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Discovering Quality in Teacher Education: Perceptions Concerning What Makes an Effective Cooperating Teacher

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Abstract

With a continuous shortage of qualified agricultural science teachers (Foster, Lawver, Smith, 2014; Kantrovich, 2010), it is imperative teacher preparation programs identify and utilize effective cooperating teachers, as well as develop training for in-service teachers that will assist in preparing more effective cooperating teachers. The purpose of this study was to identify which characteristics define an effective cooperating teacher in agricultural education. We utilized Roberts' (2006) Model of Effective Cooperating Teachers and the Delphi methodology to identify characteristics of effective cooperating teachers from expert panels of agricultural educators in Missouri, North Carolina, Oregon, and Texas. The findings of this study revealed nine themes, which define effective cooperating teachers. We propose a new model defining the characteristics of effective cooperating teachers and recommend teacher educators work to create an assessment using these characteristics.

Key Words: Delphi; cooperating teachers; student teaching; effective; characteristics

Introduction

Agricultural education literature has identified the important role cooperating teachers play in preparing preservice agriculture teachers. Nearly thirty years ago student teacher placement and the role of the cooperating teacher were identified as the two most important components of the student teaching experience (Norris, Lark, & Briers, 1990). Numerous studies in agricultural education have echoed this sentiment utilizing the perceptions of preservice teachers as a basis for determining effective cooperating teacher qualities (Edgar, Roberts, & Murphy, 2011; Jones, Kelsey, & Brown, 2014; Kasperbauer & Roberts, 2007; Roberts, 2006). Other studies sought data from teacher educators nationwide (Norris et al., 1990) and from preservice teachers and their cooperating teachers (Kitchel & Torres, 2006). Finally, only a few studies in agricultural education have specifically included cooperating teachers as research participants (Deeds, Flowers, & Arrington, 1991; Edwards & Briers, 2001; Smalley, Retallick, & Paulsen, 2015) to explore the

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preservice-cooperating teacher relationship, and none have utilized cooperating teachers as expert panelists to identify specific effective characteristics.

Studies beyond agricultural education have also explored the effectiveness of cooperating teachers (Borko & Mayfield, 1995; Gareis & Grant, 2014; Killian & Wilkins, 2009; Rozelle & Wilson, 2012), contributing to the importance of this line of inquiry. We sought to identify which characteristics define an effective cooperating teacher in agricultural education, using Delphi panels of effective cooperating teachers across four states. A cooperating teacher, working in collaboration with the university supervisor, serves as a counselor and mentor, models effective practices, and has influence over the student teacher's experience (Smalley et al., 2015). The cooperating teacher advises, offers guidance and leadership, and contributes directly to a preservice teacher's career in education.

Because the cooperating teacher has the most contact and communication with the student teacher, it is understandable that they are generally the most influential in the development process (Kasperbauer & Roberts, 2007). Typically the student teaching internship is the summation of an agricultural education program therefore we can presume that the level of satisfaction with the experience contributes directly to the student teacher's decision to enter the teaching profession (Roberts, 2006). Additionally, the interaction between cooperating teacher and student teacher is a critical component in teacher preparation programs (Kitchel & Torres, 2006). Knowing which characteristics define an effective cooperating teacher will assist teacher education programs preparing preservice teachers, and in planning and implementing cooperating teacher in-service training.

Cooperating Teachers

Cooperating teachers are largely considered classroom teachers, mentors, and professionals who are proficient in their craft (Jones et al., 2014; Koerner, Rust, & Baumgartner, 2002;). Cooperating teachers participate in a teacher education program by agreeing to work with preservice teachers and are expected to convey implicit knowledge through demonstration, conversation, and coaching (Jones et al., 2014). The cooperating teacher also advises and offers guidance, leadership, and possibly even friendship. According to Thobega and Miller (2007), the methodology for supervision the cooperating teacher uses is critically important in the developmental process. In fact, in a review of literature from the past three decades, Killian and Wilkins (2009) found several studies indicating that the cooperating teacher has the most significant influence on student teachers.

The total value of the learning that takes place during the student teaching experience is directly dependent upon the quality of the cooperating teacher (Copas, 1984). Whether positive or negative, the beliefs of the cooperating teacher will determine the development of the preservice teacher (Hewson, Tabachnick, Zeichner, & Lemberger, 1999). The student teaching experience is viewed by student teachers and teacher educators as the most significant aspect of learning to teach (Rajuan, Beijaard, & Verloop, 2008). In addition, researchers have repeatedly argued that the student teaching experience is when attitudes and perceptions concerning roles and responsibilities as agriculture teachers are formed (Harlin, Edwards, & Briers, 2002). Clearly, the widespread perception is that the most significant aspect of preservice teacher preparation is the student teaching experience and the importance of the role the cooperating teacher plays is considerable, worthy of continued investigation.

