

Mentoring Abilities and Beliefs of Ohio Secondary Agricultural Education Mentor Teachers

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Mentoring and induction programs are popular within the public school system in the United States. Additionally, content-based mentoring programs exist, such as those within agricultural education. A number of studies yielded results that showed a relationship between mentoring/induction participation and teacher retention. The importance of the abilities and beliefs the mentor teacher contributes to the mentoring process cannot be neglected. An understanding of how mentor teachers perceive themselves in their abilities and beliefs is critical in the selection and training of mentor teachers. The purpose of the study was to describe mentor teachers' abilities and beliefs related to the mentor – novice teacher relationship. The design of the study was descriptive in nature. Survey research methods were utilized in the data collection process among cooperating (mentor) teachers for the student teaching experience of an agricultural education teacher preparation program. Data were collected on participants' perceptions of their abilities and beliefs related to the mentoring relationship. Overall, mentor teachers strongly agree with the statements related to their abilities and beliefs. A substantial relationship emerged between the two variables. The items utilized in the instrument can be used to guide the selection and training of mentor teachers, hopefully resulting in positive mentoring relationships.

Keywords: mentor abilities and beliefs; mentoring; agricultural education; mentor teachers

Introduction

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, 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 that 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 researchers were unable to find a measure of the abilities and beliefs of mentor teachers.

The popularity of required, formal mentoring and induction programs is relatively young in the field of public school education. Therefore, much can be learned about the best practices in selecting and training mentor teachers. Abell, Dillon, Hopkins, McInerney, and O'Brien (1995), Anderson and Shannon

(1988), and Rowley (1999) reported characteristics important for a positive mentoring relationship, however little is known about the extent to which mentors perceive their abilities and beliefs in the mentoring relationship.

Theoretical Foundation

An underlying factor in understanding and designing teacher professional development is the change process that takes place within the teacher (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 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 the 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. 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 the model considers personal experiences and organizational influences.

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 the stages of professional development (Pennington, 1995; Porter et al., 2000; Spillane, 2002), combined with the entry-level stages of teacher development posited by Fessler and Christensen (1992), led the researchers to the concept of mentoring. Diaz-Maggioli (2004) wrote that mentoring in education has become increasingly popular 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.

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. 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.

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. Related to mentor training, Kajs reported the prevailing practice is that mentors are not required to undergo comprehensive training to become a mentor. Kajs went on to state 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 characteristics proposed 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.

Regarding mentor abilities, the Components of Professional Practice (Educational Testing Service, 2001) served as the framework to guide the assessment process of beginning teachers in Ohio at the time of the study. 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). Since the framework was the foundation of teacher preparation and mentoring preparation programs in Ohio at the time of the study, the Components of Professional Practice provided the researcher with a logical set of mentor abilities that aligned with the abilities discovered through the literature.

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 the career stage model (Buehler, 1933; Fuller & Brown, 1975; Houle, 1984; and Ryan, 1986).

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” (2002, 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.

Kitchel and Torres (2007) examined the similarity of novices with cooperating teacher mentors and personality types and 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.

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. 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 1). Mentoring served as the central tenet 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 should guide mentor selection and training. Mentor selection and training is one consideration in the design of a mentoring program.

