Cycle Model were preservice and induction, parallel to Berliner’s (1988) entry stage ‘novice.’ The entry stages were described as the point where the development of an identity as a teacher takes place; understanding the role of what a teacher does, and the individual’s role as a teacher.

The intersection of the themes from Guskey’s (2002) model of teacher change that began with professional development, to the theory that teachers’ beliefs, attitudes, and abilities change as one progresses through stages of professional development (Pennington, 1995; Porter et al., 2000; Spillane, 2002), combined with the entry-level stages of teacher development led the researcher to the concept of mentoring, and the importance of having a guide into the teaching profession in order to deal with the issues novice teachers face. Diaz-Maggioli (2004) wrote that mentoring in education has become increasingly popular in education over the past 15 years and that mentoring has been “widely used as a model for induction” (p. 48). Clearly, well trained mentors are necessary in order for novice teachers to successfully progress through the stages of teacher development. Little (1990) wrote that the selection and preparation of mentors is often an afterthought.
Teacher Learning Theory

The review of literature uncovered a connection between the process of teacher development and teacher learning (Hammerness et al., 2005). A framework for teacher learning entitled, “Learning to teach in community” (Figure 1) was proposed by Hammerness et al. (2005). The framework suggested that:

new teachers learn to teach in a community that enables them to develop a vision for their practice; a set of understandings about teaching, learning and children; dispositions about how to use this knowledge; practices that allow them to act on their intentions and beliefs; and tools that support their efforts. (p. 385)
The framework emphasizes the notion that there are “interrelationships between teachers’ learning and development and the context of teachers’ learning” (Hammerness et al., 2005). The context is recognized in the framework in that teacher learning occurs within different communities such as the classroom setting and clinical settings. Hammerness et al. (2005) wrote that novice teachers have the potential to focus on student learning (the ultimate outcome of teacher learning) and curriculum issues, “if they have the right kinds of support” (p. 389).

Figure 1. Learning to Teach in Community
(adopted from Hammerness et al., 2005)
Mentoring in Education

The current emphasis on professional development in education, according to Guskey (2000), comes from a “growing recognition of education as a dynamic, professional field” (p. 16). Furthermore, Guskey (2000) emphasized that professional development should be at the core of all plans to enhance education. The ultimate goal of professional development is to have a positive impact on student learning. A high quality program of professional development is intentional, ongoing, and systemic (Guskey, 2000). Mentoring was identified as a major model of professional development (Diaz-Maggioli, 2004; Guskey, 2000) and is a central component to a number of state-level induction programs.

Mentoring was defined by Podsen and Denmark (2000) as a “sustained relationship between a novice and an expert” (p. 4). Podsen and Denmark went further to delineate two roles of mentors, that of an expert and a role model. The current study defined mentoring based on Smith and Ingersoll’s (2004) definition as the personal guidance provided to beginning teachers in schools.

Mentoring in education was likely adopted from business (Boreen, Johnson, Niday, & Potts, 2000) and was traced to the Industrial Revolution in England where novice teachers served as “pupil teachers” in order to learn how to teach. In the United States, early teachers did not take coursework in education, rather apprenticed under an experienced teacher and were expected to replicate the experienced teacher’s teaching style and methods (Boreen et al., 2000). By the 1920s, states required education courses and in the 1950s, a major shift took place whereby the phrase ‘practice teaching’ changed
to ‘student teaching’ and ‘teacher training’ was left to ‘teacher education’ (Boreen et al., 2000). Since that time, the focus of preparing teachers to mimic their mentors changed to preparing novices to become reflective practitioners. While mentoring often begins with the student teaching experience, the practice now continues beyond initial teacher education programs and is a required induction component in states such as Ohio.

Why Mentoring?

Podsen and Denmark (2000) wrote that while the education community recognizes the positive outcomes of mentoring, there is little evidence of what mentors should be able to do and what novices should learn from the process. As reported in Chapter 1, a positive relationship exists between mentoring and induction programs and teacher retention (American Association of State Colleges and Universities [AASCU], 2006; Ingersoll & Kralik, 2004; Molner Kelley, 2004; Smith & Ingersoll, 2004). Despite the statistical evidence for mentoring, Tomlinson (1998) reported basic functions of mentoring, each to actively assist novice teachers with the acquisition of awareness and strategies relevant to teaching; engagement in teaching activity which deploys such strategies and awareness; monitoring of these teaching activities and their effects; adapting strategy and awareness in the light of reflection on such feedback; and motivation and the harnessing of their personal strengths through appropriate interpersonal strategies and awareness (p. 20).
Westheimer (2008) wrote that mentoring, “when practiced within a strong professional community strengthens teacher retention, teacher learning, and pedagogical innovation” (p. 765). Furthermore, Westheimer (2008) posited that mentoring helps novice teachers develop an identity within the teaching profession and form their own vision of good teaching. Lipton and Wellman (2003) agreed, in that mentoring can make a “significant and intellectual” difference for novice teachers, not only in the induction experience but for their long-term professional careers. The ultimate intended outcome of teacher mentoring, according to Boreen et al. (2000), is an increase in student learning.

*Mentoring Framework*

The Situational Mentoring Framework (SMF) offered by Kajs (2002) was used as a starting point to conceptualize the design of a mentoring program, specifically in identifying the abilities and beliefs of mentor teachers to guide mentor selection and training. Kajs (2002) wrote that “while much is written about the value of mentoring, little information exists about designing a mentoring program for novice teachers” (p. 58). The SMF includes four major components: mentor selection; mentor and novice preparation; support team; and accountability.

In terms of mentor selection, Kajs (2002) asserted that mentors are often selected based on teaching competency and not on their personality traits, management style, and mentoring approach to novice teachers’ dispositions. Kajs (2002) called this a ‘boss-management’ style of leadership and considered it inconsistent with the needs of a mentoring program. Conversely, the SMF presents a ‘lead-management’ approach where educators collaborate in the mentor selection process; one that considers compatibility
between mentors and novice teachers and matches mentors to novice teachers based on similar thinking styles. Kajs (2002) proposed the following minimum selection criteria for mentors based on suggestions by Zimpfer and Rieger (2001), “experienced teachers who: are seen as experts by peers; have demonstrated the ability to analyze their own teaching using a reflective process; and are willing to handle the many responsibilities associated with the mentoring role” (p. 60-61).

Related to mentor training, Kajs (2002) reported the prevailing practice is that mentors are not required to undergo comprehensive training to become a mentor. Kajs (2002) emphasized the importance of mentor training by quashing the common assumption that good classroom teachers will be good mentors. Kajs wrote that, “even the most experienced teachers may lack the necessary knowledge and skills to serve as both a colleague and a supervisor of a novice teacher” (p. 62). The SMF, however, promotes a comprehensive mentor training program where mentor teachers should be prepared in the following areas: “stages of teacher development; adult learning principles; professional development assessments; interpersonal skills to assist in formative assessment and coaching; and relevant knowledge and skills of teachers to assist classroom students to succeed” (Kajs, 2002, p. 62).

Role of the Mentor

The emphasis by Kajs (2002) on the selection and preparation of mentor teachers in the SMF led the researcher to an examination of specific abilities and beliefs of mentor teachers, as they pertained to the role of the mentor. “The best mentors have great credibility among their colleagues and are recognized for their ability to initiate
curriculum and school change” (Guskey, 2000, p. 28). The literature revealed numerous descriptions of the role of mentors, outlining what they should know and be able to do. Brooks (1999) shared a job description for mentor teachers in a school-district mentoring program, which in part stated to “provide expertise and ongoing support and professional growth opportunities to enhance the skills and effectiveness of beginning teachers” (p. 54). Abilities of mentors cited by Brooks (1999) included: model effective teaching strategies, work in a collaborative manner, maintain confidentiality, and manage time effectively. Furthermore, knowledge of research-based effective teaching strategies and instructional effectiveness were essential for mentors. Mentor teachers must demonstrate professional competence, effective verbal and nonverbal communication skills, and interpersonal skills of caring, kindness, and understanding (Brooks, 1999).

Personal attributes of mentors offered by Hudson (2007) included: supportive, comfortable in talking, attentive, instilled confidence, instilled positive attitudes, and assisted in reflecting. Similarly, the following mentor competencies were offered by Clutterbuck (2001): self awareness, communicating, sense of proportion/humor, interest in developing others, goal clarity, behavioral awareness (understanding others), conceptualizing, business/professional knowhow, committed to own learning, and relationship management.

Boreen and Niday (2003) offered the following “qualities of strong mentor teachers:

- Have mastered the basic skill of teaching
- Understand the need for flexibility, in attitude and in practice
• Accept the possibility that pedagogical styles other than the ones they use may be successful
• Realize that possessiveness of students and classroom policies is detrimental to a mentoring relationship
• Can confront troublesome situation as necessary
• Have a professional vision beyond their own classroom” (p. 9-10)

“The Mentor’s Aptitude Inventory” was prepared by Podschen and Denmark (2000) and provides mentors with a self-assessment on the following eight competencies: understanding the mentoring role, promoting collaborative learning, nurturing the novice, developing your performance-coaching skills, modeling and coaching effective teaching standards, modeling and coaching effective classroom management standards, displaying sensitivity to individual differences, and shaping professional relationships.

Support was a common desired ability across the literature. Odell (1990) reported emotional support as the most helpful factor for novice teachers as well as support in instructional strategies and classroom management. Support was also reported as a critical mentor responsibility or attribute by Abell et al. (1995); Hall, Draper, Smith, and Bullough (2008); Hudson (2007); and Rowley (1999). Daloz (1999) proffered three roles of mentors, which included offering support, creating challenge, and facilitating professional vision.
The qualities proposed in Chapter 1 by Abell et al. (1995); Anderson and Shannon (1988) and Rowley (1999) summarized the beliefs mentor teachers should hold.

- Committed to the role of mentoring
- Accepting of the beginning teacher
- Skilled at providing instructional support
- Effective in different interpersonal contexts
- A model of a continuous learner
- Communicates hope and optimism
- Believes in the importance of working with interns
- Assumes helping roles rather than the role of an evaluator
- Works to build respect and trust in the mentor/novice teacher relationship
- Mentors should open themselves to novice teachers
- Be able to lead their novice teachers incrementally over time
- Express care and concern about the personal and professional well being of their novice teachers

**Components of Professional Practice**

Upon examination of the characteristics that described mentor teachers, the researcher referenced the Components of Professional Practice (ETS, 2001). Performance based assessments have been a component of teacher licensure in Ohio since 1998 when Praxis III was implemented to assess the skills of beginning teachers in the classroom setting (Ohio Department of Education [ODE], n.d.). The Components of Professional Practice (ETS, 2001) served as the framework to guide the assessment
process of beginning teachers. The Agricultural and Extension Education (AEE) teacher preparation program at The Ohio State University implemented a process for embedding the Praxis III process in field experience (student teaching) supervisory visits in order to prepare candidates for the summative assessment that took place during the induction years of teaching. A requirement for cooperating teachers partnered with the AEE program was to undergo Pathwise mentor training, which trained teachers in the Components of Professional Practice and how to mentor teachers using the framework.

