Journal of Agricultural Education
Volume 54, Number 2, pp. 99 –113
DOI: 10.5032/jae.2013.02099

Instructional Supervision of Agricultural Education Teachers: Perceptions Regarding Selected Beliefs

Thomas H. Paulsen
Robert A. Martin
Iowa State University

The purpose of this study was to identify beliefs held by agricultural education teachers regarding the supervision of instruction by the principal. This study was based on the work of Ferguson and Bargh (2004) regarding how social perception can automatically influence behavior. Data were reported on ten general beliefs regarding instructional supervision. Agricultural education teachers indicated that instructional supervision should be used in all teachable moment situations where teachers and learners interact; is collaborative in nature; is conducted to help the learner; and is more art than science. Female agricultural education teachers' beliefs varied from their male counterparts regarding location of the instructional supervision process. Recommendations indicate that agricultural education teachers should become engaged in a holistic approach to supervision that takes into consideration the formal and nonformal aspects of their professional practice.

Keywords: social perception; instructional supervision; nonformal education; teacher beliefs
This article is a product of the Iowa Agriculture and Home Economics Experiment Station, Ames, Iowa. Project No. 3713 and sponsored by Hatch Act and State of Iowa funds.

Student achievement in the United States is receiving an ever greater emphasis, placing more accountability on the classroom teacher (Salinas & Kritsonis, 2006). Administrators responsible for the supervision of classroom teachers have also felt pressures to maintain student achievement at levels consistent with state and national mandates (Danielson & McGreal, 2000). Supervising instruction in traditional classroom settings is one of the primary strategies used by administrators to guide teachers in increasing student achievement (Glickman, 1990). Brophy (1986) indicated that teachers who successfully blend several qualities of successful instruction "produce significantly more achievement than those who do not" (p. 1076). Instructional supervision has been defined by Sullivan and Glanz (2000) as "the process of engaging teachers in instructional dialogue for the purpose of improving teaching and increasing student achievement" (p. 24).

To increase student achievement, agricultural education programs utilize a whole person approach to education (National Council for Agricultural Education, 2009). Agricultural education programs include both a classroom and a laboratory component where formal instruction occurs through a wide variety of teaching strategies. In addition, these programs allow students the opportunity to participate in an experiential learning component referred to as supervised agricultural experience (SAE). In this program component, students participate in individual experiential learning activities that are an outgrowth of the "actual, planned applications of the concepts, principles, and skills learned in formal Agricultural Education courses in high school" (Iowa Governor's Council on Agricultural Education, 2003, p. 5). These programs are developed under the supervision of agricultural education instructors, parents or guardians, employers or supervisors, and other interested adults who assist students in developing skills that could lead to a position in one of seven career pathways in agriculture which include: agribusiness systems, animal systems, environmental service systems, food products and processing systems, natural resources systems, plant systems, or power, structural and technical systems (National Association of State Directors of Career Technical Education Consortium [NASDCTEc], 2011).

A second factor that sets an agricultural education program apart from its traditional curricular cousins is the inclusion of an intracurricular, career and technical student organization—the National FFA Organization. This organization provides opportunities for student learning and achievement outside the traditional classroom setting through planned activities that concentrate on leadership development and personal growth. The mission of the National FFA Organization states "FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education" (National FFA Organization, 2011, p. 3).

For agricultural education, supervision takes on a unique perspective due to the nature of the program. This three-pronged approach to learning composed of the classroom and laboratory, leadership development, and a personalized experiential learning component is rooted in the Smith-Hughes Act of 1917, yet it still serves as a model for using a whole person approach to education in today's schools (Moore, 1988). Since agricultural education teachers should use the three-component model of agricultural education (Phipps, Osborne, Dyer, & Ball, 2008), formal classroom components of their programs should be complemented by the nonformal educational components of supervised agricultural experience (SAE) and FFA.

Secondary school principals have a variety of models available for supervising teachers (Nolan & Hoover, 2008). Regardless of the model used, these supervisors exhibit (or fail to exhibit) various instructional supervisory practices. However, Blase and Blase (1999) contended that only scant descriptions of instructional supervisory practices have been generated. In a study by Marquit (1968), the perceptions of the supervisory practices of secondary school principals and of the teachers they supervised were evaluated. Supervisors and their teachers were asked to rate several statements relating to their perceptions of instructional supervision. In Marquit's (1968) calculated composite stimulus perception score, principals tended to perceive themselves as exhibiting selected supervisory behaviors more frequently than did the teachers they supervised.

In a study of Canadian teachers' preferences regarding who should provide their supervision, Bouchamma (2005) found that teachers preferred supervision by the school principal over self-evaluation, peer evaluation, and student evaluation, with the least preferred being no evaluation. In a census study of agricultural education teachers in Iowa, Thobega and Miller (2003) found that although the interpersonal approach to supervision was not a useful predictor for satisfaction or intent to remain in teaching, agriculture teachers receiving collaborative supervision did indicate a slightly higher, statistically significant level of job satisfaction compared to those supervised using other methods.