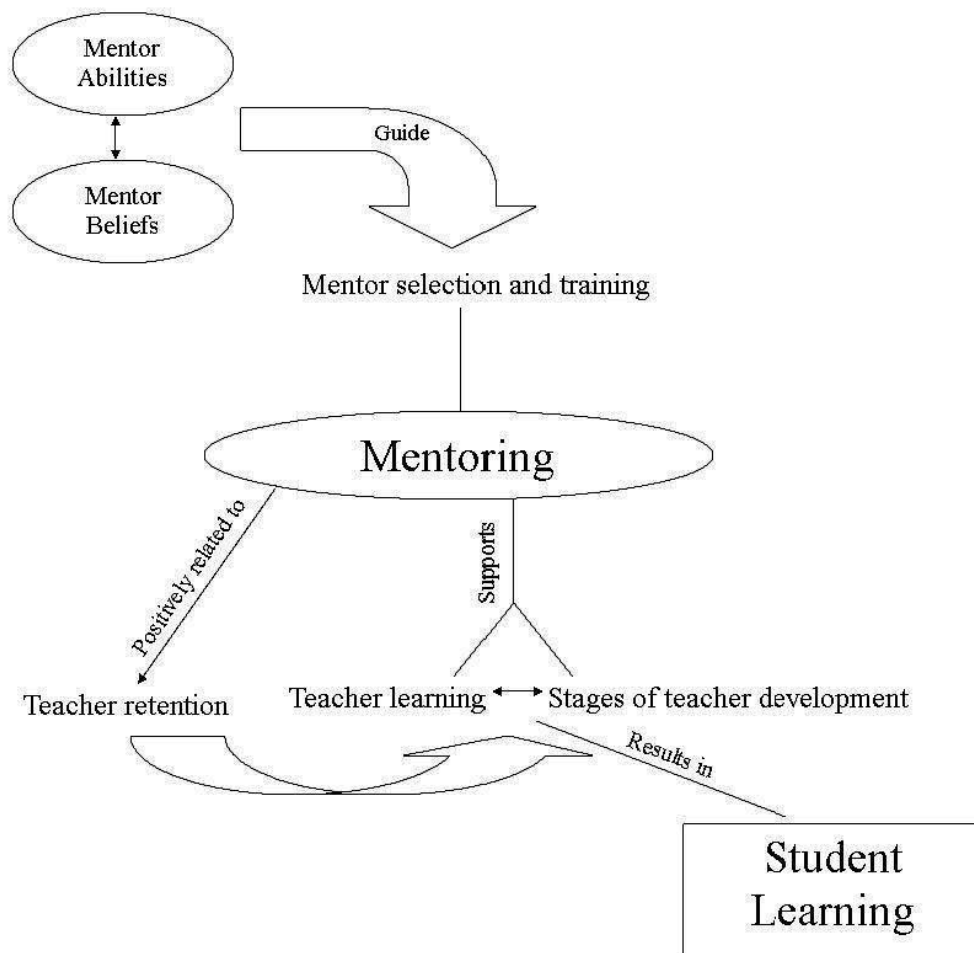


Figure 1. Mentoring program conceptual framework.

Mentoring supports novice teachers' progression through the stages of teacher development, which is similar to the concept of teacher learning. Noted earlier, a positive relationship exists between mentoring and induction programs and teacher retention (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 mentor abilities and beliefs as an entry point for inquiry using the proposed conceptual framework.

Purpose and Objectives

The purpose of the study was to describe mentor teachers' abilities and beliefs related to

the mentor – novice teacher relationship. 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.

Procedures

The design of the study was descriptive. Survey research methods were utilized in the data collection process. 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.

The target population consisted of Ohio secondary agricultural education instructors who served as cooperating teachers between the years 2000 and 2007 for the student teaching field experience in the Agricultural Education teacher education option at The Ohio State University. The frame was obtained from internal, departmental documents that recorded the cooperating teachers used for student teacher placement each year; 65 subjects comprised the population for the study.

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 gleaned 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 disagree*, 3 = *moderately disagree*, 4 = *mildly disagree*, 5 = *mildly agree*, 6 = *moderately agree*, 7 = *strongly agree*, 8 = *very strongly agree*). Additionally, demographic characteristics were collected to describe the participants (gender, age, number of years teaching, and number of novice teachers formally mentored).

Content validity for the two affective variables of the questionnaire was established using a panel of experts of three faculty members in the Agricultural and Extension Education program at The Ohio State University. The experts were chosen based on their knowledge of at least one of the following themes: mentoring, professional development, teacher education, survey research methods. 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 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. The data collected from the pilot study were analyzed to determine reliability of the two constructs 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. Since the reliability statistics for each construct were greater than the minimum alpha level, the instrument was deemed reliable.

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 was sent on March 1, 2010, as the first contact to inform participants about the study and the usefulness of the study. On March 5, 2010, participants were sent a data collection packet that consisted of a cover letter, questionnaire, return postcard to facilitate anonymous response, and a pre-addressed stamped return envelope. An FFA pen was included with the data collection packet as an incentive to participate in the study.

On March 12, 2010, a post card reminder was sent to encourage participant response. 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. Included in the second data collection packet were a cover letter, questionnaire, return postcard to facilitate anonymous response, a pre-addressed stamped return envelope, and a one dollar bill incentive. The final contact letter was sent on March 29, 2010, to encourage non-respondents to return a completed questionnaire. Data collection ceased on April 9, 2010. Fifty eight individuals (89%)

returned an instrument; 56 questionnaires were deemed usable for data analysis (86%).

Non-response error was controlled 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, or with a postmark of March 19, 2010, or before. Late respondents were classified as those who returned an instrument that carried a postmark from March 20, 2010, to April 9, 2010. An independent samples t-test was calculated to compare early to late respondents; 41 respondents were classified as early, 15 respondents were classified as late. Since the groups were not equal in size, Levene's Test for Equality of Variances was considered (Gliem, 2008). The analysis yielded that equal variances were assumed for the two groups. Analysis of differences between the groups continued and the researcher concluded that early respondents were not statistically different than late respondents on either the ability or belief scores, therefore the data were collapsed to a single set. The data were analyzed using the Statistical

Package for the Social Sciences (SPSS) 17.0 for Windows.