According to Danielson (1996), the framework identified the “aspects of a teacher’s responsibilities that have been documented through empirical studies and theoretical research as promoting improved student learning” (p. 1). The framework (Figure 2) divided the activities of teaching into 22 components, organized by four domains: planning and preparation, classroom environment, instruction, and professional responsibilities. Danielson (1996) noted the criteria for the framework derived from three sources: the wisdom of practice of experienced teachers, theory and data developed by educational researchers, and state teacher licensing authority requirements. The framework serves as the crux for Pathwise training and was the heart of mentor training at the local-level in Ohio until a new program took effect on July 1, 2009. Since the cooperating teachers affiliated with the AEE program at Ohio State were Pathwise trained, and because the novice teachers the program prepared needed to be familiar with the framework for the Praxis III assessment, the Components of Professional Practice provided the researcher with a logical set of mentor abilities that aligned with the abilities discovered through the literature.
Figure 2. Components of Professional Practice
(adopted from Danielson, 1996)
Mentoring in Agricultural Education

In a review of literature regarding mentoring in agricultural education, Greiman (2002) summarized that mentoring studies in agricultural education (Greiman, Walker, & Birkenholz, 2002; Joerger & Boettcher, 2000; Mundt, 1991; Simon & Wardlow, 1989; Talbert, Camp, & Heath-Camp, 1994) were theoretically grounded in developmental stages. Examples included career stage models (Buehler, 1933; Fuller & Brown, 1975; Houle, 1984; and Ryan, 1986). Furthermore, Greiman (2002) concluded through the literature review that mentors should receive training.

The purpose of Greiman’s (2002) study was to describe how a formal mentoring relationship met the professional and psychosocial needs of novice agricultural education teachers. The study was rooted in Kram’s (1985) mentor role theory that posited mentors provided career and psychosocial functions such as acceptance, counseling, friendship, and role modeling. Greiman found that both novice teachers and mentors reported the psychosocial needs of the novice teachers in the study were “being met to a large extent” (p. 117). Lambert, Smith, and Ulmer (2010) studied the relational satisfaction between novice agricultural educators and their agricultural education mentors. Kram’s (1985) mentor role theory was cited as the foundation for the study.
In a study that examined the similarity of novices with cooperating teacher mentors and personality types, Kitchel and Torres (2007) cited Byrne’s (1971) similarity-attraction paradigm as the theoretical foundation. Kitchel and Torres (2007) concluded that novice teachers and the mentors differed in personality type. Mentors agreed they were similar to their novice teachers as defined by Greiman’s (2002) Mentoring Relationship Questionnaire (MRQ). Novice teachers concurred they were similar to their mentors.

Roberts (2006) extended the work of Roberts and Dyer (2004) by developing a model of cooperating teacher effectiveness through Delphi methods among student teacher novices. The foundation for the study was constructivism (Doolittle & Camp, 1999; Vygotsky, 1978). The result was a framework (Figure 3) that included 30 characteristics organized into four categories: Teaching/Instruction, Professionalism, Student Teacher/Cooperating Teacher Relationship, and Personal Characteristics. Roberts (2006) posed questions to guide future research that asked what characteristics cooperating teachers think are important.
Figure 3. Model of Cooperating Teacher Effectiveness

(adopted from Roberts, 2006)
The “Best Practices of Teacher Induction for Agricultural Education” framework (Moore & Swan, 2008) reported *Selecting and training effective mentors* and *Mentoring* as two high intensity induction activities (Stansbury & Zimmerman, 2000). Moore and Swan (2008) identified teacher education as a contributor to *Selecting and training effective mentors*. Citing Stansbury and Zimmerman (2000), Moore and Swan noted the minimum criteria for mentor teachers: “a successful classroom teacher, can articulate their practice, and has a level of understanding of how long it takes to get to the teaching level that they themselves are at” (2008, p. 64). Additionally, Moore and Swan, citing Stansbury and Zimmerman (2000) identified elements for mentor training that included “observation skills, strategies for working with adults, cognitive coaching, how to collect evidence of teaching to improve effective teaching, how to identify and communicate beginning teacher strengths, and how to build on those strengths” (2008, p. 65).

*Conceptual Framework*

Considering the themes that emerged through the literature review, the researcher developed a conceptual framework to guide the study (Figure 4). Mentoring served as the central tenant of the literature review, with the ultimate outcome of the practice of mentoring being student learning. The literature review uncovered mentor abilities and beliefs as characteristics that define the role of the mentor. According to the Best Practices of Teacher Induction for Agricultural Education framework (Moore & Swan, 2008), mentor abilities and beliefs should be considered in the selecting and training of mentors. The researcher concluded that mentor abilities and beliefs were two
characteristics that guided mentor selection and training. Mentor selection and training is one consideration in the design of a mentoring program.

Mentoring supports novice teachers’ progression through the stages of teacher development, which is similar to the concept of teacher learning. Noted earlier in this chapter, and in Chapter 1, a positive relationship exists between mentoring and induction programs and teacher retention (American Association of State Colleges and Universities [AASCU], 2006; Ingersoll & Kralik, 2004; Molner Kelley, 2004; Smith & Ingersoll, 2004). Teacher retention facilitates teacher learning and progression through the stages of teacher development. The current study examined mentors abilities and mentor beliefs as an entry point for inquiry using the proposed conceptual framework.
Figure 4. Conceptual Framework
Summary

In conclusion, the review of literature provided a theoretical grounding in stages of teacher development (Berliner, 1988; Burden, 1980; Fessler & Christensen, 1992; Guskey, 2002; Hammerness et al., 2005; and Huberman, 1989). Studies on mentoring in agricultural education (Greiman, 2002; Greiman, Walker, & Birkenholz, 2002; Joerger & Boettcher, 2000; Mundt, 1991; Simon & Wardlow, 1989; Talbert, Camp, & Heath-Camp, 1994) were grounded in stages of development theory. Mentoring was recognized as a tool to aid novice teachers in progressing through the stages of teacher development (Diaz-Maggioli, 2004).

The role of the mentor was recognized to establish the abilities and beliefs of mentor teachers; the literature yielded much knowledge on what mentors should know and be able to do (Abell et al., 1995; Anderson & Shannon, 1988; Boreen & Niday, 2003; Brooks, 1999; Clutterbuck, 2001; ETS, 2001; Hall, Draper, Smith, & Bullough, 2008; Hudson, 2007; Podsen & Denmark, 2000; Rowley, 1999). The Situational Mentoring Framework (Kajs, 2002) revealed that the abilities and beliefs of mentors are crucial in the selection and preparation of mentor teachers. With mentoring impacting novice teachers’ progression through the stages of teacher development, which in turn helps retain novice teachers, the intended outcome of mentoring is enhanced student learning (Guskey, 2000).
Chapter 3: Procedures

Purpose and Objectives

The purpose of the study was to describe mentor teachers’ abilities and beliefs related to the mentor – novice teacher relationship. Furthermore, the study sought to explore meaningful factors that will aid in the development and selection of mentor teachers. The following research objectives guided the study:

1. Describe the perceptions of the abilities of mentor teachers.
2. Describe the perceptions of the beliefs of mentor teachers.
3. Describe the relationship between mentor teachers’ perceptions of abilities and perceptions of beliefs.
4. Determine if the items related to mentor teachers’ perception of abilities and beliefs can be reduced to a more meaningful and interpretable set of variables.
   a. Determine if the 39 items that measure mentor teachers’ perceptions of abilities and beliefs can be reduced to a more meaningful and interpretable set of variables.
   b. Determine if the 26 items that measure mentor teachers’ perceptions of abilities can be reduced to a more meaningful and interpretable set of variables.
c. Determine if the 13 items that measure mentor teachers’ perceptions of beliefs can be reduced to a more meaningful and interpretable set of variables.

Research Design

The design of the study was descriptive – correlational. Survey research methods were utilized in the data collection process. Two types of data were collected to meet the research objectives. In order to measure the perceptions of the abilities of mentor teachers and the perceptions of the beliefs of mentor teachers, summated rating scales were utilized to collect data on a mailed questionnaire. Additionally, demographic data were collected to describe the sample of mentor teachers. Factor analysis was utilized to determine if the items pertaining to mentor teachers’ abilities and beliefs could be reduced to a more meaningful and interpretable set of variables.

Population and Sampling

The target population consisted of Ohio secondary agricultural education instructors who served as cooperating teachers for the student teaching field experience in the Agricultural and Extension Education program (teacher education option) at The Ohio State University between the years 2000 and 2007 and were currently in a secondary agricultural education teaching position in Ohio. The frame was obtained from internal, departmental documents that recorded the cooperating teachers used for student teacher placement each year. Individuals who also served as cooperating teachers in 2008 and 2009 were not included in the frame since they comprised the frame for another, unrelated study. Sixty five subjects comprised the population for the study. The
study sought to collect data from all individuals in the frame, therefore a census was conducted. Subjects’ names were entered into the teacher directory search function on the Ohio FFA Association website (www.ohioffa.org) to verify the current school assignment and mailing address.

Instrumentation

A three-part, 43 item researcher developed instrument was used to collect data for the study. The first part of the instrument included 26 items to determine the perceptions of the abilities of mentor teachers. The items were constructed from the Components of Professional Practice (ETS, 2001). Part two of the instrument included 13 items to describe the perceptions of beliefs of mentor teachers. The items in part two were developed from research on characteristics of effective mentor teachers (Abell et al., 1995; Anderson & Shannon, 1988; Rowley, 1999). For the 39 items in parts one and two, participants were asked to report their level of agreement with each statement using an eight point summated rating scale (1 = very strongly disagree, 2 = strongly agree, 3 = moderately disagree, 4 = mildly disagree, 5 = mildly agree, 6 = moderately agree, 7 = strongly agree, 8 = very strongly agree).

The third part of the instrument included questions designed to collect demographic characteristics. Specifically, the instrument collected information on participants’ sex, age, number of years teaching, and number of novice teachers formally mentored. The demographic data were used to describe the sample of mentor teachers.
Content validity is “the extent to which a specific set of items reflects a content domain” (DeVellis, 2003, p. 49). Content validity for the two affective variables of the researcher-created questionnaire were established using a panel of experts of three faculty members in the Agricultural and Extension Education program at The Ohio State University. Additionally, the panel was utilized to establish face validity of the questionnaire. The experts were instructed to evaluate each item for appropriateness of the item for the respective construct as well as item clarity. Modifications were made to the instrument for each item based on the recommendations of the panel of experts.

