PERCEPTIONS OF SUPERVISION PRACTICES BY AGRICULTURAL EDUCATION STUDENT TEACHERS

Moreetsi Thobega, Lecturer
Botswana College of Agriculture
Greg Miller, Professor
Iowa State University

Abstract

The purpose of this study was to describe student teachers' perceptions and preferences of the type of supervision they experienced while interacting with their university supervisors and cooperating teachers. Results revealed that student teachers perceived both their cooperating teachers and university supervisors to engage in contextual and clinical supervision practices. Cooperating teachers were perceived to use the nondirective style of developmental supervision, whereas most university supervisors were perceived to use the collaborative style. Most student teachers felt that supervision practices from all supervision models were important, with contextual and clinical supervision being most important. Of the developmental supervision styles, most student teachers preferred the collaborative supervision style. Future studies should examine how supervisor beliefs, supervisory situations, and student teachers' personal and professional characteristics influence the supervisors' supervisory behaviors.

Introduction

Supervision of student teachers during student teaching is a very important exercise in teacher training and development. It may be the only form of individualized instruction that student teachers experience during their training (Henry & Beasley, 1982). To student teacher supervisors, it offers an opportunity to engage in one-on-one instruction, which is a highly regarded teaching technique (Henry & Beasley). Supervision is thus beneficial to both the student teachers and their supervisors.

Studies on supervision revealed that supervisors can model their supervision around a variety of supervision approaches (Justen, McJunkin, & Strickland, 1999). Different supervision models include clinical supervision (Goldhammer, 1969), contextual supervision (Ralph, 1998), differentiated supervision (Glatthorn, 1997), conceptual supervision (Beach & Reinhartz, 1989), and developmental supervision (Glickman, 1990). The supervision models are blueprints of the dynamics of the supervisory transactions between the supervisors and the student teachers. The transactions vary according to the different supervisor/supervisee expectations, relationships, and anticipated outcomes for each model (Stoller, 1996).

In clinical supervision, a supervisor asks questions before and after a supervisory interaction that encourage reflection and self-analysis by the student teacher (Cook, 1996). In contextual supervision, the supervisor takes into account the supervisee's readiness for a particular teaching task by adjusting their supervisory approach to the supervisee's developmental level at that task (Ralph, 1998). Differentiated supervision is student teacher driven. The supervisor acts as a mentor, and they focus their efforts where they are needed most (Glatthorn, 1997). In conceptual supervision, the supervisor considers occupational factors that may affect how a student teacher does his or her job as they advise him or her on how to teach (Beach & Reinhartz, 1989). Developmental supervision makes use of different supervision styles that vary in the amount of supervisory decision making

power accorded the student teacher (Glickman, 1990). In one extreme, all the decision making power is given to the supervisor; the directive control supervision style characterizes this extreme. In the other extreme, the decision making power is given to the student teacher; the nondirective supervision style characterizes this extreme. Other styles of developmental supervision are collaborative and directive informational supervision; in both the styles, the supervisory decision making power is shared between the supervisor and the student teacher (Glickman). Through their supervisory options for instructional leaders (SOIL) model, Fritz and Miller (2003a) demonstrated that supervision models can be placed on a continuum according to the amount of structure used in each model. The continuum runs from highly structured to relatively unstructured models. Depending on the approach to supervision, a supervisors' behavior can be placed anywhere in that continuum of structure (Justen et al., 1999).

University supervisors and cooperating teachers differ not in their conception of what student teacher supervision should entail (Justen et al., 1999) but in their professional roles. Cooperating teachers are usually high school teachers; university supervisors are typically university professors. Cooperating teachers spend the entire student teaching period with the student teacher, but university supervisors see the student teacher only during student teacher visits (Wilson & Saleh, 2000). Given their differences in professional roles, cooperating teachers and university supervisors have different concerns; therefore, it is plausible to expect them to approach student teaching supervision differently. Cooperating teachers are concerned with relationships; they regard the cooperating teacher-student teacher relationships and school-community relationships as important elements of student teaching (Carr, Reeves, Meditz, & Wyatt, 1999; Edwards & Briers, 2001). University supervisors, on the other hand, are concerned with academic aspects of student teaching including how well classroom teaching ties to theory (Borne & Moss, 1990; Horton & Harvey, 1979).