Results

Mentor teachers who responded to the study reported a mean age of 43.5 years ($SD = 9.7$; $n = 56$) with a range of 27 years to 60 years. The 56 mentor teachers reported a mean years teaching of 20.5 years ($SD = 9.5$) with a range of five years to 37 years. In terms of student teachers mentored, the mean was 5.2 student teachers mentored ($SD = 5.2$) 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 (76.8%).

Results for the first objective, related to the perceptions of abilities of mentor teachers, yielded a mean summated rating score of 6.9 ($SD = .68$). *Strongly agree* was the modal category for the 25 items reported in Table 1 which began with the prompt, "I can help my novice teacher..." *Very strongly agree* was the modal category for the remaining item, Demonstrate professionalism.

Table 1
Modal Category of Ability Items

Ability item	Category
Demonstrate professionalism	Very strongly agree
Adjust to meet individual students' academic needs	Strongly agree
Assess student achievement	Strongly agree
Become knowledgeable about students' academic needs	Strongly agree
Become knowledgeable of available educational resources	Strongly agree
Become more knowledgeable about pedagogy	Strongly agree
Become more knowledgeable about subject matter content	Strongly agree
Become more responsive when working with students	Strongly agree
Communicate clearly with students	Strongly agree
Communicate with parents/guardians	Strongly agree
Contribute to the school district's mission	Strongly agree
Contribute to the school's academic goals	Strongly agree
Create an environment of respect	Strongly agree
Design coherent instruction	Strongly agree
Engage in professional development	Strongly agree
Engage in students in learning process	Strongly agree
Establish a culture for learning	Strongly agree
Improve questioning techniques	Strongly agree
Maintain accurate academic records	Strongly agree
Manage classroom procedures	Strongly agree
Manage student behavior	Strongly agree
Organize physical space in the classroom	Strongly agree
Provide feedback to students	Strongly agree
Reflect on his/her teaching	Strongly agree
Select appropriate instructional goals	Strongly agree
Use effective discussion techniques in teaching	Strongly agree

Mentor teachers reported disagreement
(mildly disagree or moderately disagree) on the

items reported in Table 2.

Table 2
Disagreement Reported on Ability Items

Ability item	Level(s) of disagreement reported
Adjust to meet individual students' academic needs	Mild ($n = 1$)
Assess student achievement	Mild ($n = 1$)
Become more knowledgeable about pedagogy	Mild ($n = 3$)
Become more knowledgeable about subject matter content	Mild ($n = 2$)
Become more responsive when working with students	Mild ($n = 1$)
Communicate with parents/guardians	Mild ($n = 1$)
Contribute to the school district's mission	Mild ($n = 2$)
	Moderate ($n = 1$)
Contribute to the school's academic goals	Mild ($n = 1$)
Create an environment of respect	Mild ($n = 2$)
Engage in professional development	Mild ($n = 1$)
Engage students in learning processes	Mild ($n = 2$)
Maintain accurate academic records	Mild ($n = 1$)
	Moderate ($n = 1$)
Manage classroom procedures	Mild ($n = 1$)
Manage student behavior	Mild ($n = 1$)
Organize physical space in the classroom	Mild ($n = 1$)
Provide feedback to students	Mild ($n = 1$)
	Moderate ($n = 1$)

In terms of the second objective, mentor teachers ($n = 56$) reported a mean summated perceptions of beliefs score of 7.2 ($s = .56$). The frequency table for the items related to mentor teachers' beliefs is reported in Table 3. *Strongly agree* was the modal category for 10 of the items, whereas *very strongly agree* was the modal category for three items.

The third objective sought to describe the relationship between mentor teachers'

perceptions of abilities and perceptions of beliefs. The two variables were plotted on a scatter diagram to assess the nature of the relationship. A visual examination of the scatter diagram confirmed a linear relationship. Therefore, a Pearson product moment correlation coefficient was calculated between the summated abilities score and summated beliefs score. A relationship of .58 was discovered.

