

## SUPERVISORY PRACTICES USED BY TEACHER EDUCATORS IN AGRICULTURE

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### Abstract

*The purposes of this study were to determine the status of student teacher supervision in agricultural education, the extent to which teacher educators in agricultural education used select models of supervision, and the relationship between the level of supervision and selected indicators of supervisor maturity. Results of this census study provide benchmark data on supervisory practices followed by teacher educators in agriculture. The supervisors (N=145) who participated in the study devoted, on average, 20% of their academic appointment to supervision. The majority of the respondents had received formal training on supervision. On average, respondents had been a university supervisor for 13 years and had served as a cooperating teacher for two student teachers. Based on the proposed Escalation Model, respondents used components of the structured level to a higher extent than the moderately structured or relatively unstructured levels. In addition, there was a low to negligible correlation between selected indicators of supervisor maturity and the most frequently used level of the Escalation Model.*

### Introduction/Theoretical Framework

Supervisors were once inspectors of teaching instead of partners in helping teachers to become better educators (Bolin & Panaritis, 1992). However, this situation appears to be changing. Sullivan and Glanz (2000) define supervision today as “a process of engaging teachers in instructional dialogue for the purpose of improving teaching and increasing student achievement” (p. 24). In addition, supervisors of the 21<sup>st</sup> century will be expected to collaborate more with teachers (Sullivan & Glanz, 2000). One of the most important contributions to the success of teachers, non-threatening supervision (Glickman, Gordon, & Ross-Gordon, 2001) needs to be accomplished effectively so teachers can enhance student learning.

Since supervision plays a significant role in the teaching and learning process, one might expect to find a large number of discipline-specific studies that address supervision. Out of 803 articles published in the *Journal of Agricultural Education* between 1976-2001, only three focused

specifically on supervision. As a contribution to the literature on instructional supervision in agricultural education, Fritz and Miller (2002) developed the Escalation Model for instructional supervisors to use in supervisory practice. This model provides a continuum of various supervisory models from which supervisors and teachers of agricultural instruction may select.

#### *Escalation Model for Instructional Supervisors*

The Escalation Model (Figure 1) consists of three levels: structured, moderately structured, and relatively unstructured. Each level consists of models that could help supervisors and teachers develop professionally over time.

There are three specific features of the model: risk, reward, and maturity. Risk is defined by Mish (1989) as “the exposure to possible loss or injury” (p. 632). Some possible risks to a supervisor could be loss of job title, criticism of work ethic by colleagues, and accountability for teacher performance. Reward is defined as “something given or offered for some

service or attainment” (Mish, 1989, p. 628). For example, a supervisor could experience satisfaction watching a teacher improve his/her teaching through self-reflection. In addition, a teacher could reference his/her reflection documentation to demonstrate growth. The maturity feature in the model is

grounded in Hersey and Blanchard’s (1972) situational leadership theory, where maturity is defined as “achievement-motivation, the willingness and ability to take responsibility, and task relevant education and experience of an individual or a group” (p. 134).