Theoretical Framework

This study sought to identify which characteristics define an effective cooperating teacher in agricultural education, using a constructivist lens to analyze perceptions of the expert panel. According to Merriam, Cafarella, and Baumgartner (2007), "a constructivist stance maintains that learning is a process of constructing meaning; it is how people make sense of their experience" (p. 291). Doolittle and Camp (1999) acknowledged the learner plays an active role in constructing meaning using experience in the knowledge creation process. Previous research has indicated preservice teachers continually make meaning and construct new knowledge throughout their student teaching experience. In a similar manner, the cooperating teacher also constructs new knowledge by making sense of their experiences and the characteristics that inform their effectiveness, both as a teacher and mentor. Constructivist philosophy is built on the belief that two people can have similar experiences and then interpret and make meaning from them in different ways. The use of the Delphi in this study affords the opportunity to capture the collective knowledge of the expert panels, and achieve a consensus about the characteristics used to define an effective cooperating teacher in agricultural education.

It is reasonable to agree the student teaching experience is an essential component of preservice agricultural education teacher training (Young & Edwards, 2011). "Two components, critical to the success of the intern experience, are the cooperating teachers who guide and support students and the sites where the experiences occur" (Graham, 2006, p. 1118). Koerner et al. (2002) argued the student teaching experience "has a significant impact on the student teacher who must juggle the responsibilities of teaching (and all that entails) while establishing and developing relationships with one or more cooperating teachers and a university supervisor" (p. 35). Three factors consistently found in highly effective cooperating teachers include a close collaboration with the university supervisor, midcareer for teaching experience, and prior supervision of more than five student teachers (Killian & Wilkins, 2009), therefore "selection and preparation of the best cooperating teachers available must receive the attention of educational institutions that require student teaching as part of the preparation program" (Copas, 1984, p. 49). Using the Delphi method as a means to tap into the constructed knowledge of those cooperating teachers whom their peers consider effective, allows us to arrive at a consensus when defining the characteristics needed to be effective, presumably leading to the development of professional development to recruit and retain effective cooperating teachers.

A review of the literature revealed a varied array of research and findings assessing this critical period in student teaching. Edwards and Briers (2001) however, recognized a dearth of research using cooperating teachers to gather information about the student teaching experience. Theirs was a descriptive study using both qualitative (focus groups) and quantitative (mail questionnaire) research procedures to describe selected characteristics of cooperating teachers and their schools, and to identify cooperating teachers' perceptions of the important elements of the student teaching experience (Edwards & Briers, 2001). More recently, Iowa and South Dakota secondary agriculture teachers who had served as cooperating teachers provided quantitative data concerning the effectiveness of student teaching activities (Smalley et al., 2015). Numerous studies have considered student teachers' perceptions of cooperating teachers, while others have attempted to define the student teacher-cooperating teacher relationship. In addition, some have investigated specific effects such as self-efficacy of the student teacher (Krysher, Robinson, Montgomery, & Edwards, 2012) and cooperating teacher (Edgar et al., 2011), structured communication (Edgar, Roberts, & Murphy, 2009), and supervisory practices (Fritz & Miller, 2003). Each has contributed to the overall understanding of the student teaching experience.

The large majority of literature concerning teacher preparation has focused on the student teacher. For example, Roberts (2006) used Delphi methods in a study of preservice teachers resulting in a model of cooperating teacher effectiveness to help identify characteristics of effective cooperating teachers. His model, seen below in Figure 1, grouped 30 characteristics into the categories of Teaching/Instruction, Professionalism, Student Teacher/Cooperating Teacher Relationship, and Personal Characteristics. Roberts (2006) proposed the Model of Cooperating Teacher Effectiveness as a means to classify the characteristics of an effective cooperating teacher. We intend to compare our findings to Roberts' model.