Instrument reliability, a measure of internal consistency (Miller, 2009), was determined by computing a Cronbach’s alpha for both affective variables. In order to compute Cronbach’s alpha, a pilot study was conducted among 50 randomly selected experienced Iowa agricultural education instructors. The Iowa instructors were chosen as a similar population and were not included in the sample of the study. Thirty four Iowa teachers responded to the request to participate in the pilot study, yielding a 68% response rate. A one dollar McDonald’s gift certificate was included in the pilot study data collection packet to encourage response rate. The letter sent to pilot study participants is found in Appendix A.

The data collected from the pilot study were analyzed to determine reliability of the two domains of the instrument. The minimum alpha level of 0.7 was established a priori to determine reliability for each variable. In terms of the perceptions of the abilities of mentor teachers, a Cronbach’s alpha coefficient of .93 was calculated among the 26 items. A Cronbach’s alpha coefficient of .94 was calculated for the 13 items
related to the perceptions of the beliefs of mentor teachers. All 39 items yielded a Cronbach’s alpha coefficient of .96. Since the reliability statistics for each construct and the overall instrument were above the minimum alpha level of 0.7, the instrument was deemed reliable.

Additionally, post-hoc reliability was computed from the data collected from the sample. The items related to the perceptions of the abilities of mentor teachers yielded a Cronbach’s alpha coefficient of .96, while the items related to the perceptions of the beliefs of mentor teachers yielded a Cronbach’s alpha coefficient of .91. Collectively, all 39 items in the instrument yielded a Cronbach’s alpha coefficient of .96. The post-hoc reliability analysis further asserted the instrument was reliable, since all computed coefficients were higher than the 0.7 minimum alpha level.

Data Collection

Data collection followed Dillman’s (2000) recommendations for mailed questionnaires. Five points of contact were made to achieve a high response rate. A pre-notice letter (Dillman, 2000) was sent on March 1, 2010, as the first contact to inform participants about the study and the usefulness of the study. A copy of the pre-notice letter is found in Appendix B.

On March 5, 2010, participants were sent a data collection packet that consisted of a cover letter (see Appendix C), questionnaire (see Appendix D), return postcard to facilitate anonymous response (see Appendix E), and pre-addressed stamped return envelope. An FFA pen, valued at 75 cents was included with the data collection packet as an incentive to participate in the study.
One week later, on March 12, 2010, a post card reminder was sent to encourage participant response (see Appendix F). A second data collection packet was sent on March 19, 2010, to participants who had not yet responded. March 19, 2010, also served as the cutoff date for early respondent classification in order to control for non-response rate during data analysis. Included in the second data collection packet were a cover letter (see Appendix G), questionnaire (see Appendix D), return postcard to facilitate anonymous response (see Appendix E), a pre-addressed stamped return envelope, and a one dollar bill incentive. The final contact, a letter (see Appendix H), was sent on March 29, 2010, to non-respondents that encouraged participants to return a completed questionnaire. Data collection ceased on April 9, 2010. The data collection timeline is found in Figure 5.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 1, 2010</td>
<td>Mail pre-notice letter</td>
</tr>
<tr>
<td>March 5, 2010</td>
<td>Mail first data collection packet</td>
</tr>
<tr>
<td>March 12, 2010</td>
<td>Mail post card reminder</td>
</tr>
<tr>
<td>March 19, 2010</td>
<td>Mail second data collection packet</td>
</tr>
<tr>
<td>March 19, 2010</td>
<td>Cutoff date for early respondent classification</td>
</tr>
<tr>
<td>March 29, 2010</td>
<td>Mail final contact letter</td>
</tr>
<tr>
<td>April 9, 2010</td>
<td>Cease data collection</td>
</tr>
</tbody>
</table>

Figure 5. Data Collection Timeline
Fifty-eight individuals returned an instrument, which yielded an 89% response rate. Two instruments were missing responses on more than five items related to abilities and beliefs and were deemed unusable by the researcher. One instrument was missing one item and the series mean replacement function was utilized in the data analysis package (Statistical Package for the Social Sciences 17.0 for Windows) in order for the data in the instrument to be deemed usable. Therefore, 56 questionnaires were deemed usable for data analysis (86% usable response rate).

Miller (2008) identified four threats to external validity in survey research: sampling error, frame error, selection error, and non-response error. Sampling error was not an issue in the study since a census was conducted. In terms of control for frame error, the frame was obtained from internal, departmental documents that recorded names of cooperating teachers; the lists were assumed to be complete and accurate. The researcher cross-referenced the list with the current Ohio Agricultural Education teacher directory, obtained from the website www.ohioffa.org. To combat selection error, the frame was purged of duplicates so that each individual’s name appeared only once in the frame.
Finally, the researcher controlled for non-response error by comparing early respondents to late-respondents (Miller & Smith, 1983) on summated abilities and beliefs scores. Early respondents were classified as individuals who returned the instrument on or before March 19, 2010. Instruments received by the researcher after March 19, 2010, that had a postmark of March 19, 2010, or before were also classified in the early respondent category. Late respondents were classified as those who returned an instrument that carried a postmark from March 20, 2010 to April 9, 2010. Instruments received after April 9, 2010, were discarded and not included in the study.

An independent samples t-test was calculated to compare early respondents to late respondents on summated abilities and beliefs scores. Forty-one respondents were classified as early respondents and 15 respondents were classified as late respondents. Since the groups were not equal in size, Levene’s Test for Equality of Variances was considered (Gliem, 2008). The null hypothesis for Levene’s Test for Equality of Variances was that the variance of the early respondents was equal to the variance of the late respondents. The calculated p-value on the Levene’s Test for Equality of Variances was higher than the alpha level of .05 for both the abilities and beliefs summated scores, therefore the null hypothesis was retained and equal variances were assumed.

The null hypotheses for the independent samples t-test was that the means of the abilities and beliefs scores from the early respondents were equal to the means of the abilities and beliefs scores from the late respondents, respectively. The calculated t-values for the assumption of equal variances were interpreted for both the abilities and beliefs summated scores. The related p-value for each score was higher than the alpha
level of .05 for both abilities and beliefs scores, therefore the null hypotheses were retained. The researcher concluded that early respondents were not statistically different than late respondents on either ability or belief scores, therefore the data were collapsed to a single set for data analysis.

Data Analysis

Data were be analyzed using the Statistical Package for the Social Sciences 17.0 for Windows (SPSS). Subjects whose responses were incomplete were excluded automatically by SPSS and not considered in the data analysis. Descriptive statistics were used to describe the sample of mentor teachers, in terms of sex, age, years teaching, and number of pre-service teachers mentored. To describe participants’ sex, frequencies were used; means and standard deviations were reported for age, years teaching, and number of pre-service teachers mentored.
Frequencies were reported on the individual items related to mentor teachers’ perceptions of abilities and beliefs related to the mentor – novice teacher relationship. Items within the abilities construct and beliefs construct were summated and averaged to calculate a summated mean score for the perceptions of the abilities of mentor teachers and the perceptions of the beliefs of mentor teachers, respectively. Means and standard deviations were computed to describe the participants’ level of agreement with statements regarding their abilities and beliefs related to the mentor – novice teacher relationship. A Pearson product moment correlation coefficient was calculated to describe the relationship between mentor teachers’ perception of abilities and perception of beliefs scores. Davis’ (1971) conventions were used to describe the magnitude of relationship between the variables. Davis’ conventions are reported in Table 1.

Table 1. Conventions Used to Describe Correlations

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.70 or higher</td>
<td>Very strong association</td>
</tr>
<tr>
<td>.50 to .69</td>
<td>Substantial association</td>
</tr>
<tr>
<td>.30 to .49</td>
<td>Moderate association</td>
</tr>
<tr>
<td>.10 to .29</td>
<td>Low association</td>
</tr>
<tr>
<td>.01 to .09</td>
<td>Negligible association</td>
</tr>
</tbody>
</table>
Principal components analysis and common factor analysis were used to determine if the items related to mentor teachers’ perceptions of abilities and perceptions of beliefs could be reduced to a more meaningful and interpretable set of variables.
Chapter 4: Results

Purpose and Objectives

The purpose of the study was to describe mentor teachers’ abilities and beliefs related to the mentor – novice teacher relationship. Furthermore, the study sought to explore meaningful factors that will aid in the development and selection of mentor teachers. The following research objectives guided the study:

1. Describe the perceptions of the abilities of mentor teachers.
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   b. Determine if the 26 items that measure mentor teachers’ perceptions of abilities can be reduced to a more meaningful and interpretable set of variables.
c. Determine if the 13 items that measure mentor teachers’ perceptions of beliefs can be reduced to a more meaningful and interpretable set of variables.

Mentor teachers in Ohio who responded to the study reported a mean age of 43.5 years ($s = 9.7; n = 56$) with a range of 27 years to 60 years. The 56 mentor teachers reported a mean years teaching of 20.5 years ($s = 9.5$) with a range of five years to 37 years. In terms of student teachers mentored, the Ohio mentor teachers ($n = 55$), reported a mean of 5.2 student teachers mentored ($s = 5.2$) with a range of one student teacher to 27 student teachers. Among the 56 mentor teachers, 13 were female (23.2%) and 43 were male (23.2%). Results for each objective are reported in this chapter respective to the corresponding objective.

Objective One

Objective one sought to describe the perceptions of the abilities of mentor teachers. Frequencies were reported for each of the eight points on the Likert-type scale for the 26 items related to the perceptions of the abilities of mentor teachers in Table 2. One item, Demonstrate professionalism, resulted with “Very strongly agree” as the modal category, followed by “Strongly agree.”

The following items yielded “Strongly agree” as the modal category, followed by “Very strongly agree”: Maintain accurate academic records; Establish a culture for learning; Communicate clearly with students; Reflect on her/his teaching; Improve questioning techniques; Create an environment of respect; Select appropriate instructional goals; Become more knowledgeable about subject matter content; Provide
feedback to students; Manage student behavior; Communicate with parents/guardians; Engage students in learning processes; Assess student achievement; Manage classroom procedures; Engage in professional development; Use effective discussion techniques in teaching; and Contribute to the school district’s mission.

The modal category was “Strongly agree,” followed by “Moderately agree” for six items: Become knowledgeable about students’ academic needs; Organize physical space in the classroom; Design coherent instruction; Adjust to meet individual students’ academic needs; Become more knowledgeable about pedagogy; and Become more responsive when working with students. The remaining items: Become knowledgeable of available educational resources and Contribute to the school’s academic goals, held the modal category of “Strongly agree,” followed with “Very strongly agree” and “Moderately agree” equally distributed.

