SUPERVISORY PRACTICES USED BY TEACHER EDUCATORS IN AGRICULTURE: A COMPARISON OF DOCTORAL/RESEARCH EXTENSIVE AND RESEARCH NON-EXTENSIVE INSTITUTIONS

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Abstract

The purpose of this study was to compare student teacher supervision among doctoral/research extensive and research non-extensive institutions. Results of this census study provide benchmark data on supervisory practices followed by teacher educators in doctoral/research extensive and research non-extensive institutions. The doctoral/research extensive (N=111) and research non-extensive (N=34) teacher educators who participated in the study were predominantly male and most had received formal training on supervision. In addition, these teacher educators devoted, on average, 19% of their academic appointments to supervision, conducted three on-site visits lasting approximately four to five hours, and had served as cooperating teachers for an average of two student teachers. On average, teacher educators from doctoral/research extensive institutions had been university supervisors for 14 years and research non-extensive teacher educators had been university supervisors for 12.5 years. Based on the Supervisory Options for Instructional Leaders (SOIL) Model, respondents from doctoral/research extensive and research non-extensive institutions used components of clinical supervision to a greater extent than they used contextual or differentiated supervision. The most frequently used level of the SOIL Model utilized by teacher educators in doctoral/research extensive institutions was the structured level; however, the moderately structured level was the most frequently utilized by teacher educators in research non-extensive institutions.

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) defined supervision today as "a process of engaging teachers in instructional dialogue for the purpose of improving teaching and increasing student achievement" (p. 24). Supervisors of the 21st century will be expected to collaborate more with teachers (Sullivan & Glanz, 2000) and employ more non-threatening supervisory approaches (Glickman, Gordon, & Ross-Gordon, 2001) than their predecessors.

Non-threatening supervision may exist if a variety of supervisory models is utilized by teacher educators for different situations. Fritz and Miller's (2003b) Supervisory Options for Instructional Leaders (SOIL) Model, a revised version of the Escalation Model (Fritz & Miller, 2002), is a continuum of various supervisory models from which supervisors and teachers may select.

The SOIL 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 two specific features of the model: risk and reward. 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
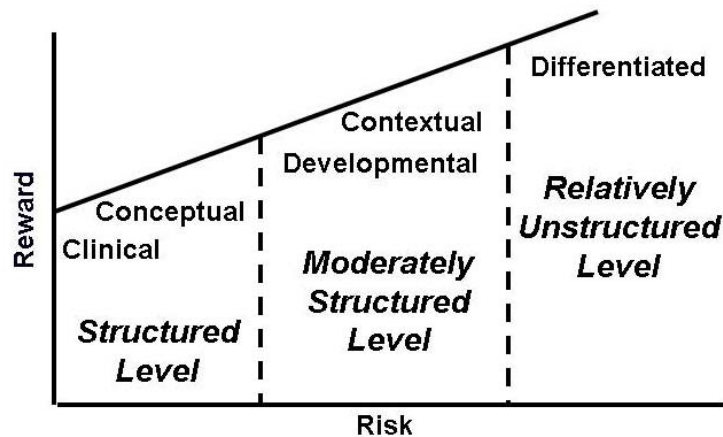
Figure 1. Supervisory Options for Instructional Leaders (SOIL) Model

teacher performance. Reward is defined as "something given or offered for some service or attainment" (Mish, 1989, p. 628). Although the readiness level of a teacher is not a major component of the SOIL Model, an instructional leader should consider it when choosing to use a particular supervision approach. Hersey, Blanchard, and Johnson (2001) define readiness as "the extent to which a follower demonstrates the ability and willingness to accomplish a specific task" (p. 175).

The structured level in the SOIL 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., work load, 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.

The moderately structured level in the SOIL Model consists of developmental and contextual models of supervision. Supervisors using the developmental model (Glickman, Gordon & Ross-Gordon, 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 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.

Since supervision plays a significant role in the teaching and learning process, one might expect to find a significant amount of discipline specific studies related to the supervision of student teachers. We might expect it but it does not exist. In recent efforts by Fritz and Miller (2003a), the supervisory process that exists in

agricultural education has been surfaced. Moreover, one conclusion drawn from their study was the high value teacher educators in agricultural education place on student teacher supervision. But, is the supervision of student teachers uniformly valued by teacher educators in agricultural education across different types of institutions? Recently, a department head at a doctoral/research extensive university, commented that supervising student teachers occupied valuable time of teacher educators. He eluded that faculty's time could be better spent researching and securing extramural funding. One may argue that pressures to obtain extramural funding and research responsibilities differ across different classifications of institutions.