Studies show that cooperating teachers' approaches to supervision resembled the developmental model of supervision (Boudreau, 1999). Justen et al. (1999) and Thobega and Miller (2007) found that cooperating teachers preferred nondirective over collaborative, directive-informational, and directive styles of developmental supervision. Cooperating teachers also engaged in supervisory tasks that are characteristic of contextual, clinical, and conceptual supervision (Thobega & Miller, 2007). Like cooperating teachers, university supervisors tend to believe in nondirective supervision (Justen et al.). Regarding the use of structure in supervision, Fritz and Miller (2003b) reported that university supervisors in agricultural education most frequently used structured approaches when carrying out student teacher supervision. The structured approaches were characteristic of clinical and conceptual supervision approaches (Fritz & Miller, 2003b).

Cooperating teachers' and university supervisors' values, perceptions, and practices related to student teaching are important to student teacher supervision. However, all studies about supervisors' supervisory approaches were informed by self-reports from the supervisors themselves. Prior to this study, no information was found on the perceptions of student teachers towards supervision practices they experienced from both their cooperating teachers and university supervisors. There was also no information about student teachers' preferences of supervision practices they experience.

Purpose and Objectives

The purpose of this study was to describe student teachers' perceptions of the type of supervision they experienced while interacting with their university supervisors and cooperating teachers. The study also determined the student teachers' preferences for specific supervision practices. Specific questions were:

1. What are student teachers' perceptions of supervision practices they experienced from their cooperating teachers?

2. What are student teachers' perceptions of supervision practices they experienced from their university supervisors?
3. Which supervision practices were important to student teachers?

Methods and Procedures

The population for this descriptive survey study consisted of Agricultural Education student teachers from four universities: Texas A&M University, Oklahoma State University, Iowa State University, and the University of Wisconsin – River Falls. The accessible population was agricultural education student teachers in the four universities that student taught during the spring 2006 semester. A questionnaire was used to collect data. The questionnaire had three sections. Items in sections I and II were developed by rephrasing items from questionnaires which were developed for university supervisors (Fritz & Miller, 2003b) and cooperating teachers (Thobega & Miller, 2007), respectively. Section I contained a list of supervision practices. All items were in a nominal dichotomous scale with 'yes' and 'no' response categories, indicating to whether their university supervisors and/or their cooperating teachers engaged in such a supervisory practice and whether they felt that the practice was important to them as student teachers. Out of the 22 supervisory practices listed, 5 were associated with clinical supervision, 6 with conceptual supervision, 5 with contextual supervision, and 6 with differentiated supervision practices.

Section II was adopted and rephrased from Thobega and Miller (2003). It presented four descriptions of developmental supervision styles that supervisors might engage in when supervising student teachers. Student teachers were asked to select from the four options coded A, B, C, and D. The options were clusters of descriptions that corresponded with collaborative, nondirective, directive informational, and directive control supervision. The participants were asked to select the description that best represented the developmental supervision style used by their cooperating teachers and university supervisors. The participants were also asked to indicate the style that they preferred their supervisors to use. Section III contained demographic questions.

A panel of three experts reviewed the questionnaire for validity. The panel included two experts in the field of student teacher supervision and a graduate student. One expert was an assistant professor of Agricultural Education at the University of Tennessee who has conducted extensive research in the field of student teacher supervision. Items in Section I of the questionnaire were rephrased from the expert's questionnaire designed for university supervisors. The other expert was a clinician in the Department of Educational Leadership and Policy Studies at Iowa State University. The two experts were asked to assess whether the items were suitable for student teachers who had just completed student teaching and have experienced supervision. The experts were also asked to assess whether content and underlying constructs for each item corresponded to the supervisory behavior being measured. The third reviewer had just completed student teaching in the previous semester and, therefore, was similar in most respects to the target population of the study. This reviewer was asked to assess whether items in Sections I and II were comprehensible and written in a style suitable for student teachers who had completed student teaching. The panel judged the questionnaire to be content and construct valid. The questionnaire was also judged to be suitable for the target population. The panel's suggestions were incorporated into the questionnaire.