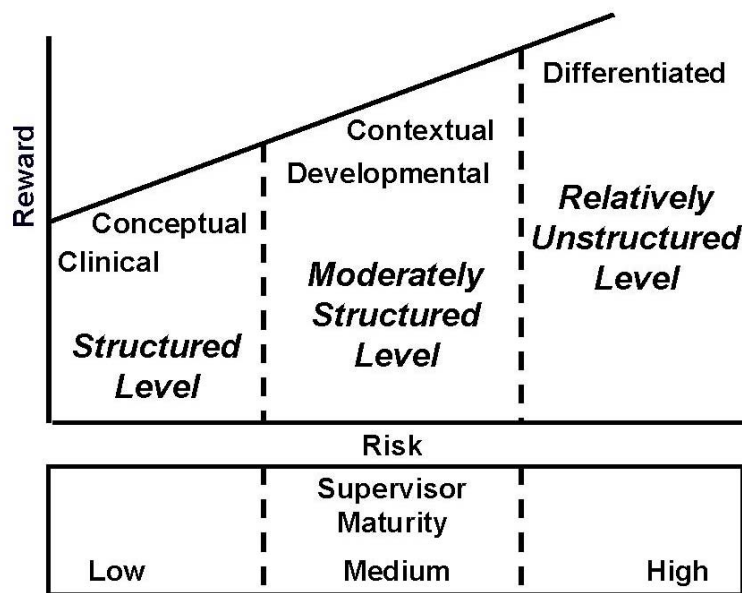


Figure 1. Escalation Model for Instructional Supervisors

The structured level in the Escalation Model consists of clinical and conceptual models of supervision. Goldhammer, Anderson, and Krajewski (1993) and Cogan (1973) identified five major steps in clinical supervision: planning conference, classroom observation/data collection, analysis/strategy, supervision conference, and postconference analysis. The conceptual model developed by Edmeirer and Nicklaus (1999) outlined organizational factors (e.g., workload, classroom climate, support of colleagues, decision making, role conflict, support from supervisor via supervision) and personal factors (e.g., life stage, teaching assignment, interpersonal, intrapersonal, conceptual level, experience in education, knowledge of subject) that influence teacher commitment and trust in the teaching system as well as how these factors directly reflect the performance quality of a teacher. Furthermore, the structured level does not require a high level

of risk by a supervisor or teacher, but it may not provide much reward. According to the model, supervisors with little experience should be advised to consider selecting supervisory models from the structured level.

The moderately structured level in the Escalation Model consists of developmental and contextual models of supervision. Supervisors using the developmental model (Glickman et al., 2001) provide three types of assistance: directive, collaborative, and nondirective, depending on a teacher’s conceptual level of thinking, expertise, and commitment to teaching. In the contextual model (Ralph, 1998), supervisory styles are matched to a teacher’s development or readiness level to perform a particular teaching task. The four supervisory styles are directing, coaching, supporting, and self-regulating. These models could be appropriate for an intermediate level of supervisor maturity. The moderately

structured level also requires some guidance from the models themselves, but rigidity of the structure begins to diminish. Moreover, this level requires a slightly higher risk for supervisors and teachers but may provide more reward for both. Supervisors who have gained a deeper understanding of supervision through experience, advanced education, and reflection should be advised to consider selecting models from the moderately structured level.

The relatively unstructured level of the Escalation Model assumes that, in addition to experience, a supervisor has acquired specialized knowledge and thorough academic preparation in supervision. This level would best suit a teacher who is comfortable with the teaching process and a supervisor who is ready for a more flexible, supervising role. There is a higher risk for both supervisor and teacher using this level. However, allowing teachers to have more input in supervisory approach and process could provide greater reward for both the teachers and supervisors.

The supervisory model recommended for the relatively unstructured level is differentiated supervision. Differentiated supervision is a unique approach to supervision because it allows a teacher to choose which type of supervisory technique he/she will receive (Glatthorn, 1997). The techniques that are embodied in differentiated supervision are: intensive development (special approach to clinical), cooperative professional development, self-directed, and administrative monitoring.

Student teachers often need direct guidance from a supervisor; however, some student teachers may be prepared for more self-direction. Even so, a supervisor must be able to analyze a teaching situation and select an appropriate supervisory approach for each teacher. Therefore, the Escalation Model suggests several supervisory models that could be used when supervising student teachers of agriculture.

Prior to this study, no data existed on the status of student teacher supervision in agriculture in the United States, the specific characteristics of supervisors in agricultural education, or the extent to which supervisors use particular supervisory models. In addition, the validity of selected theoretical

propositions derived from the Escalation Model had not been tested.

### **Purpose and Objectives**

The purposes of this study were to determine the status of student teacher supervision in agricultural education, the extent to which teacher educators in agricultural education used select models of supervision, and the relationship between the level of supervision and selected indicators of supervisor maturity. Four objectives and two hypotheses guided the study.

#### *Objectives*

1. Describe characteristics of teacher educators who supervised student teachers in agriculture from September 2000-May 2001.
2. Determine the extent to which teacher educators in agricultural education used select models of instructional supervision.
3. Describe the percentage of teacher educators who used structured, moderately structured, and relatively unstructured supervisory models.
4. Describe associations between selected indicators of supervisor maturity and the most frequently used level of the Escalation Model.

#### *Hypotheses*

1. There will be a higher percentage of supervisors who most frequently use the structured level instead of the moderately structured and relatively unstructured levels of the Escalation Model.
2. There will be a high correlation between selected indicators of supervisor maturity and the most frequently used level of the Escalation Model.