Teachers have shown a high level of concern about the lack of supervision from principals as well. Ziolkowski (1965) found that two-thirds of the teachers in a Canadian study indicated that they received no formal supervisory visits from their principals. Croft (1968) reported that most teachers in one school district had not been observed very often. Approximately twenty percent of agriculture teachers in Iowa were not formally observed teaching in their classrooms during an entire academic year, and one-half had not participated in a pre-observation conference (Thobega & Miller, 2003).

In an attempt to determine teachers' perceptions of instructional supervision experiences, Zepeda and Ponticell (1998) examined the perceptions of 114 elementary and secondary teachers in Oklahoma and Texas. In their study, teachers were asked to share their "best" and "worst" experiences regarding instructional supervision. Specific instructional supervisory behaviors were identified. Zepeda and Ponticell concluded, "Far more research is needed from many contexts examining teachers' perceptions on supervision" (p. 71).

Priority 4 of the National Research Agenda: Meaningful, Engaged Learning in All Environments, 2011-2015 (Doerfert, 2011) specifies that research should "deepen our understanding of effective teaching and learning processes in all agricultural education environments" (p. 9). Since the agricultural

education delivery model is unique in that it allows for implementation of both formal and nonformal teaching and learning processes, the following questions arise: What do agricultural education teachers believe regarding instructional supervision as it is applied to the overall agricultural education program? Another question of interest about which very little is known in the realm of instructional supervision is: How do female teachers and male teachers differ in their beliefs about instructional supervision?

Theoretical Foundation

The theoretical framework underlying this study originated from Ferguson and Bargh's (2004) work regarding how social perceptions can automatically influence behavior. This theory builds upon the theory of planned behavior as espoused by Ajzen (1991). Ajzen purported that an individual's intentions to exhibit a given behavior is directly related to three variables: 1) attitudes of the individual toward the behavior, 2) subjective norms toward the behavior, and 3) perceived behavioral control of the individual. However, Bargh (1982) predicted that social stimuli processed subconsciously could affect human social behavior. Ferguson and Bargh (2004) determined that social knowledge, activated through perception, can shape and guide complex human behaviors automatically without knowledge of how or why these behaviors are taking place. Automaticity is a term commonly used to describe this phenomenon (Bargh & Williams, 2006).

Leonardo da Vinci proclaimed that "all of our knowledge has its origins in our perceptions" (Gordon, 2005, p. 137). Perceptions have been described as a causal relationship between an individual and her/his own external world at a given moment (Whitehead, 1929); the result of an experience given to the senses (Price, 1932); and as more than a result or reaction, but as a process (Coats, 1998). Lindsay and Norman (1977) further described perception as a process by which sensations are interpreted and organized to help produce meaning for the individual. Because of the nature of a process-based definition, perceptions are ever-changing (Nessier, 1976).

Prinz (1997) wrote that the connection between perception and behavior derives from the natural tendency to act as others act. This is due to the way the brain's representations of perception and behavior overlap. According to Bargh (1990), goals and behavior responses correspond to mental representations similar to those of attitudes and perceptual interpretations. This connection triggers automaticity between a developed perception and a particular behavior.

Bargh and Williams (2006) believed that social representations become automatically activated to invoke group stereotypes when corresponding features are present in the environment. An individual's perception of groups or individuals within a group can automatically activate a given behavior. The nonconscious activation of social representation is done in one of two ways; either preconsciously, through direct environmental activation; or postconsciously, through the conscious use of an unrelated context such as one that would be used in priming. Through priming, researchers attempted to passively activate a given construct by having a participant think about it in an earlier, seemingly unrelated component of the study (Bargh & Williams, 2006). Priming activates previous social perceptions and can therefore directly impact behavior. Related to this study, educational professionals may enact behaviors regarding supervision based upon group stereotypes of the educational professionals in their environment.

Perceptions may serve as a window to people's beliefs, and teachers may particularly prefer social approaches to instructional supervision as opposed to mere performance evaluation on a rating scale. Furthermore, based on Ferguson and Bargh's theory (2004) and the work of other researchers, one might reasonably infer that agricultural education teachers' belief systems may indicate interest in being an active participant in activities that could lead to an enhanced instructional supervision process for the overall improvement of teaching and learning within the total agricultural education program. The key questions are: What are the elements of the agricultural education teachers' belief systems regarding instructional

supervision? To what extent do agricultural education teachers agree on the various elements of their belief system regarding instructional supervision?

Purpose/Objectives

The authors have identified few studies regarding teachers' perceptions of the instructional supervision process to which they have been subjected. No studies were identified by the authors that considered this relationship through the lens of nonformal instructional settings in agricultural education. The purpose of this descriptive study was to identify beliefs held by agricultural education teachers regarding the supervision of instruction. The specific objectives of the study were to 1) identify beliefs held by agricultural education teachers regarding instructional supervision; 2) identify demographic characteristics of agricultural education teachers including gender, age, experience, highest level of education, and state category; and 3) compare and contrast the findings based on demographic characteristics.