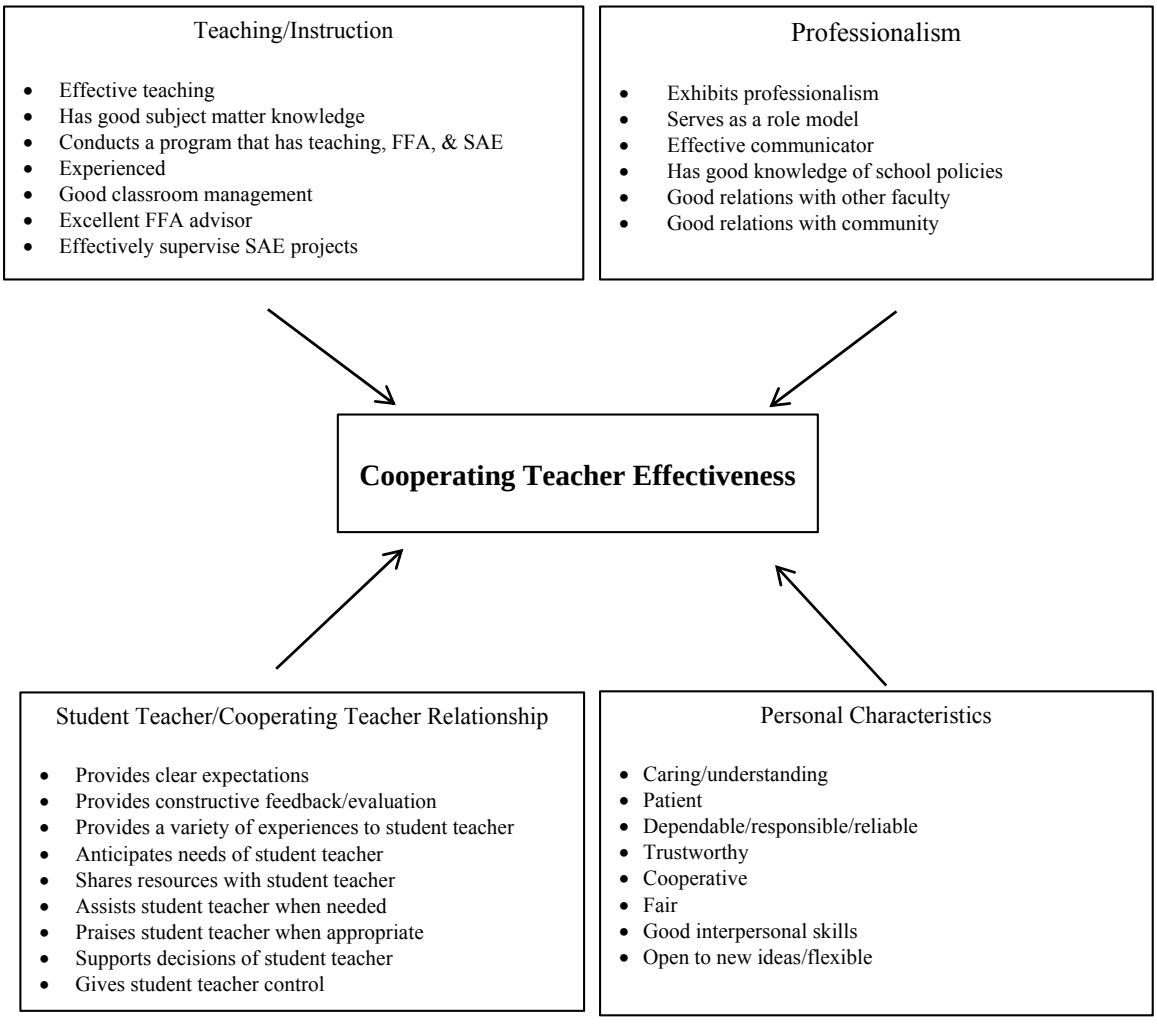

Figure 1. Model of cooperating teacher effectiveness. Adapted from "Developing a model of cooperating teacher effectiveness" by T. G. Roberts (2006). *Journal of Agricultural Education, 47*(3), 1-13.

Purpose and Objectives

With a continuous shortage of qualified teachers (Edgar et al., 2001; Foster, Lawver, Smith, 2014; Kantrovich, 2010; Kasperbauer & Roberts, 2007; Roberts, 2006) it is imperative that teacher preparation programs identify and utilize effective cooperating teachers, as well as develop training for in-service teachers that will assist in preparing more effective cooperating teachers. Roberts (2006) pondered what characteristics cooperating teachers think are important in order to be effective. In alignment with the National Research Agenda Priority 5, "Efficient and Effective Agricultural Education Programs" (Roberts, Harder, & Brashears, 2016, p. 41), the main purpose of the study was to identify which characteristics define an effective cooperating teacher in agricultural education. Two objectives were developed to guide the study:

1. Identify the characteristics that define an effective cooperating teacher from the perspective of expert cooperating teachers in Missouri, North Carolina, Oregon, and Texas.
2. Categorize the list of characteristics generated and compare them to the model of cooperating teacher effectiveness developed by Roberts (2006).

Methodology

Researchers used the Delphi technique to identify the characteristics of effective cooperating teachers. Martin and Frick (1998) identified the Delphi as a widely used and accepted method in the agricultural education profession. The Delphi technique is a method of eliciting and refining group judgments from experts (Dalkey, 1969). Others have identified the technique as a group communication process, which aims to achieve a convergence of opinion on a specific real-world issue (Hsu & Sandford, 2007). Choosing the appropriate subjects is the most important step in the entire process because it directly relates to the quality of the results generated (Skulmoski, Hartman, & Krahn 2007). While no exact criteria exist for selecting subjects for a Delphi, Gordon (1994) recommended using nominations from the field in question.