### **Methods and Procedures**

This census study was descriptive in nature. The population consisted of 167 teacher educators from 67 institutions who were responsible for supervising student

teachers from September 2000-May 2001. Regional representation of participating institutions was 93% for the western region, 86% for the central region, 73% for the eastern region, and 68% for the southern region. There were 88 institutions listed in the American Association of Agricultural Education (AAAE) directory (Dyer, 2000). The 88 institutions were contacted by email or telephone and 67 agreed to participate. Therefore, the 67 institutions represented 76% of the agricultural teacher education programs in the United States. The list of teacher educators was obtained by contacting the administrator of each agricultural education department or section in universities throughout the United States. The reader is cautioned not to generalize beyond the 67 institutions that participated in the study.

A questionnaire was developed by the researchers based on a review of literature about supervision and from the proposed Escalation Model developed by Fritz and Miller (2002). Portions of the questionnaire were relevant to this report. Section I consisted of behavioral questions that were related to a particular supervisory model. Section III consisted of demographic questions.

In Section I, respondents were instructed in several questions to indicate to what extent they engaged in a specific behavior related to student teacher supervision. One behavior appeared in each question. This behavior related to a specific type of supervisory model. Types included were clinical supervision, contextual supervision, and differentiated supervision. The total number of questions representing each type of supervisory model were: five for clinical supervision, five for contextual supervision, and one for differentiated supervision. Section I was quantified using a Likert-type scale consisting of the following choices: Never=1, Sometimes=2, Often=3, and Always=4. One model was selected to represent each level of the Escalation Model. Clinical supervision represented the structured level, contextual supervision represented the moderately structured level, and differentiated supervision represented the relatively unstructured level.

A panel of experts on instructional supervision determined the content and face validity of the questionnaire. This panel consisted of Dr. Edwin Ralph, founder of contextual supervision, from the University of Saskatchewan; Dr. Allan Glatthorn, founder of differentiated supervision, from East Carolina University; and Dr. Robert Martin, a teacher educator in agricultural education who has published research on instructional supervision from Iowa State University. In order to establish a test-retest reliability coefficient, the questionnaire was initially pilot tested with a group of nine secondary education supervisors from the College of Education at Iowa State University. The test-retest interval was two weeks. Questions with reliability coefficients of less than .70 were revised. A participant from the pilot study group was consulted about how best to revise these questions. A second pilot-test group, consisting of five teacher educators in agricultural education from Iowa State University, participated in a test-retest of the revised questionnaire. The test-retest interval for the second pilot study was two weeks. Reliability coefficients, based on data from the second pilot study, were .86 for clinical supervision, .71 for contextual supervision, and .80 for differentiated supervision.

Data were collected by mailed questionnaire. In May 2001, the questionnaire, accompanied by a cover letter and a stamped return envelope, was sent to 167 teacher educators responsible for supervising student teachers in agricultural education. In June 2001, a second mailing (consisting of a cover letter, questionnaire, and a stamped return envelope) was sent to all nonrespondents, stressing the importance of their participation.

In total, 145 of 167 questionnaires were completed and returned, for a response rate of 87%. Nonresponse error was handled by comparing early to late respondents (Miller & Smith, 1983). Deciding which respondents would be treated as early or late was influenced by the work of Barrick, Na, and Catri (2000). Early respondents were classified as the first half of respondents to return the survey, and late respondents were the second half of respondents to return the

survey. No statistically significant differences were found on the supervisory behavior questions or the demographic variables between the early and late respondents.

All data were analyzed using SPSS. The statistics deemed appropriate for the study included frequencies, percentages, means, standard deviations and correlations. An alpha level of .05 was set a priori. Davis' (1971) descriptors were used to interpret the magnitude of all associations.

## Results/Findings

### *Demographic Characteristics*

Respondents participating in this study were professors (36.8%,  $n=53$ ), associate professors (20.8%,  $n=30$ ), assistant professors (21.5%,  $n=31$ ), visiting professors (.7%,  $n=1$ ), instructors (6.3%,  $n=9$ ), graduate assistants (7.6%,  $n=11$ ), and

other professionals (6.3%,  $n=9$ ). Most (89.6%,  $n=129$ ) of the supervisors were male. A majority of the supervisors (60.7%,  $n=88$ ) had received tenure and 74.3% had received formal training in supervision.