A test-retest reliability procedure was conducted to establish reliabilities for different parts of the questionnaire. Participants in the test-retest procedure were elementary education student teachers at Iowa State University. The questionnaire was administered to six volunteers during their mid-semester student teaching seminar. The questionnaire was sent to the volunteers after 10 days for the retest. Table 1 shows test-retest reliability coefficients for the different scales of the questionnaire. Average reliability coefficients for the

subscales of clinical, conceptual, contextual, and differentiated supervision were within the acceptable range of .70 and above (McMillan & Schumacher, 1997). Developmental supervision had a low reliability of .50 for all of its subscales. The items were framed in such a way that participants had to choose from a list of four detailed descriptions, and it is possible that consistent responses may have been too demanding. Caution should be exercised in interpreting the results of this aspect of the study.

Table 1
Reliability Coefficients for Different Scales of the Questionnaire

Supervision approach	Cooperating Teacher	University Supervisor	Importance
Clinical	.97	.93	.90
Conceptual	.83	.78	.89
Contextual	.93	.60	.87
Differentiated	.86	.83	.78
Developmental	.50	.50	.50

Student teaching coordinators in the four participating universities were contacted by e-mail and requested to administer the survey questionnaire during their respective student teaching seminars. The questionnaires were sent to student teaching seminar coordinators during the first week of May 2006. Thirty-seven questionnaires were sent to Texas A & M University, 17 questionnaires to Oklahoma State University, 6 questionnaires to the University of Wisconsin – River Falls, and 13 questionnaires to Iowa State University. The number of questionnaires sent to each university corresponded to the number of eligible participants at that university. All student teachers responded. Only one questionnaire was not useable. The total number of participants was 73, with 72 useable responses resulting in a response rate of 99%. Nonresponse error was not considered a threat to the validity of this study. However, findings of the study only apply to students of the four universities that participated.

Results

Seventy-two student teachers participated in the study. Thirty-six of the participants were from Texas A&M University, 17 were from Oklahoma State University, 13 were from Iowa State University, and 6 were from the University of Wisconsin –River Falls. There were a total of 39 females. The participants ranged in age from 21 to 41 years (M = 23; SD = 2.8). The length of student teaching ranged from 8 to 19 weeks (M = 12; SD = 2.1). The student teachers experienced an average of 10 classroom observations by their cooperating teachers (SD = 9.0). The total number of formal classroom observations conducted by cooperating teachers ranged from 0 to 45. The student teachers experienced an average of 3.8 formal classroom observations from their university supervisors (SD = 2.6). The total number of observations by university supervisors ranged from 1 to 15.

Research Question 1: What are student teachers' perceptions of supervision practices they experienced from their cooperating teachers?

Table 2 shows percentages of student teachers who experienced each of the listed supervision practices. Most cooperating teachers were perceived to engage in

contextual supervision and clinical supervision practices. Between 61.1% and 97.2% of the student teachers perceived their cooperating teachers to practice the five contextual supervision behaviors that were listed. The results also show that 50% or more of the student teachers perceived their cooperating teachers to engage in four of the five clinical supervision practices. One clinical supervision practice, "holding pre-observation conference," was experienced by less than 50% of the student teachers (Table 2). Most of the conceptual and differentiated supervision practices were experienced by less than half of the student teachers.

There were five, five, six, and six supervision practices listed for clinical, contextual, conceptual and differentiated supervision approaches, respectively. Table 3 shows the percentage of supervision practices for each supervision approach that student teachers experienced from their cooperating teachers and university supervisors. The percentages represent the proportion of supervision practices for each supervision approach that student teachers reportedly experienced. The table also shows the percentage of the supervision practices that student teachers deemed important. The cooperating teachers were perceived to engage in 77.2% (*SD* = .23) of the contextual supervision practices; 64.7% (*SD* = .32) of the clinical supervision practices; 44.0% (*SD* = .31) of the conceptual supervision practices, and 42.8% (*SD* = .32) of the differentiated supervision practices.

Research Question 2: What are student teachers' perceptions of supervision practices they experienced from their university supervisors?