Items where disagreement was reported included: Maintain accurate academic records; Organize physical space in the classroom; Create an environment of respect; Contribute to the school’s academic goals; Become more knowledgeable about subject matter content; Provide feedback to students; Adjust to meet individual students’ academic needs; Manage student behavior; Communicate with parents/guardians; Engage students in learning processes; Assess student achievement; Manage classroom procedures; Engage in professional development; Contribute to the school district’s mission; Become more knowledgeable about pedagogy; and Become more responsive when working with students. Mentor teachers did not report “Strongly disagree” or “Very strongly disagree” for any of the items related to the perceptions of their abilities.
<table>
<thead>
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<th>Perceptions of abilities</th>
<th>VSD</th>
<th>SD</th>
<th>MoD</th>
<th>MiD</th>
<th>MiA</th>
<th>MoA</th>
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<th>VSA</th>
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<tbody>
<tr>
<td>&quot;I can help my novice teacher…”</td>
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<td>Maintain accurate academic records</td>
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<td>Establish a culture for learning</td>
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<td>Become knowledgeable about students’ academic needs</td>
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<td>Communicate clearly with students</td>
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<td>Become knowledgeable of available educational resources</td>
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<td>Organize physical space in the classroom</td>
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<tr>
<td>Reflect on her/his teaching</td>
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<td>Improve questioning techniques</td>
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Table 2 continued
Table 2 continued

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<th>MiD</th>
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<th>MoA</th>
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<td>0</td>
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<tr>
<td>Provide feedback to students</td>
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<tr>
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</tr>
<tr>
<td>Communicate with parents/guardians</td>
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<td>Engage students in learning processes</td>
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<td>7.1</td>
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<td>Engage in professional development</td>
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<td>Use effective discussion techniques in teaching</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>7.1</td>
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<tr>
<td>Contribute to the school district’s mission</td>
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Table 2 continued
Table 2 continued

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<th>MoD</th>
<th>MiD</th>
<th>MiA</th>
<th>MoA</th>
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<td>“I can help my novice teacher…”</td>
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<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Become more knowledgeable about pedagogy</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>21</td>
<td>37.5</td>
<td>7</td>
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<td>Become more responsive when working with students</td>
<td>1</td>
<td>1.8</td>
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<td>23.2</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>25</td>
<td>44.6</td>
<td>12</td>
<td>21.4</td>
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</table>

Note. VSD=Very strongly disagree; SD=Strongly disagree; MoD=Moderately disagree; MiD=Mildly disagree; MiA=Mildly agree; MoA=Moderately agree; SA=Strongly agree; VSA=Very strongly agree.
Mentor teachers (n = 56) reported a mean summated perceptions of abilities score of 6.9 (s = .68) on the eight point Likert-type scale, and therefore “Strongly agreed” with the items related to their abilities in the mentor – novice teacher relationship.

**Objective Two**

The purpose of objective two was to describe the perceptions of the beliefs of mentor teachers. Frequencies were reported for each of the eight points on the Likert-type scale for the 13 items related to the perceptions of the beliefs of mentor teachers in Table 3.

“Very strongly disagree” was the modal category, followed by “Strongly agree” for three items: *I believe in the importance of guiding novice teachers; I am accepting of novice teachers;* and *I express an interest in the professional well-being of novice teachers.*

Eight items yielded “Strongly agree” as the modal category, followed by “Very strongly agree”: *I am committed to the role of mentoring; I work to build trust in the mentoring relationship; I express concern for the personal well-being of novice teachers; I view the mentoring process as a continuous relationship; I am skilled at providing instructional support for novice teachers; I reflect a model of continuous learning for novice teachers; I can assumed helping roles with novice teachers;* and *I communicate optimism to novice teachers.*
“Strongly agree” emerged as the modal category, followed equally by “Very strongly agree” and “Moderately agree” for the item: *I am effective interpersonal contexts*. One item, *I share myself emotionally with novice teachers*, yielded “Strongly agree” as the modal category, followed by “Mildly agree.”

Mentor teachers reported disagreement with the following items: *I am skilled at providing instructional support for novice teachers* and *I share myself emotionally with novice teachers*. “Very strongly disagree” was not reported by mentor teachers on any of the items related to the perceptions of their beliefs.
Table 3. Frequency of Belief Items

<table>
<thead>
<tr>
<th>Perceptions of beliefs</th>
<th>VSD</th>
<th>SD</th>
<th>MoD</th>
<th>MiD</th>
<th>MiA</th>
<th>MoA</th>
<th>SA</th>
<th>VSA</th>
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<tbody>
<tr>
<td>I am committed to the role of mentoring</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.8</td>
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<td>I work to build trust in the mentoring relationship</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>5</td>
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<tr>
<td>I am effective in different interpersonal contexts</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>8.9</td>
</tr>
<tr>
<td>I believe in the importance of guiding novice teachers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.8</td>
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<tr>
<td>I am accepting of novice teachers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3.6</td>
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<tr>
<td>I express concern for the personal well-being of novice teachers</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I view the mentoring process as a continuous relationship</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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Table 3 continued
Table 3 continued

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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I am skilled at providing instructional support for novice teachers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.8</td>
<td>2</td>
<td>3.6</td>
<td>10</td>
<td>17.9</td>
<td>32</td>
<td>57.1</td>
<td>11</td>
<td>19.6</td>
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<tr>
<td>I share myself emotionally with novice teachers</td>
<td>0</td>
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<td>1</td>
<td>1.8</td>
<td>2</td>
<td>3.6</td>
<td>4</td>
<td>7.1</td>
<td>10</td>
<td>17.9</td>
<td>9</td>
<td>16.1</td>
<td>21</td>
<td>37.5</td>
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<td>16.1</td>
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<tr>
<td>I reflect a model of continuous learning for novice teachers</td>
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<td>0</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>I can assume helping roles with novice teachers</td>
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<td>0</td>
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<td>1.8</td>
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<td>12.5</td>
<td>27</td>
<td>48.2</td>
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<td>37.5</td>
</tr>
<tr>
<td>I communicate optimism to novice teachers</td>
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<td>0</td>
<td>0</td>
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<td>29</td>
<td>51.8</td>
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<td>33.9</td>
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<tr>
<td>I express an interest in the professional well-being of novice teachers</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>3.6</td>
<td>25</td>
<td>44.6</td>
<td>28</td>
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</table>

Note. VSD=Very strongly disagree; SD=Strongly disagree; MoD=Moderately disagree; MiD=Mildly disagree; MiA=Mildly agree; MoA=Moderately agree; SA=Strongly agree; VSA=Very strongly agree.
Mentor teachers (n = 56) reported a mean summated perceptions of beliefs score of 7.2 (s = .56) on the eight point Likert-type scale, and therefore “Strongly agreed” with the items related to their beliefs of the mentor – novice teacher relationship.

**Objective Three**

Objective three was to describe the relationship between mentor teachers’ perceptions of abilities and perceptions of beliefs. The two variables (perceptions of abilities and perceptions of beliefs) were plotted on a scatter diagram to assess the nature of the relationship between the two variables. A visual examination of the scatter diagram (Figure 6) confirmed a linear relationship existed. Therefore, a Pearson product moment correlation coefficient was calculated using the summated abilities score and summated beliefs score. A relationship of .58 between the variables was discovered; a substantial association, according to Davis (1971).
Objective Four

The overall scope of objective four was to determine if the items related to mentor teachers’ perceptions of abilities and beliefs could be reduced to a more meaningful and interpretable set of variables.

Objective Four (a)

Objective four (a) examined all 39 items that collectively measured mentor teachers’ perceptions of abilities and beliefs related to the mentor – novice teacher relationship. Data reduction techniques, specifically principal components analysis and common factor analysis (maximum likelihood method) were utilized in the data analysis for this objective. Principal components analysis is often employed to support the results.
of common factor analysis (Gliem, 2009). Johnson and Wichern (1998) suggested performing a principal components analysis as a first step in factor analysis, followed by a maximum likelihood factor analysis for comparison of results. Principal components analysis “considers the total variance and derives factors that contain small proportions of unique variance” (Hair, Black, Babin, & Anderson, 2010, p. 107). Common factor analysis, however “considers only the common or shared variance” (Hair et al., 2010, p. 107); more specifically, the objective of the maximum likelihood method is to “find the factor solution which best fits the observed correlations among variables in the observed variable set” (Gliem, 2009, p. 41).

The correlation matrix was examined for suitability of the data for reduction. High correlations among variables indicate the data may be represented by a smaller subset of variables (Dunteman, 1989). While there were a few relatively low intercorrelations (lower than .3), the majority of correlations were higher than .3 and the data were deemed suitable based on examination of the correlation matrix.

The data set was further examined for the appropriateness of common factor analysis based on the following criteria (Norusis, 1990): Bartlett’s test of sphericity; measures of sampling adequacy for the individual variables, as well as the matrix; and communalities.

Bartlett’s test of sphericity indicates whether or not the matrix is an identity matrix (Norusis, 1990). An identity matrix is not desired for factor analysis. The null hypothesis for Bartlett’s test of sphericity is that the matrix is an identity matrix, while the alternative hypothesis is that the matrix is not an identity matrix. Bartlett’s test
yielded an approximate Chi-square of 2146.067, with a level of significance less than or equal to .000. At an alpha level of .05, the researcher rejected the null hypothesis and determined the matrix was not an identity matrix, and therefore appropriate for factor analysis.

Measures of sampling adequacy aid the researcher in evaluating the appropriateness of utilizing factor analysis for the data set (Hair et al., 2010). Values above .50 for the individual variables, as well as the entire matrix indicate appropriateness (Hair et al., 2010). Measures of sampling adequacy (MSA) were derived from the anti-image correlation matrix and ranged from .474 to .901, with the next highest correlation .521. Higher MSAs are desirable for factor analysis and the researcher determined there was no concern for the MSAs. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy compares the magnitude of the observed correlation coefficients to the magnitude of the partial correlation coefficients (Gliem, 2009) and determines sampling adequacy for the matrix. A KMO of .75 was calculated; higher correlations are desired, and indicated the data were appropriate for factor analysis.

Communalities are the “total amount of variance an original variable shares with all other variables included in the analysis” (Hair et al., 2010, p. 92). Relatively high communalities are desired for factor analysis; the closer to 1.00, the more desirable. The communalities for the principal components analysis were evaluated. While the communalities ranged from .167 to .809, 26 of the 39 items yielded communalities greater than .5. The communalities for the maximum likelihood factor analysis ranged
from .122 to .839; 32 of the 39 items yielded communalities above .4. Based on the communalities, the data were deemed appropriate for factor analysis. Overall, the data appeared to be suitable for factor analysis from examination of the criteria suggested by Norusis (1990).