Table 1 summarizes respondents' demographic characteristics. On average, supervisors in agricultural education had 13 years of supervisory experience at the university level, six years of high school teaching experience, and two experiences as a cooperating teacher. Supervisors devoted, on average, 20% of their time during the 2000-2001 academic year to supervising student teachers. On average, supervisors made three on-site visits to each student teacher, each visit lasting approximately five hours. For the 2000-2001 academic year, there was an average of 15 student teachers per department, with six student teachers assigned to each supervisor.

Table 1  
*Summary Characteristics of University Supervisors*

Item	<i>N</i>	<i>Range</i>	<i>M</i>	<i>SD</i>
Years of teaching high school agricultural education	145	0-37	6.09	4.96
Cooperating teacher experience (number of student teachers)	141	0-15	1.71	2.76
Percentage of time devoted to supervising student teachers from September 2000-May 2001	135	0-50	20.00	40.00
Years supervising student teachers at the university level	144	1-42	13.39	10.02
Student teachers from September 1, 2000-May 31, 2001 for the agricultural education program	142	0-50	15.18	10.27
Number of student teachers supervised from September 1, 2000-May 31, 2001 by each supervisor	144	0-30	6.17	5.62
Hours spent with each student teacher/visit	145	1.5-9	5.05	1.89
On-site visits to each student teacher	145	1-10	2.96	1.26

#### *Use of Supervisory Models*

Table 2 displays the extent to which teacher educators used a particular supervisory model. Each level of the Escalation Model is represented by one supervisory model. Clinical supervision was chosen to represent the structured level, contextual supervision was chosen to represent the moderately structured level, and differentiated supervision was chosen to represent the relatively unstructured level.

The components of the clinical supervision model were used to a greater extent than the components of the contextual

or differentiated models. The majority of supervisors used the clinical model either often (40.1%) or always (58.5%). The differentiated model was the least used of the supervisory models. Differentiated supervision consists of four options. The extent to which the teacher is allowed to choose the option he/she will receive was the variable of interest. Teacher choice, not particular options, is the essence of this model. The majority of teacher educators in agricultural education never (51.4%) or sometimes (33.6%) used the differentiated model.

Table 2  
*The Extent That Teacher Educators in Agricultural Education Used Components of Different Supervisory Models*

Supervisory Model	<i>f</i>	%	<i>M</i> <sup>a</sup>	<i>SD</i>
<b>Structured Level</b>				
<i>Clinical Supervision</i>			3.56	.39
Never	0	0.0		
Sometimes	2	1.4		
Often	57	40.1		
Always	83	58.5		
<b>Moderately Structured Level</b>				
<i>Contextual Supervision</i>			3.45	.45
Never	0	0.0		
Sometimes	3	2.1		
Often	67	47.2		
Always	72	50.7		
<b>Relatively Unstructured Level</b>				
<i>Differentiated Supervision</i>			1.70	.89
Never	72	51.4		
Sometimes	47	33.6		
Often	11	7.9		
Always	10	7.1		

<sup>a</sup>Note. Likert Scale: 1-1.5=Never, 1.51-2.5=Sometimes, 2.51-3.5=Often, 3.51-4=Always

### Level of the Escalation Model Used

*Hypothesis 1. There will be a higher percentage of supervisors who most frequently use the structured level instead of the moderately structured and relatively unstructured levels of the Escalation Model.*

Table 3 displays the level of the Escalation Model that teacher educators in agricultural education tended to use most often. A mean was calculated for each respondent on the extent to which each of the supervisory levels was used. The level

with the highest mean was coded as the most frequently used on a new variable "level." Almost half (47.79%, n=65) of teacher educators in agricultural education most frequently used the supervisory model from the moderately structured level. A slightly lower number of teacher educators (46.32%, n=63) most frequently used the structured level. Only 5.89% (n=8) of the teacher educators in agricultural education most frequently used the relatively unstructured level. Hypothesis 1 was not supported by the data.