Methods/Procedures

This descriptive, baseline study was designed using a cross-sectional survey and implemented through an internet-based instrument using the tailored design method (Dillman, Smyth, & Christian, 2009). Instrument items were developed from a thorough review of the literature regarding instructional supervisory practices by those responsible for the evaluation of teachers, primarily high school principals, in several settings (Blase & Blase, 1999; Marquit, 1968; Pajak, 1990; Thoebega & Miller, 2003; Zepeda & Ponticell, 1998). A panel of experts was engaged to review the instrument for content validity. The panel included five professors from the Department of Agricultural Education and Studies at Iowa State University and two Iowa high school agricultural education teachers. Two of the university faculty panelists had previously published research regarding instructional supervision and all five had supervised student teachers. The secondary agricultural education teachers were pursuing a doctoral degree in agricultural education and an advanced degree in educational administration, respectively. The panel was asked to review and provide feedback on the instrument in four areas: 1) clarity of the statements and relevance, 2) suggestions for additional beliefs and/or supervisory behavior statements, 3) frame of the questions, and 4) length of the questionnaire. Comments from the panelists were used to improve the quality of the instrument.

A pilot study was conducted with 20 randomly selected agricultural education instructors from the target population using the recommendations of Sudman (1976). Pilot study participants' responses were not included in the final data set. Feedback from participants in the pilot study was used to improve the instrument. The instrument included ten general belief concept statements regarding instructional supervision and five demographic questions which included *gender*, *age, years of teaching experience*, *highest level of education,* and *state*. A five-point response scale was used (1 – *Strongly Disagree*, 2 – *Disagree*, 3 – *Neutral*, 4 – *Agree*, or 5 – *Strongly Agree*) to determine the participants' general beliefs regarding instructional supervision.

The target population for this study consisted of high school agricultural education teachers in the United States who were identified in available, electronic state agricultural education instructor directories. The following states provided the frame for this convenience sample: Arizona, Georgia, Illinois, Iowa, Louisiana, Maine, Montana, New Jersey, New Mexico, North Dakota, Oklahoma, Pennsylvania, South Dakota, Tennessee, Utah, Washington, and West Virginia. The states were stratified by the size of the state FFA membership (National FFA Organization, 2010). A disproportionate stratified random sampling technique was used to determine the number of respondents to be included from each state (Ary, Jacobs, & Sorenson, 2010).

A random selection of participants was drawn from each state. The questionnaire was sent to 664 agricultural education teachers from 17 states. Two hundred thirty-four teachers responded resulting in a 35.24 percent response rate. Although this response rate fell below Fowler's (2001) recommended minimum

response rate of 50 percent, a recent white paper produced by SuperSurvey® (Hamilton, 2009) indicated that the average survey response rate from a meta-data sample of 199 nationally focused e-mail-based surveys was 32.52 percent.

At the time of the approval of this study by the Institutional Review Board (IRB) at Iowa State University, a potential risk was determined to exist when teachers were asked to respond to a questionnaire dealing with instructional supervision. IRB required full anonymity of all respondents; therefore, nonresponse error determination strategies were limited. To control for nonresponse error as a threat to the external validity of this study, a comparison between early and late respondents was used (Lindner, Murphy, & Briers, 2001). For the purpose of this study, 'early respondent' was operationally defined as subjects who responded as a part of the first wave of respondents. 'Late respondent' was then operationally defined as those who responded to the final two waves of contacts (Lindner et al., 2001). A chi square analysis was used ($\alpha = .05$) to determine if there were statistically significant differences between early and late respondents (Ary et al., 2010). Two statements showed statistically significant relationships between the early and late respondents, however the effect size was negligible—*instructional supervision is all about the teacher's actions in the learning situation* χ^2 (8, N = 234) = 15.71, Cramer's V = .18 and *instructional supervision is solely for evaluation of performance* χ^2 (8, N = 233) = 17.90, Cramer's V = .19.

Data from the survey instrument were analyzed using Predictive Analytics SoftWare (PASW 18.0) Statistics Package to determine response frequencies, percentages, and modes for each general belief item regarding instructional supervision. Demographic comparisons were determined by measures of association. Due to the exploratory nature of this study to provide baseline data, individual analysis of each belief statement regarding instructional supervision was deemed appropriate (Carifio & Perla, 2007).

Findings/Results

The average respondent was male (70.6%), 40.62 years of age, held a bachelor's degree (58.4%), and had 14.86 years of teaching experience. Similar demographic data were reported (male—68%; age—39.37 years; and experience—14.85 years) in Morgan and Rudd's (2006) study of 167 agricultural education teachers' behavioral factors that influence leadership instruction. Table 1 provides the response frequency, percentage, and mode for each of the ten statements regarding the respondents' general beliefs related to instructional supervision. According to the data, agricultural education teacher respondents agreed, on average, with the following statements regarding instructional supervision: *should be used in all teachable moment situations where teachers and learners interact*, *is participatory development of the teaching and learning process*, *is conducted ultimately to help the learner*, and *is more art than science*. In contrast, respondents indicated the highest level of disagreement with the following statements: *is best conducted in a structured, teacher-centered situation* and *is best done in formal classroom settings*.