Researchers made a decision to maintain four separate Dephi panels representing Missouri, North Carolina, Oregon, and Texas to allow for state differences to surface. Data collection began with the creation of the expert panel. We began by taking a census of the agriculture teachers in each state asking them nominate two to three outstanding cooperating teachers from their state to participate on the panel. No specific criteria were given that they must have previously served as a cooperating teacher, nor that they had done and "exceptional job" if they had served. A frame was obtained from each state and the Tailored Design Method (Dillman, Smyth, & Christian, 2009) was followed.

In Missouri, 202 of 543 teachers responded for a 37% response rate. Ludwig (1997) documented that, "the majority of Delphi studies have used between 15 and 20 respondents" (p. 2), therefore, the researchers identified a natural break in nominations and opted to include the top 16 teachers as the Delphi expert panel for Missouri. These teachers each received at least 10 nominations. In Texas, 328 of 1606 teachers responded for a 20% response rate. The researchers opted to include the top 15 teachers on the Delphi expert panel. These teachers each received at least 10 votes each. In Oregon, 84 of 131 teachers responded and 14 teachers were included on the panel with at least 7 nominations from their peers. In North Carolina, 14 teachers were included on the panel after 165 of 391 teachers responded. Each teacher serving on the North Carolina Delphi panel received at least 7 nominations from their peers.

Data collection proceeded separately in each state. Round one began with an email to the teachers on each expert panel from Qualtrics, a web-based survey software. They were prompted with the open-ended question: "When supervising a student teacher, what personal and professional characteristics do you think are essential to being an effective cooperating teacher? Please list as many characteristics that you feel are necessary." Responses were compiled and analyzed using constant-comparative analysis and combining duplicate items (Glaser, 1965). The researchers achieved interrater reliability by analyzing the lists individually and then reaching a consensus through a discussion of differences.

During the second round, the expert panels were sent the list generated in round one and asked to rate each item using a six point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree). Each member was also asked to make any additions or revisions to the list that they felt were necessary to more accurately reflect their beliefs about effective cooperating teachers.

The results of the second round were used to develop the instrument for round three. It was decided *a priori* that any item receiving a round 2 agreement below 80% (M = 4.80 on our scale) would not be retained for round three. Using those criteria, the final instrument was developed which consisted of 37 characteristics for Missouri, 53 for North Carolina, 72 for Oregon, and 36 characteristics for Texas. Each list was sent back to the respective panel showing the level of agreement from round two. The panel was asked to either agree or disagree as to whether the item should remain in the final list. Only those with the agreed upon 80% level of agreement were retained resulting in 36 items for Missouri, 46 for North Carolina, 69 for Oregon and 35 for Texas.

Mortality is a concern with Delphi studies. The final items in the Texas Delphi were rated by 12 panel members, while Missouri retained 13 panel members, and North Carolina and Oregon kept 11 panel members throughout all rounds of data collection.

Finally, the challenge was to report the efforts of four separate Delphi studies. We reported the means and levels of agreement from each round and each state separately, but wanted to sort the resulting statements into themes using qualitative methods. A researcher with this expertise was recruited to the study and given the statements without any quantitative or identifying information, just contextual information that the statements were intended to represent characteristics of effective cooperating teachers and a goal to determine the themes into which they should be grouped. Creswell (2014) noted explaining quantitative results with a qualitative follow-up analysis is one way to develop a stronger understanding of the phenomenon. Roberts (2006) employed the constant comparative method for categorization, which we feel warranted the use of an additional researcher for thematic coding purposes in our study.

Findings

Through the process of sorting, nine themes were identified. *Hard Worker, Relational, Communicator, Motivator, High Moral Character, Mentor, Program Planner, Effective Teacher,* and *Professional* were the themes identified by the Delphi panels. Tables 1 through 9 illustrate the themes individually, as well as the qualities identified within each theme. Additionally, corresponding Round 2 mean scores and Round 3 agreement percentages are included for each quality within each of the nine themes.

Theme A, *Hard Worker*, is seen in Table 1. Five qualities, including Committed, Dedicated, Diligent, Good work ethic, and Independent, were identified as qualities for this theme. *Good Work Ethic* was the only quality identified in all four states. Other characteristics appearing

under this theme include committed, dedicated, independent and diligent. All of the qualities under the *Hard Worker* theme had Round 2 mean scores above 5.0 and agreement percentages greater than 82%.