Table 3  
*Agricultural Teacher Educators Most Frequently Used Level of the Escalation Model*

Level of Supervision	<i>f</i>	%
Structured	63	46.32
Moderately Structured	65	47.79
Relatively Unstructured	8	5.89
Total	136	100.00

**Relationship Between Supervisor Maturity and Level of the Escalation Model**

*Hypothesis 2. There will be a high correlation between selected indicators of supervisor maturity and the most frequently used level of the Escalation Model.*

Table 4 shows the most frequently used

level of the Escalation Model by years of supervisory experience at the university level. There is not a set pattern in which supervisors use a particular supervisory model. In fact, the use of each supervisory level exercised by the supervisor was sporadic.

Table 4  
*Frequencies and Percentages for Years a Supervisor Has Supervised Student Teachers at the University Level by the Most Frequently Used Level of the Escalation Model*

Years Supervising Student Teachers ( <i>n</i> =135)	Structured Level			Moderately Structured Level			Relatively Unstructured Level		
	<i>f</i>	%	Cum. %	<i>f</i>	%	Cum. %	<i>f</i>	%	Cum. %
1-5	21	33.3	33.3	21	32.8	32.8	2	25.0	25.0
6-10	5	7.9	41.2	11	17.2	50.0	2	25.0	50.0
11-15	7	11.1	52.3	8	12.5	62.5	1	12.5	62.5
16-20	13	20.6	72.9	10	15.6	78.1	1	12.5	75.0
21-25	3	4.7	77.7	8	12.5	90.6	2	25.0	100.0
26-30	11	17.4	95.2	2	3.1	93.7	0	0.0	100.0
> 30	3	4.8	100.0	4	6.3	100.0	0	0.0	100.0
Total	63	100.0	100.0	64	100.0	100.0	8	100.0	100.0

Table 5 exhibits the frequencies and percentages of formal training experience by the most frequently used level of the Escalation Model. Of the 63 supervisors who most frequently used the structured

level, 76.2% had received some formal training in supervision. Of the supervisors who most frequently used the moderately structured level, 71.9% had received formal training in supervision. There were 75% of

the supervisors in the relatively unstructured level who had

received formal training in supervision.

Table 5  
*Frequencies and Percentages for Formal Training Experience by the Most Frequently Used Level of the Escalation Model*

Formal Training (n=135)	Structured Level		Moderately Structured Level		Relatively Unstructured Level	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
No	15	23.8	18	28.1	2	25.0
Yes	48	76.2	46	71.9	6	75.0
Total	63	100.0	64	100.0	8	100.0

Table 6 focuses on the most frequently used level of the Escalation Model and the cooperating teacher experience possessed by a supervisor. The majority of supervisors in

the structured (72.1%) and moderately structured (80.9%) levels had served as cooperating teachers for 0-2 student teachers.

Table 6  
*Frequencies and Percentages for Supervisors Obtaining Cooperating Teacher Experience (Number of Student Teachers) by the Most Frequently Used Level of the Escalation Model*

Cooperating Teacher Experience (n=132)	Structured Level			Moderately Structured Level			Relatively Unstructured Level		
	<i>f</i>	%	Cum. %	<i>f</i>	%	Cum. %	<i>f</i>	%	Cum. %
0-2	44	72.1	72.1	51	80.9	80.9	4	50.0	50.0
3-5	12	19.7	91.8	8	12.7	93.6	2	25.0	75.0
6-8	4	6.6	98.4	1	1.6	95.2	0	0.0	75.0
9-11	0	0.0	98.4	2	3.2	98.4	2	25.0	100.0
12-14	1	1.6	100.0	0	0.0	98.4	0	0.0	100.0
15-17	0	0.0	100.0	1	1.6	100.0	0	0.0	100.0
Total	61	100.0	100.0	63	100.0	100.0	8	100.0	100.0

Table 7 displays frequencies and percentages of supervisors' academic position by the most frequently used level of the Escalation Model. The 49 professors most frequently (55.1%) used the structured level. There were 26 associate professors and they most frequently (46.2%) used the structured level. The 30 assistant professors most frequently used (53.3%) the moderately structured level. In addition, the

visiting professor most frequently used the moderately structured level, the nine instructors most frequently used either the structured level (44.4%) or the moderately structured level (44.4%), and the 11 graduate assistants most frequently used the structured level (63.6%). The other professionals (n=9) most frequently used the moderately structured level (77.8%).