Table 1

Frequencies, Percentages, and Modes of Agricultural Education Teachers Regarding Selected Beliefs Related to Instructional Supervision (N = 234)

Instructional supervision:	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		
	f	%	*f*	%	*f*	%	*f*	%	*f*	%	Mode[a]
Should be used in all teachable moment situations where teachers and learners interact.	1	.4	8	3.4	11	4.6	131	55.3	82	34.6	4
Is participatory development of the teaching and learning process.	2	.8	10	4.2	26	11.0	157	66.2	39	16.5	4
Is conducted ultimately to help the learner.	4	1.7	28	11.8	32	13.5	126	53.2	43	18.1	4
Is more art than science.	5	2.1	16	6.8	74	31.2	114	48.1	25	10.5	4
Is basically an administrative tool used by principals.	24	10.1	79	33.3	48	20.3	64	27	18	7.6	2
Is all about the teacher's actions in the learning situation .	16	6.8	95	40.1	49	20.7	70	29.5	4	1.7	2
Is mainly for professional development purposes.	14	5.9	92	38.8	65	27.4	53	22.4	9	3.8	2
Is solely for evaluation of performance.	24	10.1	120	50.6	45	19.0	35	14.8	10	4.2	2
Is best conducted in a structured, teacher-centered situation.	15	6.3	136	57.4	50	21.1	31	13.1	4	.4	2
Is best done in formal classroom settings.	26	11.0	136	57.4	52	21.9	19	8.0	1	.4	2

Note. Valid percentages are reported.

[a]The belief statements were rated on a response scale of 1 to 5, where 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree.

Differences in perceptions of agricultural education teachers regarding their general beliefs about instructional supervision were compared, based on the demographic characteristics of gender, age, highest level of education, experience, and state sampling group, using the chi square test for association. An alpha level of $p = .05$ was established *a priori.* Gender was the only demographic characteristic that revealed statistically significant associations with the general instructional supervision beliefs. The strength of each association was tested by using Cramer's V measure of nominal association. Table 2 displays the ten belief statements and the corresponding chi square and Cramer's V coefficient. The teachers' beliefs that showed a low (Crewson, 2008) yet statistically significant association with gender included: *is best conducted in a structured, teacher-centered situation; is more art than science;* and *is best done in formal classroom settings.*

Table 2
Instructional Supervision Beliefs of Agricultural Education Teachers by Gender

Instructional supervision:	X^2	*Cramer's V*
Is best conducted in a structured, teacher-centered situation.	13.725	.243*
Is more art than science.	11.715	.224*
Is best done in formal classroom settings.	9.518	.202*
Should be used in all teachable moment situations where teachers and learners interact.	5.092	.148
Is participatory development of the teaching and learning process.	6.269	.164
Is mainly for professional development purposes.	5.076	.148
Is conducted ultimately to help the learner.	4.046	.132
Is basically an administrative tool used by principals.	3.457	.122
Is all about the teacher's actions in the learning situation.	3.530	.123
Is solely for evaluation of performance.	2.605	.106

*Mean difference is significant at the p = .05 level.

Tables 3, 4 and 5 display the cross-tabulation data for each belief statement that exhibited a statistically significant association with gender. When considering beliefs regarding location of supervision, Table 3 shows that 70.3% of male agricultural education teachers disagreed with the statement *instructional supervision is best done in formal classroom settings* while 66.6% of female teachers held that view.

Table 3

Cross-tabulation for Instructional Supervision is Best Done in Formal Classroom Settings by Gender

		Gender		
Response Scale[a]		Male	Female	Total
5	Count	0	1	1
	% within gender	.0%	1.4%	.4%
4	Count	13	6	19
	% within gender	7.9%	8.7%	8.1%
3	Count	36	16	52
	% within gender	21.8%	23.2%	22.2%
2	Count	103	33	136
	% within gender	62.4%	47.8%	58.1%
1	Count	13	13	26
	% within gender	7.9%	18.8%	11.1%
Total	Count	165	69	234

[a]The belief statements were rated on a response scale of 1 to 5, where 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree.

However, 69.6% of female agricultural education teachers compared to 53.7% of their male counterparts disagreed that *instructional supervision is best conducted in a structured, teacher-centered situation* (Table 4). Table 5 indicates the responses for the belief *instructional supervision is more art than science*. Male respondents showed a higher level of agreement (66.0%) than female teachers (43.5%) regarding the statement.

Table 4

Cross-tabulation for Instructional Supervision is Best Conducted in a Structured, Teacher-Centered Situation by Gender

Response Scale[a]		Gender		Total
		Male	Female	
5	Count	1	0	1
	% within gender	.6%	.0%	.4%
4	Count	26	5	31
	% within gender	15.9%	7.2%	13.3
3	Count	42	8	50
	% within gender	25.6%	11.6%	21.5%
2	Count	88	48	136
	% within gender	53.7%	69.6%	58.4%
1	Count	7	8	15
	% within gender	4.3%	11.6%	6.4%
Total	Count	164	69	233

[a]The belief statements were rated on a response scale of 1 to 5, where 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree.