Principal Components Analysis

According to Dunteman (1989), principal components analysis can be used to select a subset of variables to represent a total set of variables. Since the researcher created the instrument based on the Components of Professional Practice (ETS, 2001) for the items related to abilities, and a review of literature yielded the items related to beliefs, principal components analysis was selected to determine if the items related to abilities and beliefs would load respectively.

The variables subjected to principal components analysis were the perceptions of the abilities of mentor teachers (mean = 6.9, standard deviation = .68) and the perceptions of the beliefs of mentor teachers (mean = 7.2, standard deviation = .56). The sample size for the study was 56 Ohio mentor teachers. While the sample size was relatively low for a reliable analysis, Stevens (1996) suggested that components with at least four loadings equal or greater than .6 are reliable regardless of sample size. Despite Stevens’ claim, the reader is cautioned the results of the factor analysis may be sample specific and not hold true to the wider population of mentor teachers as Tabachnick and Fidell (1996) recommend sample sizes of at least 300 for factor analysis.
Eight components were extracted by SPSS based on Eigenvalues greater than one. The eight components explained 76.51% of the variance. Examination of the eight components did not yield an interpretable set of components; therefore the researcher chose to retain two factors, based on the conceptual premise that two variables were examined: abilities and beliefs. Component one explained 44.44% of the variance in the items, while component two explained 10.58% of the variance in the items, for a cumulative percent of variance explained of 55.02%. Stevens (1996) suggested at least 70% of the variance should be explained when retaining components; however Gliem (2009) suggested that explaining 70% of the variance may be difficult and a minimum of 30-40% total variance explained is appropriate.

To aid the interpretation of the components, the components were rotated both orthogonally and obliquely and the loadings were fairly consistent across both rotations, therefore the researcher chose to interpret the rotated factor matrix (see Table 4) of the orthogonal rotation. Stevens (1996) recommended interpreting the orthogonal rotation if both rotations were similar. The salient value of .4 was selected by the researcher based on the recommendation of Tabachnick and Fidell (1996) that loadings of .32 and above be used to indicate items that load on each component. Additionally, Gliem (2009) recommended .3 - .4 as a minimum loading.
Table 4. Principal Components Analysis Orthogonal Rotation

<table>
<thead>
<tr>
<th>Item</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain academic records</td>
<td>.630</td>
<td>.408</td>
<td></td>
</tr>
<tr>
<td>Culture for learning</td>
<td>.598</td>
<td>.358</td>
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</tr>
<tr>
<td>Knowledge about academic needs</td>
<td>.617</td>
<td>.384</td>
<td></td>
</tr>
<tr>
<td>Communicate with students</td>
<td>.754</td>
<td>.642</td>
<td></td>
</tr>
<tr>
<td>Knowledgeable of educational resources</td>
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<td>.224</td>
<td></td>
</tr>
<tr>
<td>Organize physical space</td>
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<td>.167</td>
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<tr>
<td>Demonstrate professionalism</td>
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<td>.461</td>
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<tr>
<td>Reflect on teaching</td>
<td>.594</td>
<td>.453</td>
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<tr>
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<td>.558</td>
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<tr>
<td>Contribute to school’s academic goals</td>
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<td>Knowledgeable about subject matter content</td>
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<td>Feedback to students</td>
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<tr>
<td>Contribute to district mission</td>
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<td>Knowledgeable about pedagogy</td>
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<td>Build trust</td>
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<td>Effective in interpersonal contexts</td>
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<tr>
<td>Importance of guiding novice teachers</td>
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<td>Accepting of novice teachers</td>
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<td>Express concern for novice teachers</td>
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<td>View mentoring as continuous</td>
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<tr>
<td>Skilled at instructional support</td>
<td>.624</td>
<td>.526</td>
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</tr>
<tr>
<td>Share myself emotionally</td>
<td>.543</td>
<td>.297</td>
<td></td>
</tr>
<tr>
<td>Model of continuous learning</td>
<td>.607</td>
<td>.456</td>
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<td>Assume helping roles</td>
<td>.767</td>
<td>.628</td>
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<td>Communicate optimism</td>
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<td>.579</td>
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</tr>
<tr>
<td>Express interest in professional well being</td>
<td>.680</td>
<td>.500</td>
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</table>

Extraction method: Principal components analysis
Rotation method: Varimax with Kaiser normalization
Rotation converged in 3 iterations
Trace = 21.458; Percent trace = 55.02%
Twenty three of the 26 items generated from the Components of Professional Practice (ETS, 2001) to measure mentor teachers’ perceptions of their abilities loaded on component one. Three of the items loaded on both component one and component two and one item that conceptually belongs with component one loaded on component two. These four items will be examined further through common factor analysis. The thirteen items that measured mentor teachers’ perceptions of their beliefs, which were created by the researcher from a synthesis of literature, all loaded on component two. The results of the principal components analysis led the researcher to continue the data reduction analysis with common factor analysis, using the maximum likelihood method.

Common Factor Analysis

A goal of factor analysis is to identify meaningful common factors from a data set; factors that are meaningful and interpretable (Gliem, 2009). Gliem (2009) wrote that exploratory factor analysis “attempts to reduce a set of observed variables to a smaller number of common factors” (p. 39). This study sought to determine whether the items that measured mentor teachers’ perceptions of their abilities and beliefs related to the mentor – novice teacher relationship could be reduced to a more meaningful and interpretable set of variables. The maximum likelihood method was utilized in the analysis.

Similar to the principal components analysis, eight factors were extracted by SPSS based on Eigenvalues greater than one. Conceptually, the eight factors did not support the two variables, abilities and beliefs. Therefore, the researcher chose to extract two factors, which together explained 52.5% of the variance in the items. The factors
were rotated both orthogonally and obliquely to aid in the interpretation of results and the salient value of .4 was used, as was the practice with the principal components analysis.

The results of the orthogonal rotation yielded similar results to the rotated matrix of the principal components analysis; the items that measured mentor teachers’ perceptions of their abilities: Design coherent instruction, Assess student achievement, and Responsive with students, cross loaded on both factors. Different from the principal components analysis, the items Knowledge of educational resources and Organize physical space did not load on either factor. The remaining items related to mentor teachers’ perceptions of their abilities loaded on factor one, while all 13 items related to mentor teachers’ perceptions of their beliefs loaded on factor two.

Stevens (1996) recommended examination of both orthogonal and oblique rotations, therefore the researcher considered both the pattern matrix and the structure matrix, which are the output from the oblique rotation. The factor pattern matrix contains “loadings that represent the unique contribution of each variable to the factor” (Hair, Black, Babin, & Anderson, 2010, p. 119). The pattern matrix (see Table 5) produced similar results to the orthogonally rotated matrix, however there were no cross loadings. Similarly, two items related to mentor teachers’ perceptions of abilities: Knowledgeable of educational resources and Organize physical space did not load on the pattern matrix. Oblique rotation also provides a separate structure matrix (see Table 6).
The factor structure matrix yields “simple correlations between variables and factors, but these loadings contain both the unique variance between variables and factors and the correlation among factors” (Hair et al., 2010, p. 119). The structure matrix yielded conflicting results as there were a number of cross loadings on the items that measured mentor teachers’ perceptions of their abilities.
Table 5. Common Factor Analysis Oblique Rotation Pattern Matrix

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain academic records</td>
<td>.649</td>
<td></td>
<td>.324</td>
</tr>
<tr>
<td>Culture for learning</td>
<td>.573</td>
<td></td>
<td>.282</td>
</tr>
<tr>
<td>Knowledge about academic needs</td>
<td>.586</td>
<td></td>
<td>.316</td>
</tr>
<tr>
<td>Communicate with students</td>
<td>.722</td>
<td></td>
<td>.607</td>
</tr>
<tr>
<td>Knowledgeable of educational resources</td>
<td></td>
<td></td>
<td>.178</td>
</tr>
<tr>
<td>Organize physical space</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Demonstrate professionalism</td>
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<td>.419</td>
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<tr>
<td>Reflect on teaching</td>
<td>.544</td>
<td></td>
<td>.416</td>
</tr>
<tr>
<td>Questioning techniques</td>
<td>.704</td>
<td></td>
<td>.552</td>
</tr>
<tr>
<td>Design coherent instruction</td>
<td>.581</td>
<td></td>
<td>.600</td>
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<tr>
<td>Environment of respect</td>
<td>.900</td>
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<tr>
<td>Select instructional goals</td>
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<tr>
<td>Contribute to school's academic goals</td>
<td>.683</td>
<td></td>
<td>.487</td>
</tr>
<tr>
<td>Knowledgeable about subject matter content</td>
<td>.593</td>
<td></td>
<td>.478</td>
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<tr>
<td>Feedback to students</td>
<td>.832</td>
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<td>.743</td>
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<tr>
<td>Meet students' academic needs</td>
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<tr>
<td>Manage student behavior</td>
<td>.777</td>
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<td>.581</td>
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<tr>
<td>Communicate with parents/guardians</td>
<td>.822</td>
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<td>.657</td>
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<tr>
<td>Engage students in learning</td>
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<td>Assess student achievement</td>
<td>.761</td>
<td></td>
<td>.784</td>
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<td>Manage classroom procedures</td>
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<td>Professional development</td>
<td>.487</td>
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<td>Discussion techniques</td>
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<tr>
<td>Contribute to district mission</td>
<td>.822</td>
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<td>.713</td>
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<td>Knowledgeable about pedagogy</td>
<td>.554</td>
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<td>Responsive with students</td>
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<td>Committed to mentoring</td>
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<tr>
<td>Build trust</td>
<td>.684</td>
<td></td>
<td>.559</td>
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<tr>
<td>Effective in interpersonal contexts</td>
<td>.526</td>
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<td>Importance of guiding novice teachers</td>
<td>.820</td>
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<td>Accepting of novice teachers</td>
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<td>Express concern for novice teachers</td>
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<td>View mentoring as continuous</td>
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<td>Skilled at instructional support</td>
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<tr>
<td>Share myself emotionally</td>
<td>.494</td>
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<td>.224</td>
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<tr>
<td>Model of continuous learning</td>
<td>.581</td>
<td></td>
<td>.432</td>
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<tr>
<td>Assume helping roles</td>
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<td></td>
<td>.642</td>
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<tr>
<td>Communicate optimism</td>
<td>.723</td>
<td></td>
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</tr>
<tr>
<td>Express interest in professional well being</td>
<td>.641</td>
<td></td>
<td>.444</td>
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</table>