Table 7  
*Frequencies and Percentages for Supervisor's Academic Position by the Most Frequently Used Level of the Escalation Model*

Academic Position	Structured		Moderately Structured		Relatively Unstructured		Total	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Professor	27	55.1	21	42.9	1	2.0	49	100.0
Associate Professor	12	46.2	11	42.3	3	11.5	26	100.0
Assistant Professor	11	36.7	16	53.3	3	10.0	30	100.0
Visiting Professor	0	0.0	1	100.0	0	0.0	1	100.0
Instructor	4	44.4	4	44.4	1	11.2	9	100.0
Graduate Assistant	7	63.6	4	36.4	0	0.0	11	100.0
Other	2	22.2	7	77.8	0	0.0	9	100.0

Tables 4 through 7 showcases selected indicators of supervisor maturity with supervisors' most frequently used level of the Escalation Model. Table 8 exhibits the magnitude of associations between the selected indicators of supervisor maturity and the level of the Escalation Model that

was used. Referring to Davis' (1971) descriptors, negligible to low correlation was found between selected indicators of supervisor maturity and the most frequently used level of the Escalation Model. Hypothesis two was not supported by the data.

Table 8  
*Relationships Between Level of the Escalation Model and Supervisory Experience, Formal Training, Cooperating Teacher Experience, and Academic Rank*

	Association	Magnitude
Supervisory Experience	-.06 <sup>a</sup>	Negligible
Formal Training	.05 <sup>b</sup>	Negligible
Cooperating Teacher Experience	.15 <sup>a</sup>	Low
Rank	.01 <sup>a</sup>	Negligible

<sup>a</sup> $r_s$       <sup>b</sup>Cramer's  $V$

### Conclusions/Implications/ Recommendations

The data from this study were gathered from 67 of the 88 institutions listed in the AAAE (Dyer, 2000) directory. The reader is cautioned that the results of this study cannot be generalizable to all teacher education programs but only to the 67 that agreed to participate.

The demographics of the study illustrate that student teacher supervision in agricultural education is valued. The majority of the supervisors (57.6%) were either professors or associate professors. Supervisors, on average, were conducting three on-site visits per student teacher that lasted approximately five hours, and 20% of supervisors' academic time was devoted to supervision. In addition, supervisors, on average, had 13 years of supervisory experience, six years of high school teaching experience, and had two experiences as a cooperating teacher. Most supervisors (74.3%) had received formal training in supervision.

Based on the Escalation Model, components of the structured level were used to a greater extent than components of the moderately or relatively unstructured levels. One may conclude that supervisors

were more likely to use the structured level for supervision of student teachers.

The selected indicators that defined maturity were years of supervisory experience at the university level, formal training, experience as a cooperating teacher, and academic position. None of these maturity indicators had a high correlation with the most frequently used level of the Escalation Model. In addition, this finding is not consistent with the proposed Escalation Model (Fritz & Miller, 2002). The Escalation Model states that as a supervisor matures, he/she should or will use more teacher-driven models of supervision; but as shown, this did not occur. Therefore, supervisor maturity may not be the key factor to selection of a supervisory approach. The selection of a supervisory approach may be influenced by circumstances of student teaching; therefore, the Escalation Model must be altered to better represent supervisory practices within the agricultural education profession. This alteration may include changing the structure from a growth model (based on supervisor maturity) to a model that reflects options from which a supervisor may choose. This would require eliminating maturity as a requirement to advance to a higher level of supervision and allowing the

supervisor to select a supervisory model that coincides with a particular situation.

Research still is needed to test the theoretical framework of the Escalation Model proposed by Fritz and Miller (2002). Research in this area should strive to answer the following questions:

1. What are actual risks experienced by agricultural education student teachers and supervisors when using the Escalation Model?
2. What are the actual rewards that are experienced by agricultural education student teachers and supervisors when using the Escalation Model?
3. Are there select indicators of teacher maturity that determine which supervisory model is used? If so, what are the indicators of teacher maturity?
4. Can all levels of the Escalation Model be realistically applied to the agricultural education student teaching context?
5. If the Escalation Model is altered to reflect supervisory options, how will this affect the supervisory process for teacher educators of agriculture?
6. Which level of supervision is related to the highest level of achievement, motivation, and satisfaction among student teachers?
7. Which level of supervision is preferred by cooperating teachers?
8. What supervision trends would there be if this study were completed with teacher educators in agriculture every three to five years?

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