Prior to 2000, institutions were classified as Research I and II, Doctoral I and II, MA I and II, and BA I and II (McCormick, 2000). Since 2000, the classifications have changed to Doctoral/Research Extensive (DR Ext), Doctoral/Research Intensive (DR Int), Master's (Comprehensive) Colleges and Universities I (MA I), Master's (Comprehensive) Colleges and Universities II (MA II), Baccalaureate Colleges-Liberal Arts (BALA), Baccalaureate Colleges-General (BA Gen), and Baccalaureate/Associate's College (BA AA) (McCormick, 2000).

Three primary types of institutions prepare agricultural education teachers 1) doctoral/research extensive, 2) doctoral/research intensive, and 3) master's (comprehensive) colleges and universities. McCormick (2000), a scholar for the Carnegie Foundation, defined DR Ext as an "institution that has a wide range of baccalaureate programs and awards 50 or more doctoral degrees per year across 15 disciplines" (p. 7); DR Int as an "institution that offers a wide range of baccalaureate programs and awards at least 10 doctoral degrees per year across three or more disciplines, or at least 20 doctoral degrees per year overall" (p. 7); and MA I as an "institution that offers a wide range of baccalaureate programs and awards 40 or more master's degrees annually across three or more disciplines" (p. 7).

Although arbitrary, scholars (Boyer, 1990; Noll, 1998) have attempted to differentiate between the mission statements of different types of institutions. Faculty members of primarily research extensive institutions tend to devote approximately 25 to 75 percent of their time to teaching, devote a significant part of teaching to advanced degree students, are promoted based primarily on research endeavors, and obtain extramural funding that is a substantial portion of the universities' budget (Boyer, 1990; Noll, 1998). Furthermore, teaching becomes a second priority and, therefore, the organization becomes a research institution that "engages in on the job training" (Noll, 1998, p. 6).

Faculty members of research non-extensive institutions focus a greater amount of their efforts to teaching and the primary mission of the university is teaching (Boyer, 1990; Noll, 1998). In addition, the staffing decisions reflect these teaching efforts and therefore research and securing external funding is valued as a second priority (Boyer, 1990; Noll, 1998).

One might reasonably hypothesize that the type of institution would influence supervisory practices of teacher educators in agriculture; however, no research-based evidence exists. Therefore, the question remains: Does the type of institution influence the supervisory practice of teacher educators?

Purpose and Objectives

The purpose of this study was to compare student teacher supervision among doctoral/research extensive and research non-extensive institutions. Three objectives guided the study.

1. Describe and compare characteristics of teacher educators in doctoral/research extensive and research non-extensive institutions who supervised student teachers in agriculture from September 2000-May 2001.
2. Determine the extent to which teacher educators in doctoral/research extensive and research non-extensive institutions in agricultural education used select models of instructional supervision.

3. Describe and compare the percentage of teacher educators in doctoral/research extensive and research non-extensive institutions who used structured, moderately structured, and relatively unstructured supervisory models.

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. The percentage of institutions from each region of the American Association for Agricultural Education that participated in the study was 93% from the western region, 86% from the central region, 73% from the eastern region, and 68% from the southern region. There were 88 institutions listed in the American Association of Agricultural Education (AAAE) directory (Dyer, 2000). Each administrator from the 88 institutions was contacted by email or phone and 67 agreed that their agricultural education departments/programs would be willing to participate. In addition, administrators provided a list of teacher educators responsible for supervising agricultural education student teachers. Therefore, the 67 participating institutions represented 76% of the agricultural teacher education programs in 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 authors based on a review of literature about supervision and from the proposed Escalation Model developed by Fritz and Miller (2002). Portions of the questionnaire that were relevant to this report included behavioral questions that were related to a particular supervisory model and demographic questions.

Respondents were instructed to indicate to what extent they engaged in a specific behavior related to student teacher supervision. One behavior appeared in each statement and the behavior was 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 was: five for clinical supervision, five for contextual supervision, and one for differentiated supervision. This section 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 SOIL 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 out 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). 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.

In addition, all individual surveys were separated into two categories: doctoral/research extensive or research non-extensive institutions. Doctoral/research extensive classifications were determined by The Carnegie Foundation for the Advancement of Teaching (McCormick, 2000) and the research non-extensive institutions were a combination of the doctoral/research intensive and MA I institutions. There were 111 returned questionnaires identified as doctoral/research extensive and 34 returned questionnaires identified as research non-extensive.