Extraction method: Maximum likelihood
Rotation method: Oblim in Kaiser normalization
Rotation converged in 5 iterations
Trace = 20.482; Percent trace = 52.52%
Table 6. Common Factor Analysis Oblique Rotation Structure Matrix

<table>
<thead>
<tr>
<th>Item</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain academic records</td>
<td>.530</td>
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<tr>
<td>Culture for learning</td>
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<td></td>
</tr>
<tr>
<td>Knowledge about academic needs</td>
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<tr>
<td>Communicate with students</td>
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<td>.461</td>
</tr>
<tr>
<td>Knowledgeable of educational resources</td>
<td></td>
<td>.411</td>
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<tr>
<td>Organize physical space</td>
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<td></td>
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<tr>
<td>Demonstrate professionalism</td>
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<td>.454</td>
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<tr>
<td>Reflect on teaching</td>
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<td>.439</td>
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<td>Questioning techniques</td>
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<td>Design coherent instruction</td>
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<td>.587</td>
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<tr>
<td>Environment of respect</td>
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<td></td>
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<tr>
<td>Select instructional goals</td>
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<td>.461</td>
</tr>
<tr>
<td>Contribute to school’s academic goals</td>
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<tr>
<td>Knowledgeable about subject matter content</td>
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<tr>
<td>Feedback to students</td>
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<td>Meet students’ academic needs</td>
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<tr>
<td>Manage student behavior</td>
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<td>Communicate with parents/guardians</td>
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<td>Engage students in learning</td>
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<td>Assess student achievement</td>
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<td>Discussion techniques</td>
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<td>View mentoring as continuous</td>
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<td>Skilled at instructional support</td>
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<td>Share myself emotionally</td>
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<td>Model of continuous learning</td>
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<td>.731</td>
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<tr>
<td>Express interest in professional well being</td>
<td></td>
<td>.665</td>
</tr>
</tbody>
</table>

Extraction method: Maximum likelihood
Rotation method: Oblimin with Kaiser normalization
After examination of the orthogonal and oblique rotations, the researcher chose to interpret the pattern matrix of the oblique rotation. While Stevens (1996) claimed that if the orthogonal and oblique rotations were similar to interpret the simpler orthogonal rotation, Stevens also suggested that if the correlation between the factors was greater than .4, interpretation of the oblique rotation was appropriate. The correlation between the two factors was .495. Furthermore, the pattern matrix of the oblique rotation did not express the problematic cross loadings noted in the principal components analysis and the orthogonal rotation. The three items that cross loaded in the orthogonal rotation, but not the oblique rotation, conceptually belong with the items in factor one, the items related to mentor teachers’ perceptions of their abilities. Since the three items in question clearly loaded on factor one in the oblique rotation, at the salient value of .4, the pattern matrix of the oblique rotation was deemed appropriate. Hair et al. (2010) noted that most researchers report the results of the pattern matrix because of the difficulty to distinguish which variables uniquely load on each factor in the structure matrix.

Factor one was named “Mentor Abilities” and factor two was named “Mentor Beliefs.” The factor Mentor Abilities had an Eigenvalue of 16.822, while the factor Mentor Beliefs had an Eigenvalue of 3.66. Total variance in the data set was 39. The total common variance extracted by the two factors was 20.482. The common variance extracted by the two factors was calculated by taking the variance extracted by the factors divided by the total variance (20.482/39) which was 52.52%.
Objective Four (b)

This objective sought to determine if the 26 items that measure mentor teachers’ perceptions of abilities could be reduced to a more meaningful and interpretable set of variables. Upon examination of the items in both principal components analysis and common factor analysis, the researcher determined the 26 items related to mentor teachers’ perceptions of abilities loaded on one factor.

Objective Four (c)

Similar to objective four (b), the purpose of objective four (c) was to determine if the 13 items that measure mentor teachers’ perceptions of beliefs could be reduced to a more meaningful and interpretable set of variables. The items were examined using both principal components analysis and common factor analysis, and like the items related to mentor teachers’ perceptions of abilities, no conclusive results were found that supported further reduction of the data.

Upon completion of the data reduction techniques, the researcher recalculated the items related to the factor Mentor Abilities, less the items that did not load on the pattern matrix (Knowledge of educational resources and Organize physical space). The factor Mentor Abilities was comprised of 24 items. A mean score of 6.9 was found with a standard deviation of .71, compared to the original calculation of the ability score with a mean of 6.9 (s = .68). The Mentor Beliefs score remain unchanged with a mean of 7.2 (s = .56) since all 13 items originally believed to measure beliefs, loaded in the factor analysis. The Pearson product moment correlation coefficient was recalculated between the abilities and beliefs, using the Mentor Abilities and Mentor Beliefs scores and the
result was a nominal change and yielded a positive relationship of $r = .57$, compared to the original $r = .58$. The association was described as substantial using Davis’ (1971) conventions.
Chapter 5: Discussion

Purpose and Objectives

The purpose of the study was to describe mentor teachers’ abilities and beliefs related to the mentor – novice teacher relationship. Furthermore, the study sought to explore meaningful factors that will aid in the development and selection of mentor teachers. The following research objectives guided the study:

1. Describe the perceptions of the abilities of mentor teachers.
2. Describe the perceptions of the beliefs of mentor teachers.
3. Describe the relationship between mentor teachers’ perceptions of abilities and perceptions of beliefs.
4. Determine if the items related to mentor teachers’ perception of abilities and beliefs can be reduced to a more meaningful and interpretable set of variables.
   a. Determine if the 39 items that measure mentor teachers’ perceptions of abilities and beliefs can be reduced to a more meaningful and interpretable set of variables.
   b. Determine if the 26 items that measure mentor teachers’ perceptions of abilities can be reduced to a more meaningful and interpretable set of variables.
c. Determine if the 13 items that measure mentor teachers’ perceptions of beliefs can be reduced to a more meaningful and interpretable set of variables.

Summary of Procedures

Survey research methods were employed for this descriptive – correlational study. A census was conducted among Ohio mentor teachers who served as cooperating teachers in the Agricultural and Extension Education program at The Ohio State University. A researcher developed instrument was utilized in the data collection process to determine mentor teachers’ perceptions of their abilities and beliefs related to the mentor – novice teacher relationship. Content validity and face validity of the instrument were achieved through a review of a panel of experts. Instrument reliability was gained from a pilot study of Iowa agricultural education instructors. Cronbach’s alpha coefficients were calculated on the items related to mentor teachers’ perceptions of their abilities and perceptions of their beliefs; coefficients of .93 and .94 were calculated, respectively.
Five points of contact were utilized in the data collection process for the 65 Ohio mentor teachers included in the study. An 89% response rate was attained through the data collection process. After the data were examined, 86% of the returned instruments were deemed usable for data analysis. Non-response error was controlled by comparing early respondents to late respondents (Miller & Smith, 1983) on the abilities and beliefs summated scores. In terms of data analysis, SPSS was utilized to obtain descriptive and relational statistics to meet the research objectives. Principal components analysis and common factor analysis were employed as part of the data analysis.

**Summary of Results**

Objective one sought to describe mentor teachers’ perceptions of their abilities relative to the mentor – novice teacher relationship. The overall mean agreement score for the 26 items used to measure abilities was 6.9 (s = .68). Mentor teachers reported the highest level of agreement with the item, *Demonstrate professionalism*, for which “Very strongly agree” was the modal category. The modal category was “Strongly agree” for the 25 remaining items. While frequencies were reported in the “Mildly disagree” and “Moderately disagree” categories, mentor teachers did not report “Strongly disagree” or “Very strongly disagree” for any of the items related to abilities.

Similar to objective one, the second objective sought to describe mentor teachers’ perceptions of their beliefs relative to the mentor – novice teacher relationship. The overall mean agreement score for the 13 items used to measure beliefs was 7.2 (s = .56). The modal category was “Very strongly agree” for the items, *I believe in the importance of guiding novice teachers, I am accepting of novice teachers, and I express an interest in*
the professional well-being of novice teachers. “Strongly agree” was the modal category for the remaining items. Mentor teachers reported disagreement with the items, *I share myself emotionally with novice teachers* and *I am skilled a demonstrating instructional support for novice teachers*. “Very strongly disagree” was not reported on any of the items related to mentor teachers’ beliefs.

Objective three sought to ascertain the relationship between mentor teachers’ perceptions of abilities and perceptions of beliefs. A Pearson product moment correlation coefficient was calculated and \( r = .58 \) was discovered.

The purpose of objective four was to determine if the items related to mentor teachers’ perception of abilities and beliefs can be reduced to a more meaningful and interpretable set of variables. The data were subjected to principal components analysis and common factor analysis and two common factors emerged from the process. The researcher chose to interpret the pattern matrix of the oblique rotation from the maximum likelihood method of common factor analysis. Twenty four of the twenty six items that measured mentor teachers’ abilities loaded together. The two items that did not load were *Knowledgeable of educational resources* and *Organize physical space*. All thirteen items related to mentor teachers’ beliefs loaded together. The researcher named the factors “Mentor Abilities” and “Mentor Beliefs.”
Further examination of the data within each factor did not yield meaningful sub-factors and data analysis ceased. The Mentor Abilities summated score was recalculated without the two items that did not load and a mean score of 6.9 (s = .71) was obtained. The Pearson product moment correlation coefficient was calculated to determine the relationship between the recalculated Mentor Abilities score and the previously calculated Mentor Beliefs score and a coefficient of .57 was reported.

Conclusions

Overall, mentor teachers strongly agree with the statements related to the perceptions of their abilities and beliefs in terms of the mentor – novice teacher relationship. This was reflected through the frequency distributions, as the modal category for most items was “Strongly agree.” Also, the summated scores for Mentor Abilities and Mentor Beliefs fell in the range of “Strongly Agree.” There was more disagreement with the statements related to Mentor Abilities than there were the statements related to Mentor Beliefs, however the lowest level of agreement of all items reported was on the belief item, *I share myself emotionally with novice teachers.* In general, Ohio agricultural education mentor teachers perceive their ability to mentor as high; likewise, Ohio agricultural education mentor teachers have favorable beliefs about the mentor – novice teacher relationship.

The relationship between the two variables was evident through the substantial association (Davis, 1971) that was discovered through the correlation coefficient. As level of agreement with one variable increases, the level of agreement with the other variable increases. The researcher posited that Mentor Beliefs has the potential to be an
independent variable, with Mentor Abilities as the dependent variable. Abilities tend to be a more teachable construct, whereas beliefs tend to be more steadfast and unchanging. Beliefs may be a predictor for an individual’s ability to mentor. Conversely, Mentor Abilities may be the predictor variable. Since only 32% of the variance between the two variables was explained, 68% of variance between Mentor Abilities and Mentor Beliefs is not explained.