Table 5

Cross-tabulation for Instructional Supervision is More Art than Science by Gender

Response Scale[a]		Gender		Total
		Male	Female	
5	Count	21	4	25
	% within gender	12.7%	5.8%	10.7%
4	Count	88	26	114
	% within gender	53.3%	37.7%	48.7%
3	Count	44	30	74
	% within gender	26.7%	43.5%	31.62%
2	Count	10	6	16
	% within gender	6.1%	8.7%	6.8%
1	Count	2	3	5
	% within gender	1.2%	4.3%	2.1%
Total	Count	165	69	234

[a]The belief statements were rated on a response scale of 1 to 5, where 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree.

Discussion

Respondents agreed that instructional supervision *should be used in all teachable moment situations where teachers and learners interact*. This finding was consistent with that of Nolan and Hoover (2008), who identified the first core principle of effective instructional supervision as being "broad and comprehensive in nature, accounting for all of the duties that teachers are expected to perform" (p. 166). Ovando (2001) stated that teacher evaluation systems should "recognize teachers' contributions that go beyond classroom instruction" (p. 217), and Blase and Blase (1999) professed that teachers believed supervisors should talk with them "in and outside of instructional conferences" (p. 59). Kralovec (2010) stated, "Looking at *all* the work teachers do, not just their time in front of a class, moves us to a more robust understanding of which

teaching practices have a significant effect on student learning" (What We Learned section, paragraph 4).

Respondents also agreed that instructional supervision *is participatory development of the teaching and learning process*. Ellett and Teddlie (2003) reported that one of the most significant developments in the supervision and evaluation of teachers was "changing the focus of classroom-based evaluation systems from teaching to learning" (p. 107). Involving the teacher in this process has become more common through state and national mandates for educational evaluation. Danielson (1996) introduced teachers and their supervisors to the critical importance of focusing on the process of student learning in instructional supervision.

Additionally, the collaborative approach to supervision as espoused by Glickman (1990) encouraged teachers to work with administrators in the development of classroom teaching and learning processes. Several studies also support this collaboration. Ziolkowski (1965) found that teachers perceived principals in superior schools as more likely to involve the teacher in decision-making. Thobega and Miller (2003) recommended that supervisors use a collaborative approach, while Zepeda and Ponticell (1998) suggested that supervisors should make teachers feel empowered in the supervision process.

Respondents also felt that instructional supervision *is conducted ultimately to help the learner*. In a study of teachers who were enrolled in an educational administration program in south central Texas, Ovando (2001) found that teachers believed learner-centered teacher evaluation "may have some potential benefits to enhance teaching and student learning" (p. 228). In addition, Iwanicki (2001) acceded that instructional supervision is most effective when it is connected to student achievement.

Finally, respondents indicated that instructional supervision *is more art than science*. Berliner (1986) concluded that effective teaching is based on a dynamic mixture of understanding research-based instructional strategies coupled with a deep knowledge of the students found in the classroom. Additionally, Marzano's (2007) text, *The Art and Science of Teaching*, concluded that although effective teaching can be measured quantitatively, not all research-based strategies work with all students all of the time. It can be assumed that if an important component of teaching is art, then effective supervision must also go beyond the purely scientific realm as well. Ebmeier and Nicklaus (1999) wrote that the collaborative supervision process is complex using listening, responding, analysis, and problem-solving skills while Alfonso, Firth, and Neville (1984) stated that to be effective with teachers; a supervisor must use a skill-mix that is uniquely managerial, human, and technical.

Deviating from those practices that were rated with a high level of agreement, agricultural education teachers in the present study disagreed with the following general instructional supervisory beliefs: *is best conducted in a structured, teacher-centered situation*, and *is best done in formal classroom settings*. Since respondents agreed strongly with the statement *should be used in all teachable moment situations where teachers and learners interact*, it is not surprising that belief statements that limit instructional supervision to structured, teacher-centered situations or only classroom settings were not supported by these respondents.

Three of the general belief statements revealed a statistically significant association with gender. Although statistically significant, practical significance of the difference between male and female teachers was negligible for the item *instructional supervision is best done in formal classroom settings*. However, female agricultural education teachers indicated a higher level of disagreement than did male teachers regarding the statement *instructional supervision is best conducted in a structured, teacher-centered situation*. Male teachers revealed a higher level of agreement than females that *instructional supervision is more art than science*.

Male teachers preferred more traditional types of classroom-centered supervision. This finding is generally supported by a census study of Ohio agricultural education teachers in which Castillo, Conklin, and Cano (1999) found that male agricultural education teachers rated supervision as the factor most highly correlated with job dissatisfaction. In the present study,

male respondents' belief that *instructional supervision is more art than science* may suggest frustration with past supervisory practices that typically only used short classroom visits infrequently throughout the academic year.