Table 1

Theme A: Hard Worker

	MO	NC	OR	TX
Item	Rd 2 (Rd 3)	Rd 2 (Rd 3)	Rd 2 (Rd 3)	Rd 2 (Rd 3)
Committed	5.00 (100)		5.50 (100)	
Dedicated		5.82 (91)	5.50 (100)	
Diligent		5.82 (91)		
Good Work Ethic	5.36 (100)	5.82 (82)	5.58 (100)	6.00 (100)
Independent				5.17 (83)

Table 2 represents Theme B, *Relational*. Twenty-two qualities were identified within this theme. *Patient* was the only quality identified in each of the four states. Other qualities, such as Caring, Supportive, Flexible, and Understanding were identified in three states. Round 2 mean scores spanned from 4.92 to 6.00, and Round 3 agreement percentages varied from 82% to 100%, for the qualities in this theme. Other qualities found in this theme included Approachable, Compassionate, Cooperative, Helpful, Open minded, Personable, and Sharing, among others.

Data collected from Theme C, *Communicator*, can be found in Table 3. Eight qualities were identified within this theme. *Good Communicator* was identified in three states, with Round 2 mean scores ranging from 5.09 to 5.77 and 100% approval by all three panels. Round 2 mean scores from qualities within this theme varied from 4.80 to 5.77 and Round 3 agreement percentages were from 82% to 100%. Other qualities found within this theme included Clear, Communicates expectations, Communicates openly, Direct, Gives clear feedback, Good listener, Listens, and Tactful.

Table 2

Theme B: Relational

Item	MO Rd 2 (Rd 3)	NC Rd 2 (Rd 3)	OR Rd 2 (Rd 3)	TX Rd 2 (Rd 3)
Approachable		5.70 (91)		
Caring		5.60 (91)	5.00 (100)	6.00 (100)
Compassionate		5.73 (82)	5.00 (92)	
Cooperative	5.17 (100)		5.27 (100)	
Empathetic		5.64 (91)		
Faithful		5.82 (91)		
Flexible	4.92 (85)	5.64 (91)		5.46 (83)
Has a cooperative attitude		5.60 (100)		
Has a sense of humor		5.45 (100)		
Helpful		5.82 (91)	5.09 (100)	
Humble				5.08 (92)
Not condescending		5.55 (100)		
Open			5.00 (100)	
Open minded			5.27 (100)	5.23 (100)
Patient	4.92 (92)	5.80 (91)	5.09 (100)	5.31 (100)
Personable			5.00 (100)	
Selfless			4.82 (90)	
Sharing				5.54 (100)
Supportive	5.08 (92)		5.27 (100)	5.58 (100)
Sympathetic		5.36 (91)		
Understanding	5.00 (92)	5.82 (82)	5.00 (100)	
Willing to change		5.40 (82)		

Table 3

Theme C: Communicator

Item	MO Rd 2 (Rd 3)	NC Rd 2 (Rd 3)	OR Rd 2 (Rd 3)	TX Rd 2 (Rd 3)
Clear			5.10 (100)	
Communicates expectations			5.09 (100)	
Communicates openly		5.73 (82)		
Direct			4.80 (100)	
Gives clear feedback			5.18 (100)	
Good communicator	5.42 (100)		5.09 (100)	5.77 (100)
Good listener	5.25 (92)			5.67 (92)
Listens		5.55 (100)		
Tactful	4.83 (92)			

We labeled Theme D as *Motivator*. Ten qualities were identified that fit within this theme. *Positive* was identified by each of the four panels, with Round 2 mean scores from 5.25 to 5.80 and Round 3 agreement percentages from 91% to 100%. The remaining qualities possessed Round 2 mean scores from 4.82 to 5.91 and agreement percentages spanning from 85% to 100%. Other items in this theme included Constructive, Encouraging, Enthusiastic, Has the ability to push instead of pull, High energy, Inspiring, Motivated, Motivating, and Passionate.

Table 4

Theme D: Motivator

Item	MO Rd 2 (Rd 3)	NC Rd 2 (Rd 3)	OR Rd 2 (Rd 3)	TX Rd 2 (Rd 3)
Constructive			5.17 (100)	
Encouraging		5.82 (91)	5.08 (100)	
Enthusiastic		5.91 (91)		5.67 (100)
Has the ability to push instead of pull		5.18 (100)		
High energy				5.23 (100)
Inspiring			4.82 (100)	5.46 (100)
Motivated			5.09 (100)	
Motivating	5.33 (100)		5.08 (100)	5.46 (100)
Positive	5.42 (100)	5.80 (91)	5.25 (100)	5.58 (100)
Passionate	5.08 (85)		5.00 (100)	

Table 5 includes data for Theme E, *High Moral Character*. There were no items indicated by all four panels however, *Honest* and *Role Model* were both qualities indicated by three of the four panels. Nine qualities indicated by the four panels fit in the *High Moral Character* theme including, A good example, Admits struggles or failures, Ethical, Good character, Honest, Respectful, Role model, Sincere, and Trustworthy. Round 2 mean scores varied from 4.83 to 6.00 with Round 3 agreement percentages from 82% to 100%.