Table 3
Frequency Distribution of Belief Items

	<u>VSD</u>		<u>SD</u>		<u>MoD</u>		<u>MiD</u>		<u>MiA</u>		<u>MoA</u>		<u>SA</u>		<u>VSA</u>	
Perceptions of beliefs	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
I am committed to the role of mentoring	0	0	0	0	0	0	0	0	1	1.8	6	10.7	26	46.4	23	41.1
I work to build trust in the mentoring relationship	0	0	0	0	0	0	0	0	0	0	5	8.9	27	48.2	24	42.9
I am effective in different interpersonal contexts	0	0	0	0	0	0	0	0	5	8.9	12	21.4	27	48.2	12	21.4
I believe in the importance of guiding novice teachers	0	0	0	0	0	0	0	0	1	1.8	2	3.6	17	30.4	36	64.3
I am accepting of novice teachers	0	0	0	0	0	0	0	0	2	3.6	2	3.6	23	41.1	29	51.8
I express concern for the personal well-being of novice teachers	0	0	0	0	0	0	0	0	0	0	6	10.7	28	50.0	22	39.3
I view the mentoring process as a continuous relationship	0	0	0	0	0	0	0	0	2	3.6	2	3.6	27	48.2	25	44.6
I am skilled at providing instructional support for novice teachers	0	0	0	0	0	0	1	1.8	2	3.6	10	17.9	32	57.1	11	19.6
I share myself emotionally with novice teachers	0	0	1	1.8	2	3.6	4	7.1	10	17.9	9	16.1	21	37.5	9	16.1
I reflect a model of continuous learning for novice teachers	0	0	0	0	0	0	0	0	1	1.8	9	16.1	31	55.4	15	26.8
I can assume helping roles with novice teachers	0	0	0	0	0	0	0	0	1	1.8	7	12.5	27	48.2	21	37.5
I communicate optimism to novice teachers	0	0	0	0	0	0	0	0	1	1.8	7	12.5	29	51.8	19	33.9
I express an interest in the professional well-being of novice teachers	0	0	0	0	0	0	0	0	1	1.8	2	3.6	25	44.6	28	50.0

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.

Conclusions

Overall, mentor teachers in the study 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* within the eight point Likert–type scale, which support the assertions of Abell, Dillon, Hopkins, McInerney, and O'Brien (1995); Anderson and Shannon (1988); and Rowley (1999), as well as the ETS (2001) Components of Professional Practice.

There was more disagreement with the statements related to mentor abilities than there were with 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, the mentor teachers surveyed in the study perceive their ability to mentor as high; likewise, these 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 researchers posit that the mentor beliefs construct has the potential to be the predictor variable, with the mentor abilities construct as the outcome variable. Abilities tend to be a more teachable construct, whereas beliefs tend to be more steadfast and unchanging. The researchers note that only 32% of the variance between the two variables was explained, therefore 68% of variance between mentor abilities and mentor beliefs is not explained.

Implications and Recommendations

The items used in the study to measure mentor beliefs should be subjected to factor analysis to determine construct validity. Additional studies with larger populations are needed to reach stable conclusions regarding factor analysis.

Mentor teachers' perceptions of their 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 items used in the study to measure mentor abilities, developed from the ETS (2001) Components of Professional Practice, 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.

Similarly, mentor teachers' perceptions of their beliefs should be considered in the design of mentor training programs. In the current study, disagreement was reported with two belief items: *I share myself emotionally with novice teachers*, and *I am skilled at demonstrating instructional support for novice teachers*. Cognitive coaching was reported by Stansbury and Zimmerman (2000) as a necessary component for mentor training. 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. Instruction in and application of emotional intelligence must be considered when selecting and training mentor teachers. In terms of instructional support, mentors must be guided to see themselves as teacher educators, whether they are mentoring students teachers, or first, second, or third year early-career teachers. Teacher education programs have an obligation to develop mentor teachers to see themselves as an extension of the teacher preparation program; methods to boost mentor teachers' belief about their skill to demonstrate instructional support should be investigated in that regard. Conversely, the item should be studied further for clarity.

While studies (Greiman 2002; Lambert, Smith, & Ulmer, 2010) sought to determine factors that contributed to mentor–novice

teacher satisfaction little was reported on the abilities and beliefs of 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. The intended result of purposefully selected and well trained mentors is a positive experience for novice teachers, supporting advancement in the stages of teacher development, resting ultimately with enhanced student learning.

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

The researchers recognize the items used to measure mentor abilities may not function with a group of mentor teachers who were not trained through the ETS system. A suitable set of items should be selected to measure mentor teachers' abilities, depending on the desired outcomes of the mentoring program.

Future studies on mentor abilities and beliefs should include a qualitative component to aid

researchers in further describing mentor teachers' abilities and beliefs, beyond descriptive quantitative statistics. To that end, the Q-sort technique may be an appropriate method to further discern mentor teachers' perceptions. Using the Q-sort technique, participants rank each item within the respective construct. A study utilizing the Q method 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*. When the items comprising each construct are subjected to a Q-sort, researchers, teacher educators, and mentoring program coordinators will have a richer 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, including a needs assessment, mentor training programs 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 programs make a difference in the mentor – novice teacher relationship as well as the impact on the novice teacher.

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