All data were analyzed using SPSS. The statistics deemed appropriate for the study included frequencies, percentages, means, and standard deviations.

Results/Findings

Demographic Characteristics

Table 1 displays the demographic characteristics of teacher educators from doctoral/research extensive and research non-extensive institutions. The majority of doctoral/research extensive and research non-extensive teacher educators participating in this study were male professors. In addition, teacher educators from both institutional types had received tenure and formal training on supervision. The doctoral/research extensive teacher educators included more nontenure-track faculty members (visiting professor, instructors, and graduate students) than the research non-extensive group.

Table 1

Demographic Characteristics of Doctoral/Research Extensive (DRE) and Research Non-Extensive (RNE) Teacher Educators

Characteristics	DRE		RNE	
	f	*%*	*f*	*%*
Academic Rank				
Professor	39	35.5	14	41.2
Associate Professor	27	24.5	3	8.8
Assistant Professor	19	17.3	12	35.3
Visiting Professor	1	.9	0	0.0
Instructor	8	7.3	1	2.9
Graduate Assistant	11	10.0	0	0.0
Other Professionals	5	4.5	4	11.8
Total	110	100.0	34	100.0
Formal Training				
Yes	79	71.8	28	82.4
No	31	28.2	6	17.6
Total	110	100.0	34	100.0
Tenure				
Yes	67	60.4	21	61.8
No	44	39.6	13	38.2
Total	111	100.0	34	100.0
Gender				
Male	98	89.1	31	91.2
Female	12	10.9	3	8.8
Total	110	100.0	34	100.0

Table 2 summarizes respondents' characteristics. On average, teacher educators from doctoral/research extensive institutions had 14 years of supervisory experience at the university level, six years of high school teaching experience, and two experiences as a cooperating teacher. On average, research non-extensive teacher educators had 12.5 years of supervisory experience at the university level, seven years of high school teaching experience, and two experiences as a cooperating teacher. Both doctoral/research extensive and research non-extensive teacher educators devoted, on average, 19% of their time during the 2000-2001 academic year to supervising student teachers. On average, doctoral/research extensive and research non-extensive teacher educators made three on-site visits to each student teacher; however, each visit lasted approximately 5.4 hours for doctoral/research extensive teacher educators and four hours for research non-extensive teacher educators. For the 2000-2001 academic year, there was an average of 17 student teachers per doctoral/research

extensive institution, with six student teachers assigned to each supervisor. Research non-extensive teacher educators had, on average, 10 student teachers per department, with seven student teachers assigned to each teacher educator.

Table 2
Summary Characteristics of Doctoral/Research Extensive (DRE) and Research Non-Extensive (RNE) Teacher Educators

Item	DRE				RNE			
	N	*Range*	*M*	*SD*	*N*	*Range*	*M*	*SD*
Years of teaching high school agricultural education	111	0-21	5.68	3.73	34	0-37	7.41	7.67
Cooperating teacher experience (number of student teachers)	109	0-14	1.66	2.69	32	0-15	1.88	3.05
Percentage of time devoted to supervising student teachers from September 2000-May 2001	104	0-45	19.36	44.74	31	0-50	19.02	3.26
Years supervising student teachers at the university level	110	1-37	13.66	10.14	34	1-42	12.49	9.73
Student teachers from September 1, 2000-May 31, 2001 for the agricultural education program	109	0-50	16.77	10.43	33	0-31	9.91	7.76
Number of student teachers supervised from September 1, 2000-May 31, 2001 by each supervisor	110	1-30	6.00	.74	34	0-20	6.71	5.28
Hours spent with each student teacher/visit	111	1.50-9	5.40	1.83	34	2-8	3.93	1.67
On-site visits to each student teacher	111	1-9	2.93	1.32	34	1-5	3.07	1.03

Use of Supervisory Models

Table 3 displays the extent to which teacher educators from doctoral/research extensive and research non-extensive institutions used a particular supervisory model. Each level of the SOIL Model is represented by one supervisory model. Clinical supervision represents the structured level, contextual supervision represents the moderately structured level, and differentiated supervision represents the relatively unstructured level.

The components of the clinical supervision model were used by both doctoral/research extensive and research non-extensive teacher educators to a greater extent than components of the contextual or differentiated models. Doctoral/research extensive teacher educators always

(M=3.60) used components of the clinical model, often (M=3.48) used components of the contextual model, and sometimes (M=1.75) used components of the differentiated model. Research non-extensive teacher educators often (M=3.41) used components of the clinical, often (M=3.38) used components of the contextual models, and sometimes (M=1.59) used components of the differentiated model. The differentiated model was the least used of the supervisory models in both types of institutions. 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.