Conclusions and Recommendations

From the study, a number of conclusions that lead to constructive action can be made. We can conclude that agricultural education teachers believe in the agricultural education model (Retallick, 2010). When considering the nonformal components of their programs in the context of instructional supervision (or lack thereof), agricultural education teachers responding to this study draw on their previous knowledge, experiences, and expectations to determine their perceptions of a given situation (Hockenbury & Hockenbury, 2010). It can be also concluded that agricultural education teachers in this study believe that nonformal educational settings (SAE and FFA) are important for developing the whole student and that instructional supervision should be conducted ultimately to benefit the learner. It is therefore not surprising that their general beliefs relating to supervision in nonformal educational settings of agricultural education support the notion that instructional supervision should be used in all situations where teachers and learners interact. Since many activities of an agricultural education program take place outside traditional classroom settings where most instructional supervisory visits tend to take place, it can be concluded that agricultural education teachers in this study believe that high school principals should supervise instruction beyond the traditional classroom setting.

Based on the findings of this study, it is clear that these agricultural education teachers believe that they also should be involved in the whole instructional supervisory process. Agricultural education teachers use student interest to develop experiential learning activities in SAE as well as student planning, implementing, and evaluating of activities for leadership and personal development in FFA. Likewise, it is then logical to conclude that agricultural education teachers in this study believe high school principals should also involve them in the whole process of supervision.

Results from this study and other research shows that agricultural education teachers prefer collaborative supervision when given the choice between supervisor-directed and teacher-initiated supervision models (Thobega & Miller, 2003; Zepeda & Ponticell, 1998). Teachers also believe strongly that instructional supervision should ultimately help the learner. When considering these components collectively, it can be concluded that agricultural education teachers consider instructional supervision as more art than science. These beliefs are influenced by the teachers' socialization and impact their behaviors. When considering Ferguson and Bargh's (2004) work regarding social perceptions of automaticity of behavior, it is critically important that agricultural education teachers perceive that their principals are performing instructional supervisory practices that support their beliefs.

A difference in beliefs exists between male and female teachers when considering the importance of the location of instructional supervision by their principal. Female teachers believe more strongly than their male counterparts that instructional supervision should take place beyond the walls of the formal classroom setting. This need for a more comprehensive approach to instructional supervision may connect to female teachers' reporting higher frequencies of mistreatment by their principals (Blase, Blase, and Du, 2008). Additional research considering the differences in teacher perceptions of instructional supervision by gender is needed.

Instructional supervision is a complex activity that should transcend the traditional classroom setting; therefore, agricultural education instructors should invite their high school principals to supervise them in all aspects of their teaching, especially in activities of supervised agricultural experience and the FFA. Additional research is needed regarding teachers' perceptions of instructional supervision (Zepeda & Ponticell, 1998) to determine the importance of specific instructional supervisory practices and the frequency of these practices. Researchers should develop a list of appropriate supervisory strategies to positively

impact student achievement through an enhanced instructional supervision process in agricultural education.

Implications

The conclusions derived from this study have implications for teacher educators that can be used in teacher preparation programs. Pre-service teachers are required to complete field experiences throughout their preparation programs. Faculty members who teach methods courses or supervise pre-service field experiences may want to introduce the collaborative supervision process to their students. Each field experience may include a mock supervision experience with the cooperating teacher. These experiences ideally include an emphasis upon appropriate supervision of the nonformal components of the agricultural education program. Teacher education candidates who receive instructional supervision from numerous cooperating teachers and program supervisors will experience several supervisory styles prior to entering their first teaching position. They can develop basic skills in professional dialogue and collaborative supervision that could be used to enhance learning within the entire agricultural education program.

There are also implications for planning national and state professional development programs for agricultural education teachers. Training in formalized state and national mentoring and induction programs are potentially beneficial. Many states do not implement formal mentoring and induction programs for their agricultural education teachers. For those that do implement these programs, most of them are haphazard or informal at best. A supervision component can help to train teachers in professional dialogue and the importance of instructional supervision in all facets of the agricultural education program. Beginning teachers who struggle with seemingly unsupportive administrators may benefit from a formalized relationship with a veteran teacher who has experienced various supervisory styles and practices.

The National Quality Program Standards for Secondary Agricultural Education (National Council for Agricultural Education, 2009) includes two standards that directly relate to the findings of this study. Standard 2: Experiential Learning states that "education is enhanced through active participation by all students in a year-round experiential learning program" (p. 25) and Standard 3: Leadership Development specifies that "all students participate in year-round intracurricular agricultural student organization programs and activities" (p. 30). Training in collaborative supervision for all agricultural education teachers may help to enhance the quality of FFA and SAE by using the standards as a springboard for the collaborative instructional supervision process.

High school principals who supervise agricultural education teachers may find this study useful as well. High school principals want to realize higher levels of student achievement in their schools. By expanding their instructional supervision and evaluation process to include all components of the agricultural education program, high school principals can impact student learning beyond the traditional classroom setting while at the same time demonstrating support of agricultural education directly to the teachers and students by their presence in nonformal settings.