Through factor analysis, the researcher concluded that 24 of the 26 items from the Components of Professional Practice (ETS, 2001) are a good measure of Mentor Abilities for the Ohio mentor teachers surveyed in this study. Similarly, the 13 items summarized through the literature serve as a good measure of Mentor Beliefs for the Ohio agricultural education mentor teachers who participated in this study. Construct validity was achieved for the 24 items related to Mentor Abilities as well as the 13 items related to Mentor Beliefs. While the sample size was low for factor analysis, and the results may be sample specific, the loadings were high; therefore the researcher would expect to see similar results with similar populations. While the researcher hoped to discover sub-constructs for Mentor Abilities and Mentor Beliefs, none were determined through this study, which may be a result of the low sample size.

**Recommendations**

The Mentor Beliefs scale should be used by teacher preparation programs to aid in the selection of cooperating teachers. Likewise, local school systems and content-based mentor program coordinators should use the Mentor Beliefs scale as part of the selection process when selecting mentors for early-career novice teachers.
Ingersoll and Smith (2004) reported that a number of mentoring/induction related variables have a positive relationship with novice teacher retention. The importance of mentor beliefs may play a role in the retention of novice teachers. To that end, cumulative results of mentor teachers’ beliefs should be shared with novice teachers (student teachers and early-career teachers) to prepare the novice teachers for their role in the mentor – novice teacher relationship. When novice teachers understand the beliefs of the individuals who will mentor them, they will be better prepared to enter the relationship knowing what mentor teachers believe about mentoring. While abilities should also be examined when selecting mentor teachers, less emphasis should be placed on abilities than beliefs. An increase in ability to mentor may be taught more immediately through a training program and with experience, whereas beliefs are probably more difficult to teach and develop over a longer period of time.

Mentor teachers’ perceptions of abilities should be examined when designing mentor training programs. Often training programs are based on what the program coordinator believes is important for individuals to know and be able to do. Administration of the Mentor Abilities scale, followed by analysis of the individual items will aid in the design of a training program for a particular group of mentors. Particularly, mentor program coordinators and trainers should focus attention on items where mentor teachers hold disagreement, or lower levels of agreement with items related to their ability to mentor when designing mentor training programs.
The current study yielded sixteen items related to abilities where mentor teachers’ reported a level of disagreement. The items included:

- Maintain accurate academic records
- Organize physical space in the classroom
- Create an environment of respect
- Contribute to the school’s academic goals
- Become more knowledgeable about subject matter content
- Provide feedback to students
- Adjust to meet individual students’ academic needs
- Manage student behavior
- Communicate with parents/guardian
- Engage students in learning processes
- Assess student achievement
- Manage classroom procedures
- Engage in professional development
- Contribute to the school district’s mission
- Become more knowledgeable about pedagogy
- Become more responsive when working with students
While the Pathwise mentor training program is not currently used in Ohio, the items listed above should be considered by mentor training coordinators, as well as teacher education faculty who are responsible for the training of cooperating teachers to determine how mentor teachers’ level of agreement can be increased on each of these items to provide a positive, meaningful experience for novice teachers.

Similarly, mentor teachers’ perceptions of beliefs should be considered in the design of mentor training programs. In the current study of Ohio agricultural education mentor teachers, disagreement was reported with the following beliefs items:

- *I share myself emotionally with novice teachers*
- *I am skilled a demonstrating instructional support for novice teachers*

Cognitive coaching was reported by Stansbury and Zimmerman (2000) as a necessary component for mentor training and a study by Hawkey (2006) reported emotional intelligence as an important characteristic for mentors. Odell (1990) reported that emotional support was one of the most helpful factors for novice teachers. Mentor training coordinators and teacher educators must recognize that emotional support is necessary for novice teachers and that mentors must reach their potential to help novice teachers in that regard. In terms of instructional support, mentors must be guided to see themselves as teacher educators, whether they are mentoring student teachers, or first, second, or third year early-career teachers.
**Implications to Existing Knowledge**

The results of the current study statistically supported the Components of Professional Practice (ETS, 2001) as a measure of Ohio agricultural education mentor teachers’ perception of their ability to mentor. Similarly, the items summarized by the researcher, gleaned from studies by Abell et al. (1995), Anderson and Shannon (1988), and Rowley (1999), were supported as a measure of Ohio agricultural education mentor teachers’ perceptions of their beliefs about the mentor–novice teacher relationship.

While studies (Greiman 2002; Lambert, Smith, and Ulmer 2010) sought to determine factors that contributed to mentor–novice teacher satisfaction, little was reported on the abilities and beliefs of the mentor teachers. Measurement of prospective mentor teachers’ abilities and beliefs not only provides two additional factors to correlate with mentor–novice teacher satisfaction, as well as novice teacher retention but also provides a foundation in the selection and training of mentor teachers, which may result in a more positive experience for novice teachers, supporting advancement in the stages of teacher development, resulting in enhanced student learning.

Knowledge of mentor teachers’ abilities and beliefs allows researchers studying mentoring and mentor teachers with a foundation on which to design future studies. Previous studies that offered characteristics of mentors were validated through the results of the current study on Ohio agricultural education mentor teachers.
Implications for Further Study

Replication of the study using the Mentor Ability scale and the Mentor Belief scale is encouraged with similar populations of secondary agricultural education instructors. Studies should be expanded beyond agricultural education instructors to determine the validity of the two scales outside agricultural education. A national study of the abilities and beliefs of mentor teachers may not be as meaningful as a local or statewide study of mentor teachers since mentoring programs vary from state to state.

While the Mentor Abilities scale serves as a good measure for Ohio agricultural education mentor teachers’ perceptions of abilities, the scale may not function with a group of mentor teachers who were not trained through the Pathwise mentor training program. A suitable set of items should be selected to measure mentor teachers’ abilities, depending on the desired outcomes of the mentoring program, especially if the Mentor Ability scale is not valid with a particular group of mentor teachers. The Mentor Beliefs scale however should be a universal measure to determine where mentor teachers’ report their level of agreement of their beliefs in relation to the mentor – novice teacher relationship.

Future studies should include a qualitative component to aid researchers in further describing mentor teachers’ abilities and beliefs, beyond descriptive quantitative statistics. To that end, Q-methodology may be an appropriate technique to further discern mentor teachers’ perceptions about their abilities and beliefs, whereby participants rank each item in the Mentor Abilities and Mentor Beliefs scales, respectively. A study utilizing Q-methodology will provide an in-depth look at how
individuals perceive their abilities and beliefs. When a Likert-type scale is used as the measurement tool, a participant may “Very strongly agree” with all of the statements in the instrument. Conversely, when the Q-method is used, participants are forced to rank each item from “most important” to “least important.” The researcher can then determine consensus items and distinguishing items among participants, whereby more knowledge is gained about individuals’ perceptions. When the items comprising the Mentor Beliefs scale are subjected to a Q-sort, researchers, teacher educators, and mentoring program coordinators will have a better understanding of how mentor teachers’ perceive their beliefs about the mentor–novice teacher relationship.

Once a solid knowledge base is achieved regarding the abilities and beliefs of mentor teachers, experimental treatments can be designed based on the abilities and beliefs for which mentor teachers need assistance. Quasi-experimental or experimental research designs can be implemented to test whether particular mentor training workshops make a difference in mentor teachers’ perceptions about their abilities and beliefs.
Studies on mentoring and mentor teachers should continue to examine the relationship between mentoring and teacher retention: What impact do the abilities and beliefs of the mentor teacher have on a novice teachers’ decision to stay in the profession? Also, studies should begin to examine the relationship between novice teachers’ participation in mentoring/induction activities and student learning. If states and local school systems are to continue providing mentoring programs for novice teachers and expand participation to all teachers, the results of the mentoring program should enhance student learning.
References


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Appendix A: Letter to Pilot Study Participants
February 23, 2010

Greetings «Title» «Last Name»,

I hope you are doing well; it has been a while since I have seen you. I am writing to ask for your help in a study of mentor teachers. As you know, mentoring is an important aspect of teacher development. My advisor, Dr. Jamie Cano and I have developed a questionnaire to determine teachers’ perceptions of their abilities and beliefs as a mentor teacher. Part of the research process includes pilot testing the instrument and I have selected Iowa agricultural education instructors as the group for our pilot test. Based on my experience teaching in Iowa, I selected respected teachers in the state and randomly selected 50 of those teachers to participate in the pilot study. Your help in this phase of our research project is very much appreciated.

Please complete the enclosed questionnaire as if you were currently serving as a cooperating teacher for a student teacher or as a mentor to a new (novice) teacher in your school; fold in half lengthwise; and return in the enclosed, self-addressed stamped envelope by March 5, 2010. All answers to the questionnaire are completely anonymous. Your participation in the pilot test is voluntary; if you choose not to participate, simply disregard this request.

I have enclosed a McDonald’s gift certificate valued at one dollar as a token of appreciation to say thank you for your help with this project. Enjoy a snack on me.

Thank you again for your time. I wish you the best as you are preparing for spring and summer FFA activities. Feel free to contact me if you have questions.

Sincerely,

Ryan M. Foor
Graduate Associate
614-325-2252
foor.26@osu.edu
Appendix B: Pre-Notice Letter
March 1, 2010

Greetings <<First Name>>,

A few days from now you will receive in the mail a request to fill out a brief questionnaire for an important research study conducted by The Ohio State University.

This study concerns the professional development abilities and beliefs of mentor teachers. Because of your service as a cooperating teacher for student teachers, you have been identified as a key individual to participate in this study.

I am writing in advance because we have found many people like to know ahead of time that they will be contacted. The study is an important one that will help the field of agricultural education to determine teachers’ abilities and beliefs about mentor teachers in order to learn more about this important aspect of teacher education.

Thank you for your time and consideration. Only with the generous support of people like you are we able to conduct successful research that makes a difference for students and teachers.

Sincerely,

Jamie Cano
Associate Professor

Ryan M. Foor
Graduate Associate

P. S. We will enclose a small token of appreciation with the questionnaire as a way of saying thank you.
Appendix C: First Cover Letter
March 5, 2010

≪First Name≫ ≪Last Name≫
≪School Name≫
≪School Address≫
≪City≫, ≪State≫ ≪ZIP≫

Greetings ≪First Name≫,

We are writing to ask your help in a study of mentor teachers being conducted among agricultural educators in the state of Ohio. Mentoring is an important aspect of teacher development. Since you have served as a cooperating teacher for at least one student teacher, your perceptions of your abilities and beliefs as a mentor teacher are valued. The results of this study will help understand more about how cooperating teachers feel about serving as mentors.