Table 2 shows that most university supervisors engaged in clinical supervision and contextual supervision practices. Three clinical supervision practices, "meeting with the student teacher to discuss the lesson observed (post-observation conference)," "taking notes during observation," and "sharing the teaching analysis with the student teacher," had percentages greater than 90%. However, like cooperating teachers, less than half (43.1%) the university supervisors were perceived to hold pre-observation conferences. More than 50% (61.1% to 90.3%) of the student teachers perceived their supervisors to engage in all five contextual supervision practices. Most conceptual and differentiated supervision practices were experienced by less than half the student teachers. However, "having student teachers evaluate themselves by video tape, journaling, inventories, or portfolio," a differentiated supervision practice, was experienced by 81% of the student teachers (Table 2). Table 3 shows that the student teachers perceived their university supervisors to practice 76.7% (*SD* = .23) of the clinical supervision behaviors, 74.0% (*SD* = .26) of the contextual supervision behaviors, 52.8% (*SD* = .26) of the differentiated supervision behaviors, and 47.9% (*SD* = .30) of the conceptual supervision behaviors.

Research Question 3: *Which supervision practices were important to student teachers?*

More than 50% of the student teachers felt that each of the listed supervision practices was important to them (Table 2). Further, student teachers felt that 92.8% (*SD* = .13) of the contextual supervision practices, 85.0%, (*SD* = .21) of the clinical supervision practices, 70.6% (*SD* = .27) of the conceptual supervision practices, and 68.8% (*SD* = .27) of the differentiated supervision were important (Table 3).

Table 2

Percentage of Student Teachers Who Experienced Each Supervision Practice and Who Indicated Each Practice was Important (N = 72)

Supervisory Behaviors	Experienced with CT	Experienced with US	Importance
Clinical Supervision Practices			
Conducted a meeting with you to discuss the lesson before observing you teach.	48.6	43.1	63.9
Met with you to discuss the lesson they observed.	76.4	91.7	94.4
Took notes while they observed you teaching.	94.4	95.8	91.7
Shared with you their analysis of your teaching	84.5[a]	93.0[a]	98.6[a]
Asked you to respond to their critique of the lesson.	50.0	59.7	76.4
Conceptual supervision practices			
Established benchmarks to be achieved by specific dates that were based on your needs.	8.9	51.4	63.9
Asked you about your teaching experience prior to student teaching.	51.4	48.6	61.1
Asked you whether you felt your workload was high.	25.0	31.9	65.3
Asked you how you felt about classroom environment.	62.5	73.6	93.1
Discussed your knowledge of the subject matter before you began teaching.	58.3	41.7	84.7
Asked you about your relationship with other teachers in the school.	27.8	40.3	55.6
Contextual supervision practices			
Asked you whether you felt confident about your teaching.	61.1	75.0	88.9
Asked whether you felt comfortable with teaching the subject matter.	63.9	61.1	91.7
Gave you less direction as you became confident in teaching.	87.5	70.0[b]	90.3
Allowed you to make your own instructional decisions as you gained teaching experience.	97.2	90.3	100.0
Encouraged you to go on when you felt overwhelmed.	76.4	73.6	93.1
Differentiated supervision practices			
Asked you to choose how you wanted him/her to supervise you.	32.4[a]	28.2[a]	60.6[a]
Held conferences with you to monitor your progress towards achieving your goals.	56.9	73.6	88.7
Had other teachers supervise you during student teaching.	45.8	37.5	68.1
Had you visit other classrooms in the school.	47.2	56.9	65.3
Had you provide feedback to other teachers about their teaching.	27.8	40.3	51.4
Had you evaluate your teaching either by video tape, journaling, inventories, or portfolio.	45.8	80.6	79.2

Note. CT = cooperating teacher; US = university supervisor; Importance = whether the supervision practice was important to the student teacher.

[a]$n = 71$ [b]$n = 70$.

Table 3
Percentage of Supervision Practices for Each Supervision Approach That Were Experienced and Deemed Important by the Student Teachers (N = 72)

	Experienced with					
	Cooperating Teacher		University Supervisor		Importance	
Type of supervision	*M*	*SD*	*M*	*SD*	*M*	*SD*
Clinical	64.7	.32	76.7	.23	85.0	.21
Contextual	77.2	.23	74.0	.26	92.8	.13
Conceptual	44.0	.31	47.9	.30	70.6	.27
Differentiated	42.8	.32	52.8	.26	68.8	.27