Agricultural education teachers have the power to shape the collaborative instructional supervision process through attitudes and behaviors exhibited to their instructional supervisors. Agricultural education teachers can increase the visibility of high-quality, student-centered, nonformal educational activities by collaboratively prioritizing them within the instructional supervision process. Then the high school principal, the superintendent, and the local school board will consider SAE and FFA integral and imperative to the success of their agricultural education program. Ultimately, the beliefs of these administrators will determine their behavior when it is time to make financial or programmatic decisions about the local agricultural education program.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. doi:10.1016/0749-5978(91)90020-T

Alfonso, R., Firth, G., & Neville, R. (1984). The supervisory skill mix. *Educational Leadership, 41*(7), 16-18.

Ary, D., Jacobs, L. C., & Sorenson, C. (2010). *Introduction to research in education*. Belmont, CA: Wadsworth, Cengage Learning.

Bargh, J. A. (1982). Attention and automaticity in the processing of self-relevant information. *Journal of Personality and Social Psychology, 43*(3), 425-436. doi:10.1037//0022-3514.43.3.425

Bargh, J. A. (1990). Auto-motives: Preconscious determinants of thought and behavior. In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition, 2*. New York, NY: Guilford.

Bargh, J. A., & Williams, E. L., (2006). The automaticity of social life. *Current Directions in Psychological Science, 15*(1), 1-4. doi:10.1111/j.0963-7214.2006.00395.x

Berliner, D. C. (1986). In pursuit of the expert pedagogue. *Educational Researcher, 15*(7), 15-13. doi:10.2307/1175505

Blase, J., & Blase, J. (1999). Principals' instructional leadership and teacher development: Teachers' perspectives. *Educational Administration Quarterly, 35*(3), 349-378. doi:10.1177/0013161X99353003

Blase, J., Blase, J., & Du, F. (2008). The mistreated teacher: A national study. *Journal of Educational Administration, 46*(3), 263-301. doi:10.1108/09578230810869257

Bouchamma, Y. (2005). Evaluating teaching personnel. Which model of supervision do Canadian teachers prefer? *Journal of Personnel Evaluation in Education, 18*(1), 289-308. doi:10.1007/s11092-007-9025-8

Brophy, J. (1986). Teacher influences on student achievement. *American Psychologist, 41*(10), 1069-1077. doi: 10.1037/0003-066X.41.10.1069

Carifio, J. & Perla, R. J. (2007). Ten common misunderstandings, misconceptions, persistent myths and urban legends about Likert scales and Likert response formats and their antidotes. *Journal of Social Sciences. 3*(3), 106-116. doi:10.3844/jssp.2007.106.116

Castillo, J. X., Conklin, E. A., & Cano, J. (1999). Job satisfaction of Ohio agricultural education teachers. *Journal of Agricultural Education, 40*(2), 19-27. doi:10.5032/jae.1999.02019

Coats, P. (1998). Perception and metaphysical skepticism. *Proceedings of the Aristotelian Society*, Supplementary Volume, 1-28.

Crewson, P. (2008). *Applied statistics handbook*. AcaStat Software.

Croft, J. C. (1968). The principal as supervisor: Some descriptive findings and important questions. *Journal of Educational Administration, 6*(2), 162-172. doi:10.1108/eb009626

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching*. Alexandria, VA: Association for Supervision and Curriculum Development.

Danielson, C., & McGreal, T. L. (2000). *Teacher evaluation to enhance professional practice*. Alexandria, VA: Association for Supervision and Curriculum Development.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail and mixed-mode surveys: The tailored design method*. Hoboken, NJ: Wiley.

Doerfert, D. L. (Ed.) (2011). *National research agenda: American Association for Agricultural Education's research priority areas for 2011-2015*. Lubbock, TX: Texas Tech University, Department of Agricultural Education and Communications.

Ebmeier, H., & Nicklaus, J. (1999). The impact of peer and principal collaborative supervision on teachers' trust, commitment, desire for collaboration, and efficacy. *Journal of Curriculum and Supervision, 14*(4), 351-378.

Ellett, C. D., & Teddlie, C. (2003). Teacher evaluation, teacher effectiveness and school effectiveness: Perspectives from the USA. *Journal of Personnel Evaluation in Education, 17*(1), 101-128.

Ferguson, M. J., & Bargh, J. A. (2004). How social perception can automatically influence behavior. *Trends in Cognitive Sciences, 8*(1), 33-38. doi:10.1016/j.tics.2003.11.004

Fowler, F. J., Jr. (2001). *Survey research methods* (3rd ed.). Thousand Oaks, CA: Sage.

Glickman, C. D. (1990). Supervision of instruction: A developmental approach. Boston, MA: Allyn & Bacon.

Gordon, J. (2005). *Presentations that change minds: Strategies to persuade, convince, & get results*. New York: McGraw-Hill.