Please complete the enclosed questionnaire, fold in half lengthwise, and return in the enclosed, self-addressed stamped envelope by March 19. All answers to this questionnaire are completely anonymous. There is no identification number of any kind on the questionnaire. However, to let us know that your questionnaire has been returned, please print your name and return the enclosed post card separately in the mail so we can check your name off the mailing list.

It should only take about 15 minutes for you to complete the enclosed questionnaire. Your participation is voluntary and you may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University. There are no anticipated risks from you participation and you will not benefit directly from participating in the study. There is no cost to you except your time.

Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law. Also, your records may be reviewed by the Office for Human Research Protections or other federal, state, or international regulatory agencies; or The Ohio State University Institutional Review Board or Office of Responsible Research Practices.

An FFA pen is enclosed as a token of appreciation to say thank you for your help. The pen is yours to keep.
You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled. If you are a student or employee at Ohio State, your decision will not affect your grades or employment status.

If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By participating in the study, you do not give up any personal legal rights you may have as a participant in this study.

For questions, concerns, or complaints about the study you may contact Ryan Foor at 614-325-2252. For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251. If you are injured as a result of participating in this study or for questions about a study-related injury, you may contact Ryan Foor at 614-325-2252.

Thank you very much for helping with this important study.

Sincerely,

Jamie Cano
Associate Professor

Ryan M. Foor
Graduate Associate
Appendix D: Questionnaire
Abilities and Beliefs of Mentor Teachers

Agricultural & Extension Education
The Ohio State University
208 Agricultural Administration Building
2120 Fyffe Road
Columbus, OH 43210
Part I: Ability to assist my novice teacher

Directions: Please circle your responses regarding your level of agreement with the statements related to your ability to assist your novice teacher. Your responses are confidential.

Example:

E. I can help my novice teacher develop into a quality educator........ 1 2 3 4 5 6 7 8

This person "Moderately agreed" with the statement above, and circled "6".

<table>
<thead>
<tr>
<th>Level of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very strongly agree</td>
</tr>
<tr>
<td>Strongly agree</td>
</tr>
<tr>
<td>Moderately agree</td>
</tr>
<tr>
<td>Mildly agree</td>
</tr>
<tr>
<td>Mostly disagree</td>
</tr>
<tr>
<td>Strongly disagree</td>
</tr>
<tr>
<td>Very strongly disagree</td>
</tr>
</tbody>
</table>

I can help my novice teacher...

1. maintain accurate academic records ........................................ 1 2 3 4 5 6 7 8
2. establish a culture for learning........................................... 1 2 3 4 5 6 7 8
3. become knowledgeable about students' academic needs .............. 1 2 3 4 5 6 7 8
4. communicate clearly with students........................................ 1 2 3 4 5 6 7 8
5. become knowledgeable of available educational resources......... 1 2 3 4 5 6 7 8
6. organize physical space in the classroom.............................. 1 2 3 4 5 6 7 8
7. demonstrate professionalism.............................................. 1 2 3 4 5 6 7 8
I can help my novice teacher...

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8. reflect on her/his teaching</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9. improve questioning techniques</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>10. design coherent instruction</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>11. create an environment of respect</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>12. select appropriate instructional goals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>13. contribute to the school’s academic goals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>14. become more knowledgeable about subject matter content</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>15. provide feedback to students</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>16. adjust to meet individual students’ academic needs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>17. manage student behavior</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>18. communicate with parents/guardians</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>19. engage students in learning processes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Level of Agreement:

- Very strongly disagree
- Strongly disagree
- Moderately disagree
- Mildly disagree
- Mildly agree
- Moderately agree
- Strongly agree
- Very strongly agree

100
I can help my novice teacher...

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>assess student achievement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>21.</td>
<td>manage classroom procedures</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>22.</td>
<td>engage in professional development</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>23.</td>
<td>use effective discussion techniques in teaching</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>24.</td>
<td>contribute to the school districts' mission</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>25.</td>
<td>become more knowledgeable about pedagogy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>26.</td>
<td>become more responsive when working with students</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

Go on to the next page...
Part II: My beliefs as a mentor

Directions: Please circle your responses regarding your level of agreement with the statements related to your beliefs as a mentor teacher. Your responses are confidential.

Example:

2. I am a positive role model for novice teachers................................. 1 2 3 4 5 6 7 8

This person "Very strongly agreed" with the statement above, and circled "8".

<table>
<thead>
<tr>
<th>Statement</th>
<th>Level of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>27. I am committed to the role of mentoring...............................</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>28. I work to build trust in the mentoring relationship..................</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>29. I am effective in different interpersonal contexts..................</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>30. I believe in the importance of guiding novice teachers...............</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>31. I am accepting of novice teachers.......................................</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>32. I express concern for the personal well-being of novice teachers...</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>33. I view the mentoring process as a continuous relationship..........</td>
<td>1 2 3 4 5 6 7 8</td>
</tr>
<tr>
<td></td>
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<tr>
<td>---</td>
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</tr>
<tr>
<td>34.</td>
<td>I am skilled at providing instructional support for novice teachers</td>
</tr>
<tr>
<td>35.</td>
<td>I share myself emotionally with novice teachers</td>
</tr>
<tr>
<td>36.</td>
<td>I reflect a model of continuous learning for novice teachers</td>
</tr>
<tr>
<td>37.</td>
<td>I can assume helping roles with novice teachers</td>
</tr>
<tr>
<td>38.</td>
<td>I communicate optimism to novice teachers</td>
</tr>
<tr>
<td>39.</td>
<td>I express an interest in the professional well being of novice teachers</td>
</tr>
</tbody>
</table>

Go on to the next page...
Part III: Demographic information

40. What is your sex? (Check one)

_______ FEMALE

_______ MALE

For questions 41—43 below, please fill in each blank.

41. What is your age?

_______ YEARS

42. How many years have you been teaching (including this year)?

_______ YEARS

43. How many student teachers have you worked with as cooperating teacher?

_______ STUDENT TEACHERS
Thank you for your participation!
Appendix E: Postcard to Facilitate Anonymous Response
Questionnaire #xxx

This postcard is being returned to let you know that my questionnaire has been returned in a separate envelope.

__________________________________________________

Your name (please print)

Thank you very much for your help with this important study. We really appreciate it.

Jamie Cano
Associate Professor
The Ohio State University

Ryan M. Foor
Graduate Associate
The Ohio State University
Appendix F: Reminder Postcard
March 12, 2010

Last week a questionnaire seeking information about your abilities and beliefs as a mentor teacher was mailed to you. You were selected because you served as a cooperating teacher to at least one student teacher.

If you have already completed and returned the questionnaire to us, please accept our sincerest thanks. If not, please do so today. We are especially grateful for your help because it is only by asking people like you to participate that we can understand what mentor teachers can do and what they believe about mentoring.

If you did not receive a questionnaire, or if it was misplaced, please call us at 614-325-2252 and we will get another one in the mail to you today.

Jamie Cano
Associate Professor
The Ohio State University

Ryan M. Foor
Graduate Associate
The Ohio State University
Appendix G: Second Cover Letter
March 19, 2010

<<First Name>> <<Last Name>>
<<School>>
<<Address>>
<<City>> <<State>> <<Zip>>

Greetings <<First Name>>,

About two weeks ago we sent a questionnaire to you that asked about your abilities and beliefs as a mentor teacher. To the best of our knowledge, the questionnaire has not yet been returned.

The responses from people who have already returned the questionnaire include a wide variety of agreement with their abilities and beliefs about serving as a mentor teacher. We think the results are going to be very useful to the field of teacher education.

We are writing again because of the importance your questionnaire has for helping to get accurate results. Please let us know if you have not served as a cooperating teacher for a student teacher and we will delete your name from the mailing list.

Please complete the enclosed questionnaire, fold in half lengthwise, and return in the enclosed, self-addressed stamped envelope by April 2. All answers to this questionnaire are completely anonymous. There is no identification number of any kind on the questionnaire. However, to let us know that your questionnaire has been returned, please print your name and return the enclosed post card separately in the mail so we can check your name off the mailing list.

It should only take about 15 minutes for you to complete the enclosed questionnaire. Your participation is voluntary and you may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your future relationship with The Ohio State University. There are no anticipated risks from you participation and you will not benefit directly from participating in the study. There is no cost to you except your time.

Efforts will be made to keep your study-related information confidential. However, there may be circumstances where this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law. Also, your records may be reviewed by the Office for Human Research Protections or other federal, state, or international regulatory agencies; or
The Ohio State University Institutional Review Board or Office of Responsible Research Practices.

A dollar bill is enclosed as a token of appreciation to say thank you for your help.

You may refuse to participate in this study without penalty or loss of benefits to which you are otherwise entitled. If you are a student or employee at Ohio State, your decision will not affect your grades or employment status.

If you choose to participate in the study, you may discontinue participation at any time without penalty or loss of benefits. By participating in the study, you do not give up any personal legal rights you may have as a participant in this study.

For questions, concerns, or complaints about the study you may contact Ryan Foor at 614-325-2252. For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact Ms. Sandra Meadows in the Office of Responsible Research Practices at 1-800-678-6251. If you are injured as a result of participating in this study or for questions about a study-related injury, you may contact Ryan Foor at 614-325-2252.

Thank you very much for helping with this important study.

Sincerely,

Jamie Cano  
Associate Professor

Ryan M. Foor  
Graduate Associate
Appendix H: Final Contact Letter
March 29, 2010

≪First Name≫ ≫Last Name≫
≪School Name≫
≪School Address≫
≪City≫, ≫State≫ ≫ZIP≫

Dear ≫First Name≫,

During the last few weeks we have sent you several mailings about an important research study we are conducting at Ohio State.

The purpose is to help understand more about mentor teachers’ abilities and beliefs and how we can use this knowledge to better the experience that novice teachers have with mentor teachers.

The study is drawing to a close, and this is the last contact that will be made with the sample of cooperating teachers in the agricultural education program at Ohio State.

We are sending this final contact because of our concern that people who have not responded may have different perceptions than those who have. Hearing from everyone in this small sample helps assure that the survey results are as accurate as possible.

We also want to assure you that your response to this study is voluntary, and if you prefer not to respond that is fine. If you have not served as a cooperating teacher for a student teacher and you feel that we have made a mistake including you in this study, please let us know by returning the blank questionnaire with a note indicating so. This would be very helpful.

Finally, we appreciate your willingness to consider our request as we conclude this effort to better understand mentor teachers abilities and beliefs about the mentoring process. Thank you very much.

Sincerely,

Jamie Cano
Associate Professor
The Ohio State University

Ryan M. Foor
Graduate Associate
The Ohio State University