A separate scale was used to measure student teachers' perceptions and preferences of developmental supervision styles. Table 4 shows the number of cooperating teachers who used each of the developmental supervision style as perceived by student teachers. Most (39.4%) cooperating teachers used nondirective supervision, 29.6% used collaborative supervision, and 25.4% used directive informational supervision. Only 5.6% of cooperating teachers used directive supervision. Table 4 also shows the percentages of student teachers who preferred each of the developmental supervision styles. Collaborative supervision was the most preferred (42.3%) style of supervision by student teachers. Directive informational was the second preferred style (29.6%) followed by nondirective supervision with (22.5%). The least preferred style was directive supervision (5.6%). Also, more than half the student teachers who preferred nondirective, collaborative, and directive informational styles of supervision actually experienced the same styles from their cooperating teachers. Table 4 shows that 12 of 16, 18 of 30, and 13 of 21 student teachers preferred and experienced nondirective, collaborative, and directive informational supervision, respectively. Directive supervision was experienced by less than half (1 of 4) of the student teachers who preferred it. To confirm the association between student teachers' preferred and perceived styles of developmental supervision, *Cramer's V* was computed. The analysis revealed a significant positive correlation between cooperating teachers' developmental supervision style and student teachers' preferences (*Cramer's V* = .46, $p < .001$) (Table 4).

Table 5 shows the percentages of university supervisors who used each of the developmental supervision styles. The most popular style for university supervisors was collaborative supervision (37.1%) followed by nondirective supervision (31.4%) and directive informational supervision (28.6%). The least used style was directive supervision (2.9%). Table 5 further shows that 11 of 16, 19 of 29, and 14 of 21 student teachers preferred and experienced nondirective, collaborative, and directive informational supervision, respectively. Four student teachers preferred directive supervision but none experienced it. *Cramer's V* analysis revealed a significant positive correlation between university supervisors' developmental supervision style and student teachers' preferences (*Cramer's V* = .45, $p < .001$) (Table 5).

Table 4
Cross-tabulation of Cooperating Teachers' Developmental Supervision Approach and the Approach Preferred by Student Teachers

	Student Teacher Preferences									
	Nondirective		Collaborative		Directive Inf.		Directive		Total	
CT Approach	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Nondirective	12	16.9	9	12.7	6	8.5	1	1.4	28	39.4
Collaborative	2	2.8	18	25.4	1	1.4	0	0.0	21	29.6
Directive Inf.	1	1.4	2	2.8	13	18.3	2	2.8	18	25.4
Directive	1	1.4	1	1.4	1	1.4	1	1.4	4	5.6
Total	16	22.5	30	42.3	21	29.6	4	5.6	71	100

Note. CT = cooperating teacher; Directive Inf. = Directive informational supervision.
Cramer's V = .46, $p < .001$.

Table 5
Cross-tabulation of University Supervisors' Developmental Supervision Approach and the Approach Preferred by Student Teachers

	Student Teacher Preferences									
	Nondirective		Collaborative		Directive Inf.		Directive		Total	
US Approach	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Nondirective	11	15.7	6	8.6	2	2.9	3	4.3	22	31.4
Collaborative	1	1.4	19	27.1	5	7.1	1	1.4	26	37.1
Directive Inf.	3	4.3	3	4.3	14	20.0	0	0.0	20	28.6
Directive	1	1.4	1	1.4	0	0.0	0	0.0	2	2.9
Total	16	22.9	29	41.4	21	30.0	4	5.7	70	100

Note. Totals for student teacher preferences are slightly different from those in Table 4 because of a missing value in one of the university supervisors' measures. US = University supervisor; Directive Inf. = Directive informational supervision
Cramer's V = .45, $p < .001$.

Conclusions/Implications/ Recommendations

Student teachers involved in this study perceived their cooperating teachers to engage in contextual supervision practices more than clinical supervision practices. In contrast, university supervisors were perceived to engage in clinical supervision more than contextual supervision. Ralph (1994) stated that a supervisor who uses contextual supervision considers unique contextual variables that affect each supervisee. Some of the variables are curricular/school policies and practices, personal relationships, or characteristics of the supervisee including confidence and competence. In a related study, Edwards and Briers (2001) confirmed that Agricultural Education cooperating teachers were concerned not only with their relationship with student teachers but also with the relationships between their agriculture programs, the school, and the community. Consideration of such contextual factors by cooperating teachers might explain why cooperating teachers in this study were perceived to use contextual supervision more than other types of supervision.