Table 5

Theme E: High Moral Character

Item	MO Rd 2 (Rd 3)	NC Rd 2 (Rd 3)	OR Rd 2 (Rd 3)	TX Rd 2 (Rd 3)
A good example		6.00 (91)		
Admits failures or struggles			5.18 (100)	
Ethical	5.58 (100)			
Good character	5.42 (100)			5.85 (100)
Honest		5.73 (82)	5.18 (100)	6.00 (100)
Respectful	5.25 (100)	5.80 (91)		
Role model	5.25 (100)		5.09 (100)	5.85 (100)
Sincere	4.83 (100)			5.31 (100)
Trustworthy	5.42 (100)		5.18 (100)	

We grouped the data in Table 6 under the theme *Program Planner*. Round 2 mean scores spanned from 4.82 to 5.83 with Round 3 agreement percentages from 85% to 100%. There were twelve items identified in this theme including, An effective planner, Competent/well rounded, Conscientious, Effective at time management, Has a comprehensive curriculum that can be reviewed, Has a total program (classroom/FFA/SAE), Incorporates community (advisory committee, FFA alumni, etc.…), Manages the whole program, Organized, Resourceful, Responsible, and Realistic about the job.

Table 6

Theme F: Program Planner

Item	MO Rd 2 (Rd 3)	NC Rd 2 (Rd 3)	OR Rd 2 (Rd 3)	TX Rd 2 (Rd 3)
An effective planner			4.82 (100)	
Competent/well rounded				5.23 (100)
Conscientious			5.25 (100)	
Effective at time management	5.08 (100)		4.82 (100)	5.23 (100)
Has a comprehensive curriculum that can be reviewed			4.82 (100)	
Has a total program (classroom/FFA/SAE)			5.27 (100)	
Incorporates community (advisory committee, FFA alumni, etc.…)			5.09 (100)	
Manages the whole program			4.82 (92)	
Organized	4.92 (85)	5.30 (91)		
Resourceful			5.00 (100)	5.42 (92)
Responsible	5.08 (100)			5.83 (100)
Realistic about the job			5.00 (100)	

Of the nine themes identified, Theme G (*Mentor)* contained the largest number of items (*n* = 25), indicating the importance of that role in the cooperating – student teacher relationship (see Table 7). Round 2 mean scores varied from 4.91 to 5.64 with Round 3 agreement percentages from 82% to 100%. Interesting to note that one state panel only identified one quality that fell into this category, while another indicated twelve qualities (of which they were in 100% agreement on all but one). While there were more individual qualities identified in this theme, none were identified by all four panels. In fact, no three panels indicated the same quality, and only four items were indicated by two of the panels, leading us to believe that there are numerous ways to define the *Mentor* theme.

Table 7

Theme G: Mentor

Item	MO Rd 2 (Rd 3)	NC Rd 2 (Rd 3)	OR Rd 2 (Rd 3)	TX Rd 2 (Rd 3)
Able to release control of the classroom		5.27 (100)	5.18 (100)	
Attentive to student teacher			5.08 (100)	
Creates positive teaching experiences	5.00 (100)			5.50 (100)
Encourages quality instruction	5.17 (100)			
Gives the student teacher ample opportunity to debrief/complain in private			4.91 (100)	
Guiding			5.00 (100)	
Helps a young teacher learn evaluation		5.18 (100)		
Helps a young teacher learn self-reflection		5.45 (100)		
Let's student teacher coach FFA events			4.91 (100)	
Makes recommendations on a regular basis		5.27 (91)		
Mentor	5.33 (92)			
Open to giving advice		5.45 (100)		
Open to giving instructions		5.09 (100)		
Proactive			5.00 (92)	
Provides descriptive feedback	5.42 (92)		5.27 (100)	
Responsive to the needs of student teachers	4.92 (85)			
Shares materials, ideas and resources	5.17 (100)			
Stresses student teacher preparation	5.08 (100)			
Trusting			5.18 (100)	
Willing to allow student teacher to make mistakes		5.60 (100)	5.18 (100)	
Willing to integrate student teacher in all professional responsibilities			5.09 (100)	
Willing to learn from the student teacher			5.08 (100)	
Willing to provide time to work with the student teacher			5.27 (100)	
Willing to share lessons		5.64 (82)		
Willing to share their secrets		5.64 (100)		

Data for Theme H, defined as *Effective Teacher*, can be found in Table 8. There were nineteen qualities indicated by the four panels found in this theme. Round 2 mean scores varied from 4.82 to 5.73 with Round 3 agreement percentages from 82% to 100%. *Sets High Expectations* was the only quality in this theme indicated by all four expert panels, and possessed Round 2 mean scores between 5.33 and 5.73 and Round 3 agreement percentages between 82% and 100% (three panels indicated 100% agreement in Round 3). Similar to Theme G, one state only identified one quality that fit in this theme, and another state identified twelve of the nineteen characteristics.