Hamilton, M. B. (2009). Online survey response rates and times: Background and guidance for industry. Ipathia, Inc., retrieved from www.supersurvey.com/papers/supersurvey_white_paper_response_rates.pdf

Hockenbury, D. H., & Hockenbury, S. E. (2010). *Psychology* (5th ed.). New York, NY: Worth.

Iowa Governor's Council on Agricultural Education. (2003). *Report of activities*. Unpublished report, Ames, Iowa, Iowa State University.

Iwanicki, E. F. (2001). Focusing teacher evaluations on student learning. *Educational Leadership Journal, 58*(5), 57-59.

Kralovec, E. (2010). A more complete evaluation. *Educational Leadership, 68*(4). Retrieved from http://www.ascd.org/publications/educational-leadership/dec10/vol68/num04/A-More-Complete-Evaluation.aspx

Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education, 42*(4), 43-53. doi:10.5032/jae.2001.04043

Lindsay, P., & Norman, D. A. (1977). *Human information processing: An introduction to psychology*. New York: Academic Press.

Marquit, L. J. (1968). *Perceptions of the supervisory behaviors of secondary school principals*. U.S. Department of Health, Education & Welfare, Office of Education. (ERIC Document Reproduction Service No. ED020579).

Marzano, R. J. (2007). *The art and science of teaching: A comprehensive framework for effective instruction*. Alexandria, VA: Association for Supervision and Curriculum Development.

Moore, G. (1988). The forgotten leader in agricultural education: Rufus W. Stimson. *The Journal of the American Association of Teacher Educators in Agriculture, 41*(3), 50-58. doi:10.5023/jaatea.1988.03051

Morgan, A. C., & Rudd, R. D. (2006). Teaching leadership in agricultural science: Behavioral factors that influence secondary agricultural science leadership instruction. *The Journal of Agricultural Education, 47*(3), 33-44. doi:10.5032/jae.2006.03033

National Association of State Directors of Career Technical Education Consortium (NASDCTEc) (2011). *Career clusters & pathways*. Retrieved from http://www.careertech.org

National Council for Agricultural Education. (2009). *National quality program standards for secondary (grades 9-12) agricultural education.* Retrieved from http://www.teamaged.org/council/images/stories/pdf/National_Quality_Program_Standards_revised_4-29-09.pdf

National FFA Organization (2011). *FFA student handbook.* Indianapolis, IN: Author.

National FFA Organization. (2010). *National FFA state membership report*. Indianapolis, IN: Author.

Neisser, U. (1976). *Cognition and reality*. San Francisco: W. H. Freeman.

Nolan, J. F., & Hoover, L. A. (2008). *Teacher supervision & evaluation: Theory into practice* (2nd ed.). Hoboken, NJ: Wiley.

Ovando, M. N. (2001). Teachers' perceptions of a learner-centered teacher evaluation system. *Journal of Personnel Evaluation in Education, 15*(3), 213-231. doi:10.1023/A:1012704809835

Pajak, E. (1990). Dimensions of supervision. *Educational Leadership, 48*(1), 78-81.

Phipps, L. J., Osborne, E. W., Dyer, J. E., & Ball, A. (2008). *Handbook on agricultural education in public schools* (6th ed.). New York, NY: Thompson Delmar Learning.

Price, H. H. (1932). *Perception*. London: Methuen.

Prinz, W. (1997). Perception and planning. *European Journal of Cognitive Psychology, 9*(2), 129-154. doi:10.1080/713752551

Retallick, M. S. (2010). Implementation of supervised agricultural experience programs: The agriculture teachers' perspective. *Journal of Agricultural Education, 51*(4), 59-70.doi:10.5032/jae.2010.04059

Salinas, R. A., & Kritsonis, W. A. (2006). The national challenge of teacher quality and student achievement in public schools. *National Journal for Publishing and Mentoring Doctoral Student Research, 1*(1), 14.

Sudman, S. (1976). *Applied sampling*. New York: Academic Press.

Sullivan, S., & Glanz, J. (2000). *Supervision that improves teaching: Strategies and techniques*. Thousand Oaks, CA: Corwin Press.

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. doi:10.5032/jae.2003.04057

Whitehead, A. N. (1929). *Process and reality*, New York: Macmillan.

Zepeda, S. J., & Ponticell, J. A. (1998). At cross-purposes: What do teachers need, want, and get from supervision? *Journal of Curriculum and Supervision, 14*(1), 68-87.

Ziolkowski, E. H. (1965). Practices in the supervision of instruction. *The Canadian Administrator*, *1*(1), 1-4.

THOMAS H. PAULSEN is an Assistant Professor of Agricultural Education in the Department of Agricultural Education and Studies at Iowa State University, 217 Curtiss Hall, Ames, IA 50011, tpaulsen@iastate.edu.

ROBERT A. MARTIN is a Professor of Agricultural Education in the Department of Agricultural Education and Studies at Iowa State University, 201 Curtiss Hall, Ames, IA 50011, drmartin@iastate.edu.