Clinical supervision represents a supervision protocol characterized by three basic phases: planning for the forthcoming lesson (pre-observation conference), classroom observation of student teacher by a supervisor, and a reflective, analytic post-observation conference (Cook, 1996). It is an accepted supervision standard (Glickman, 1990), and it is not surprising that most supervisors use it. In the current study, student teachers perceived both cooperating teachers and university supervisors to engage in clinical supervision practices. Student teachers perceived that their university supervisors used clinical supervision practices more than their cooperating teachers.

Unlike cooperating teachers who are concerned with relationships, university supervisors are more concerned with connections between the pedagogical knowledge taught in college classes and how student teachers practically apply this knowledge in the classroom (Borne & Moss, 1990; Carr et al. 1999; Horton & Harvey, 1979; Wilson & Saleh, 2000). Because of their concerns, university supervisors may tend to assess the student teachers instead of supervising, supporting, and guiding them in their teaching (Wilson & Saleh). As a result, university supervisors might resort to employing structure (Fritz & Miller, 2003b) in their supervision, hence their tendency to follow the rather definite structure of clinical supervision. Also, the fact that university supervisors are limited by time when they visit student teachers (Wilson & Saleh) might motivate them to use the structured, time efficient clinical supervision procedures. The time limitation might also explain why most university supervisors skipped the pre-observation conference. However, a more comprehensive inquiry is needed to investigate why supervisors tend not to hold pre-observation conference when supervising student teachers. Could there be other supervisory practices that they engage in instead of pre-observation conferences?

Regarding developmental supervision, student teachers involved in this study perceived most of their cooperating teachers to use nondirective style of supervision. Very few student teachers perceived their supervisors to use directive supervision. Most university supervisors were perceived to use collaborative supervision. Like cooperating teachers, very few university supervisors were perceived to use directive supervision. The findings about cooperating teachers were consistent with Justen et al.'s (1999) and Thobega and Miller's (2007) previous findings.

From student teachers' perspective, supervisors were either willing to give the student teachers the sole decision making power in supervision or share the responsibility of planning the supervision with the student teacher. This could mean that supervisors were less evaluative (Knoll, 1987) and more developmental. The student teachers' perceptions also indicated that supervisors were turning to supervision methods that foster student teachers' motivation, inspiration, trust and help the student teachers improve their teaching performance (Boudreau, 1999; Pfeiffer & Dunlap, 1982).

Results of this study showed that student teachers perceived their supervisors to use

clinical and contextual supervision practices more than conceptual and differentiated supervision practices. However, considerable numbers of supervisors were still perceived to engage in conceptual and differentiated supervision practices. Supervisors were also perceived to use mainly nondirective, collaborative, and directive-informational styles of developmental supervision, but a few used the directive style. Researchers concluded that supervisors could have been using combinations of supervisory approaches and styles when supervising student teachers. There is no one recommended approach to supervision; however, as Justen et al. (1999) concluded, supervisory behaviors from one model may tend to dominate. The question that remains is, what factors influence supervisors to engage in particular supervision practices? Could it be supervisors' supervisory beliefs as Justen et al. (1999) suggested? Could it be the supervisory situation as proponents of contextual supervision suggested? Or, could it be the student teacher's personal or professional characteristics? How much does each of these factors influence the ultimate supervisory behaviors of a supervisor? Further research is recommended to investigate these questions.

Student teachers involved in this study deemed each of the supervision practices important to their development as teachers. Consistent with their perceptions about cooperating teachers and university supervisors' practices, the most important supervision practices were clinical and contextual supervision practices. Structured procedures of clinical supervision were important to most student teachers. Even so, student teachers still like to be allowed to make their own teaching decisions—a practice provided for by contextual supervision. Of the four developmental supervision styles, the student teachers preferred the collaborative style most. Directive informational and nondirective styles were also preferred by a considerable number of student teachers indicating that the student teachers actually want to share the supervisory decision making with their supervisors. Very few student teachers preferred directive supervision. Student teachers' developmental supervision preferences were consistent with the supervision styles they perceived from their supervisors. This is evidenced by the moderate positive associations between supervisors' perceived supervision styles and student teacher preferences. Regarding developmental supervision, supervisors' practices and student teachers' preferences were related, implying that student teachers are likely to be satisfied with the developmental supervision they received from their supervisors. Student teacher supervisors are urged to analyze their supervisory situations to develop a combination of approaches optimum for student teachers professional growth and development. Situational analysis should be made an integral part of training for supervisors.