Table 8

Theme H: Effective Teacher

	MO	NC	OR	TX
Item	Rd 2 (Rd 3)	Rd 2 (Rd 3)	Rd 2 (Rd 3)	Rd 2 (Rd 3)
Able to improvise		5.60 (100)		
Attentive to students			5.08 (100)	
Cares about students	5.33 (100)			
Confident	5.08 (100)			
Current with education standards/trends			5.00 (100)	
Excited about what they do		5.73 (91)		
Firm		5.27 (91)	4.82 (92)	
Has an interest in building the art of teaching, not just surviving			5.36 (100)	
Knowledgeable		5.70 (91)		
Loves the ag subject area		5.82 (82)		
Models classroom management	5.25 (100)		5.09 (100)	
Models good student interactions	5.17 (100)			
Not the source of all knowledge			5.09 (100)	
Observant			5.25 (100)	
Sets high expectations	5.33 (100)	5.73 (82)	5.36 (100)	5.62 (100)
Uses a varied teaching techniques			5.09 (100)	
Uses current education terms/vocabulary			4.90 (100)	
Uses effective teaching techniques			5.27 (100)	
Utilizes a variety of resources			5.09 (100)	

Table 9 represents data for Theme I, defined as *Professional*. Eight qualities were identified as fitting in this theme including, A whole school team player, Active, Active in professional

organizations (NAAE, etc.), Example of leadership, Participates in professional development, Positive about the profession, Professional, and Stresses school/community involvement. Round 2 mean scores for this theme were between 5.09 and 5.91 and Round 3 agreement percentages were between 91% and 100%. None of the items were identified by all four expert panels however, the quality *Professional* was identified by three of the state panels with Round 2 mean scores from 5.33 to 5.77 and 100% Round 3 agreement.

Table 9

Theme I: Professional

	MO	NC	OR	TX
Item	Rd 2 (Rd 3)	Rd 2 (Rd 3)	Rd 2 (Rd 3)	Rd 2 (Rd 3)
A whole school team player			5.09 (92)	5.25 (92)
Active				5.77 (100)
Active in professional organizations (NAAE, etc.)			5.09 (92)	
Example of leadership	5.42 (92)			
Participates in professional development			5.27 (100)	
Positive about the profession		5.91 (91)		
Professional	5.33 (100)		5.27 (100)	5.77 (100)
Stresses school/community involvement				5.17 (100)

Conclusions and Implications

This study sought to identify which characteristics define an effective cooperating teacher. Similar to Roberts' (2006) study, which proposed a model of effective cooperating teachers, we utilized Delphi methodology however, our expert panels consisted of cooperating teachers and spanned across four states. Roberts' (2006) study focused on student teachers, but indicated several questions emerging from his study that warrant further investigation including "what characteristics do cooperating teacher think are important" (p. 11). Previous studies, both within and apart from agricultural education, have also recommended exploring the perceptions of cooperating teachers.

There were 118 characteristics identified by the four panels which reached consensus. We qualitatively grouped the characteristics into nine themes including *Hard Worker, Relational, Communicator, Motivator, High Moral Character, Mentor, Program Planner, Effective Teacher,* and *Professional.* Similarities between this study and Roberts' (2006) findings can be observed in these themes. Roberts' (2006) study identified the theme *Professional* as well as *Teaching/Instruction.* The other two themes found in Roberts' (2006) study were *Personal Characteristics* and *Student Teacher/Cooperating Teacher Relationship.* Items that fit these broad themes were revealed in our study, but were broken into more specific and nuanced themes. Given

the larger sample size of this study, it is logical more total characteristics were identified here than within the Roberts' (2006) study. Additionally, since our study spanned four states and cooperating teachers who have worked with student teachers from multiple institutions, it is not surprising the characteristics identified vary across states. It is interesting to note where states were similar and different. While we will not pretend to imply we understand the implications of those differences, it does go a long way to reinforcing the need for teacher educators in each state to be aware of the uniquenesses in their states.

Killian and Wilkins (2009) identified three factors in highly effective cooperating teachers, one of which was having supervised five previous field experience students. Might some of the characteristics identified be found stronger in teachers with previous supervision of field experiences and student teachers? If so, those characteristics could be specifically sought in identifying new cooperating teachers.