Table 3
The Extent That Teacher Educators in Doctoral/Research Extensive (DRE) and Research Non-Extensive (RNE) Institutions Used Components of Different Supervisory Models

	DRE			RNE		
Supervisory Model	*N*	*M*[a]	*SD*	*N*	*Ma*	*SD*
Structured Level *Clinical Supervision*	108	3.60	.34	34	3.41	.51
Moderately Structured Level *Contextual Supervision*	108	3.48	.42	34	3.38	.54
Relatively Unstructured Level *Differentiated Supervision*	106	1.75	.96	34	1.59	.66

[a]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

Table 4 displays the level of the SOIL Model that doctoral/research extensive and research non-extensive 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." Half (50.48%, N=52) of the doctoral/research extensive teacher educators in agricultural education most frequently used the supervisory model from the structured level; however, approximately 62% (N=21) of the teacher educators from research non-extensive institutions most frequently used the moderately structured level. Seven (6.80%) of the teacher educators from doctoral/research extensive institutions and more of the teacher educators from research non-extensive institutions utilized the relatively unstructured level.

Table 4

Doctoral/Research Extensive (DRE) and Research Non-Extensive (RNE) Teacher Educators Most Frequently Used Level of the SOIL Model

Level of Supervision	DRE		RNE	
	f	*%*	*f*	*%*
Structured	52	50.48	13	38.24
Moderately Structured	44	42.72	21	61.76
Relatively Unstructured	7	6.80	0	0.00
Total	103	100.00	34	100.00

Conclusions/Implications/Recommendations

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

The characteristics of the doctoral/research extensive and research non-extensive teacher educators illustrate the high value placed on student teacher supervision. On average, both groups of teacher educators devoted 19% of their academic time to supervising student teachers and conducted three on-site visits. The visits lasted approximately 5.4 hours for doctoral/research extensive teacher educators and 3.9 hours for research non-extensive teacher educators.

One of the major disparities between the two types of institutions was position held by those who supervised student teachers. Teacher educators at the research non-extensive institutions included one instructor, zero graduate students, and four other professionals versus one visiting professor, eight instructors, 11 graduate students, and five other professionals from the doctoral/research extensive institutions. Based on the work of Boyer (1990) and Noll (1998), one may conclude that more non-faculty members are utilized in doctoral/research extensive institutions for student teacher supervision to permit time for tenure track faculty members to focus

more on research agendas. In addition, a student teacher at a doctoral/research extensive institution is more likely to receive supervision from a non-tenure track faculty member than a student teacher at a research non-extensive institution.

Based on the SOIL Model, the most frequently used level by doctoral/research extensive teacher educators was the structured level; however, the most frequently used level by the research non-extensive teacher educators was the moderately structured level. Moreover, doctoral/research extensive teacher educators spent approximately one and a half more hours per visit supervising student teachers than research non-extensive teacher educators. According to Boyer (1990) and Noll (1998), faculty members from primarily research institutions focus more on research; therefore, the type of supervisor training may be limited to a more structured process. In addition, the more structured process would be a straightforward training tool for graduate students and other professionals involved in the supervisory process. The structured process is less complicated to use but it is more time consuming. Therefore, one may conclude that teacher educators use a limited range of supervisory options focusing mostly on the structured level. It is recommended that more teacher driven approaches be included in the supervisory process because it may be more efficient and provide opportunities for teacher input in the teaching and learning process. According to the SOIL Model (Fritz & Miller, 2003b), teacher driven approaches may be more risky; however, the rewards could be greater for both the teacher and teacher educator.

Teacher educators should closely analyze their teacher education programs and determine if those involved in supervising student teachers are trained in the area of supervision. More importantly, are supervisors trained on different supervisory methods instead of the most commonly used, clinical supervision. If not, a possible solution would be to offer supervisory training. In addition to supervisory training, feedback forms utilized for supervising student teachers may need to change. Most feedback forms are quite structured in nature and force supervisors to conform to specific areas. Supervisors may need to question whether these structured feedback forms are of benefit to the student teacher and whether the form being used is appropriate for the developmental level of the student teacher.

Future research is still needed to answer questions that surfaced from this study. Research should strive to answer the following:

1. How do tenure track and non-tenure track faculty differ on supervisory models used with student teachers?
2. Do non-tenure track faculty spend more time on the supervision of student teachers?
3. What supervision trends might emerge if this study were replicated every three to five years?

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