References

Beach, D. M., & Reinhartz, J. (1989). *Supervision: Focus on instruction.* New York: Harper & Row.

Borne, C., & Moss, J. W. (1990). Satisfaction with agricultural education student teaching. *Journal of Agricultural Education, 31*(2), 29-34.

Boudreau, P. (1999). The supervision of a student teacher as defined by cooperating teachers. *Canadian Journal of Education, 24*(4), 454-459.

Carr, M. K., Reeves, M., Meditz, N., & Wyatt, F. R. (1999). A cohort model for supervision of preservice teacher developed by mentor teachers. *Teaching and Change, 6*(3), 314-328.

Cook, G. E. (1996). Using clinical supervision to promote inquiry. *Journal of Staff Development, 17*(4), 46-50.

Edwards, M. C., & Briers, G. E. (2001). Cooperating teacher's perceptions of important elements of the student teaching experience: A focus group approach with quantitative follow-up. *Journal of Agricultural Education, 42*(3), 30-41.

Fritz, C. A., & Miller, G. S. (2003a). Supervisory options for instructional leaders in education. *Journal of Leadership Education, 2*(2), 1-15.

Fritz, C. A., & Miller, G. S. (2003b). Supervisory practices used by teacher's educators in agriculture. *Journal of Agricultural Education, 44*(3), 34-45.

Glatthorn, A. A. (1997). *Differentiated supervision* (2nd ed). Alexandria, VA: Association for Supervision and Curriculum Development.

Glickman, C. D. (1990). *Supervision in transition: A developmental approach*. (2nd ed.). Boston: Allyn & Bacon.

Goldhammer, R. (1969). *Clinical supervision: Special methods for the supervision of teachers.* New York: Holt, Rinehart and Winston.

Henry, M. A., & Beasley, W. W. (1982). *Supervising student teachers the professional way: A guide to cooperating teachers.* (3rd ed.). Terre Haute, IN: Sycamore Press.

Horton, L., & Harvey, K. (1979). Preparing cooperating teachers: The role of the university supervisor [Electronic version]. *Peabody Journal of Education, 57*(1), 56-60.

Justen, J. E., III, McJunkin, M., & Strickland, H. (1999). Supervisory beliefs of cooperating teachers. *Teacher Educator, 34*(3), 173-180.

Knoll, M. K. (1987). *Supervision for better instruction: Practical techniques for improving staff performance.* New Jersey: Prentice Hall.

McMillan, J. H., & Schumacher, S. (1997). *Research in education,* (4th ed.). New York: Addison-Wesley.

Pfeiffer, I. L., & Dunlap, J, B. (1982). *Supervision for teachers: A guide for improving instruction.* Phoenix, AZ: Oryx Press.

Ralph, E. G. (1994). Helping beginning teachers improve via contextual supervision. *Journal of Teacher Education, 45*(5), 354-363.

Ralph, E. G. (1998). *Developing practitioners: A handbook of contextual supervision.* Stillwater, OK: New Forum Press.

Stoller, F. L. (1996). Teacher supervision: Moving towards an interactive approach [Electronic version]. *Forum, 34*(2), 1-15.

Thobega, M., & Miller, G. (2007). Supervisory behaviors of cooperating agricultural education teachers. *Journal of Agricultural Education*, *48*(1), 64-74.

Thobega, M., & Miller, G. (2003). Relationship of instructional supervision with agriculture teachers' job satisfaction and their intention to remain in the teaching profession. *Journal of Agricultural Education, 44*(4), 57-66.

Wilson, E. K., & Saleh, A. (2000). The effects of an alternative model of student teaching supervision on clinical master teachers. *Action in Teacher Education, 22*(2A), 84-90.

MOREETSI THOBEGA is a Lecturer in the Department of Agricultural Economics, Education, and Extension at the Botswana College of Agriculture, P/Bag 0027, Gaborone, Botswana. E-mail: mthobega@bca.bw.

GREG MILLER is a Professor in the Department of Agricultural Education and Studies at Iowa State University, 201 Curtiss Hall, Ames, IA 50011. E-mail: gsmiller@iastate.edu.