Implications of this study are that the characteristics identified by cooperating teachers are likely areas teacher educators should consider when choosing cooperating teachers. This leads us to the next possible step of replicating this study with teacher educators. Norris et al. (1990) attempted this task with a quantitative survey instrument nearly thirty years ago. While their findings were certainly useful for agricultural education, we suggest that enough time has passed justifying the need to re-visit their study, perhaps with a different methodology, like the Delphi.

We also feel it is worthwhile to gather more information from student teachers in other programs across the country as well as cooperating teachers from various states beyond the four selected for this study. Characteristics identified by student teachers, cooperating teachers, and teacher educators from various states, will help continue to develop this theoretical basis to understand effective cooperating teachers. Similarly, we would like to consider the possibility of some type of formal assessment for cooperating teachers to determine where they fit within these nine themes. As a result of the data gathered, we propose the following model of the characteristics of an effective cooperating teacher (see figure 2).

We think our revised model gives placement coordinators something to consider. Specifically, questions should be generated like "What would the results look like in my state?" and "How would the cooperating teachers I am using compare to this set of identified characteristics?" Additionally, there may be a way to integrate this model into training for new cooperating teachers.

Research should be conducted that leads to a ranking of the identified characteristics. There is also a need to verify that placement with a cooperating teacher who holds these characteristics leads to a positive experience. Cooperating teachers, student teachers, and teacher educators could all assist in identifying the importance of each characteristic, leading to a ranking. When student teachers complete a successful student teaching experience, cooperating teachers should be scored on their abilities for each characteristic. The cooperating teacher's characteristic scores could be correlated with student teacher performance to determine the importance of each characteristic. Additionally, there are perhaps ways that teacher education institutions can use this list of characteristics in the in-service training of cooperating teachers.

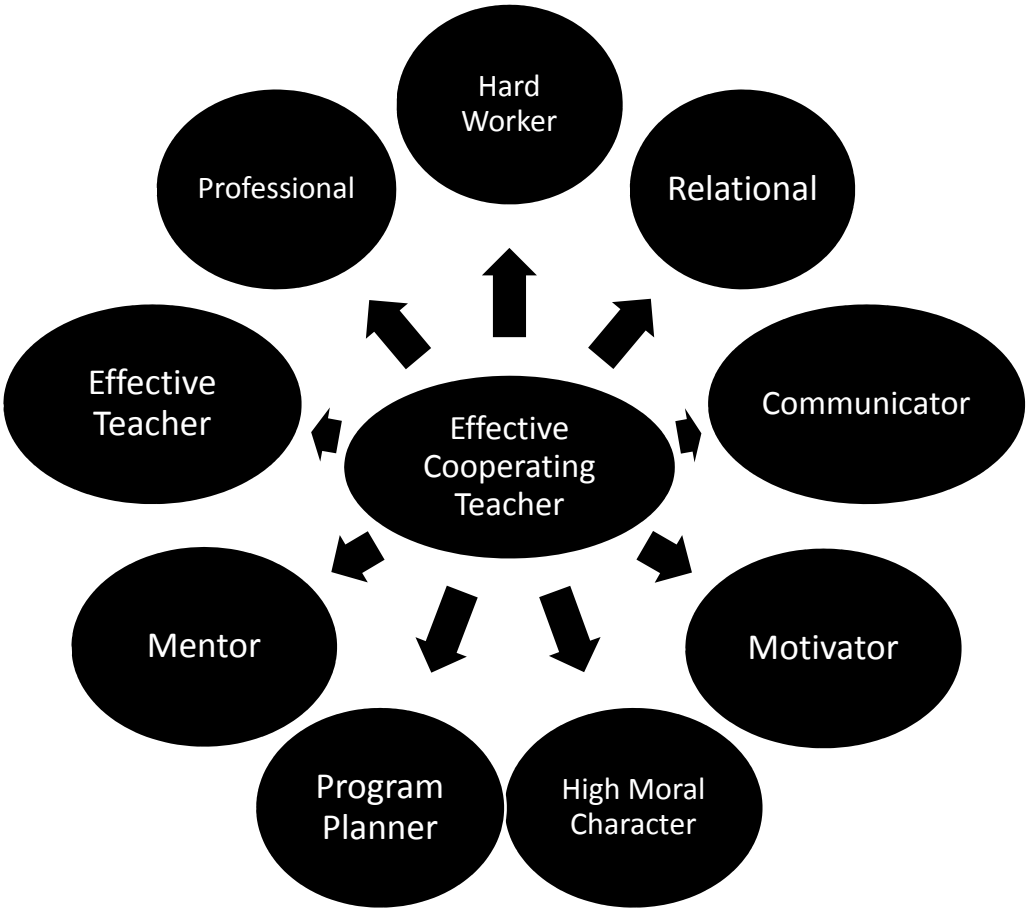

Figure 2. Proposed model of an effective cooperating agriculture teacher.

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