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A COMPARISON OF STUDENT TEACHERS' PERCEPTIONS OF IMPORTANT ELEMENTS OF THE STUDENT TEACHING EXPERIENCE BEFORE AND AFTER A 12-WEEK FIELD EXPERIENCE

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Abstract

This study describes student teachers' perceptions of important elements of the student teaching experience. Selected characteristics of student teachers and their cooperating centers are also identified. The purposive sample (N = 25) included all student teachers who completed a 12-week field experience during the spring 2004 semester. Student teachers rated 34 elements of student teaching before and after the experience using a summated rating scale: "5" = "High Importance", "1" = "No Importance." Questionnaire items also identified selected characteristics of participants. Cronbach's coefficient alpha reliability estimates for five core areas of the experience ranged from .60 to .84; the overall importance scale yielded an estimate of .91. The overall pretest and posttest means were 4.30 and 4.58, respectively, or about midway between "much" and "high importance." Results from both observations revealed student teachers perceived that the relationship with their cooperating teacher was the most important aspect of the student teaching experience. Perceptions related to students' SAEs held the lowest importance before and after student teaching. Findings provide some support for what other researchers posit about the role of concrete experience and modification of one's perceptions, especially viewpoints that may have been abstracted originally.

Introduction

Student teaching is a seminal "experience" in the professional development of future teachers, including those who aspire to be secondary agricultural education teachers. Other investigators (Briers & Byler, 1979; Byler & Byler, 1984; Harlin, Edwards, & Briers, 2002; Schumacher & Johnson, 1990) have suggested that experiences during student teaching influence the attitudes and perceptions of preservice agriculture teachers regarding their future careers as educators. Researchers (Barnes & Camp, 2002; Deeds, 1993; Deeds, Arrington, & Flowers, 1988; Garton & Cano,1994; Martin & Yoder, 1985; Roberts, 2005; Roberts & Dyer, 2004a) also suggest that it is the cooperating teacher and cooperating center that impacts the student teaching experience in agricultural education the most.

To that end, Martin and Yoder (1985) asserted that in large measure, "the general supervisory climate in the department and . . . the educational leadership abilities of the cooperating teacher" (p. 21) determine how successful one's student teaching experience will be in agricultural education. According to DeMoulin (1993), a cooperating teacher should "foster unique teaching concepts and . . . give support and encouragement to preservice teachers" (p. 160). Further, Garton and Cano (1994) opined that "desired teaching behaviors expected of [agricultural education] student teachers" (p. 213) should be reflected in the teaching practices of their cooperating teachers. Moreover, perceptions held by a preservice teacher about teaching agricultural education are associated with the attitudes and morale exhibited by one's cooperating teacher regarding the profession (Byler & Byler, 1984; Deeds & Barrick, 1986).

Accordingly, Harlin et al. (2002) reported changes in student teachers' perceptions about important elements of the student teaching experience in agricultural education in Texas following completion of an 11-week field experience.

Conceptual/Theoretical Framework

Willis (1991) opined that, "perceiving precedes making meaning or acting" (p. 175). However, Ajzen (1991) maintained that the construct of belief salience, i.e., "a relation between a person's salient beliefs about the behavior and his or her attitude toward that behavior" (p. 192) exists and thus influences how, and what, one perceives. Further, Kolb posited that as individuals experience the world their perceptions are transformed and thereafter guide the selection of new experiences (Miller, 1999). But how do humans integrate thought and action, and thus manifest deliberate human behaviors, including actions associated with teaching?

To that end, Argyris and Schön (1989) proffered that an individual's "espoused theory of action" (p. 6) is a theoretical explanation about how he or she would act in a particular circumstance or context. However, "the theory that actually governs his [or her] actions is his [or her] theory-in-use" (p. 6), i.e., one's actual behavior. Argyris and Schön stated further that, "skills are dimensions of the ability to behave effectively in situations of action" (p. 12), and that one's "theory of action has not been learned in the most important sense unless it can be put into practice" (p. 12). The most significant practice for a student teacher, i.e., a context in which to experience the act of teaching and its many nuances, should be student teaching in a secondary agricultural education program (cooperating center) under the supervision of a cooperating agriculture teacher. It is in this setting that context-rich perceiving could occur and, consequently, change to student teachers' perceptions emerges.

That kind of experiential learning, and its potential for creating new perceptions or theories as well as modifying pre-existing ones, is what Korthagen and Kessels (1999) concluded student teachers should experience during student teaching. Student teachers should gain "knowledge that is situation-specific and related to the context in which they meet a problem or develop a need or concern, knowledge that brings their already existing, subjective perception of personally relevant classroom situations one step further" (Korthagen & Kessels, p. 7). The researchers also emphasized the role of "level reduction" (pp. 10 & 12), i.e., *concrete experience*, as it relates to an individual creating valid Gestalts or cognitive schemas about the act of teaching (Figure 1). So, what were the perceptions held by student teachers about important elements of student teaching in agricultural education prior to the experience, and did their views change following a 12-week field experience?

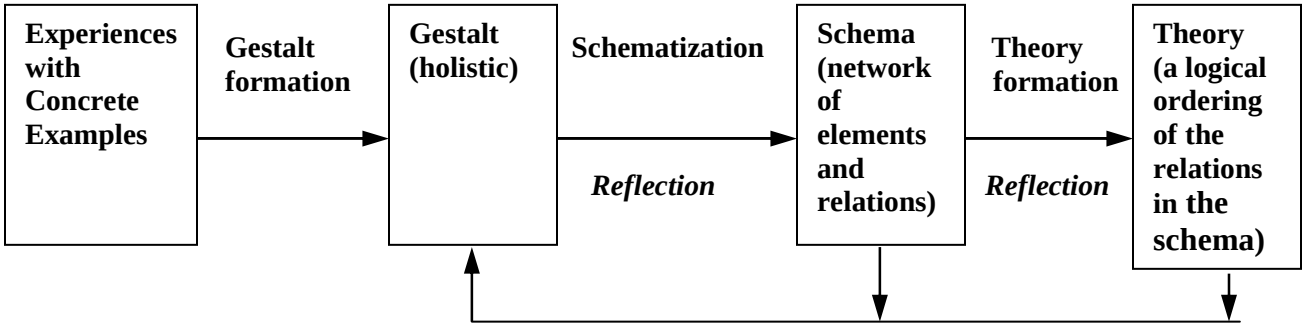

Figure 1. Levels in the process of learning with regard to a certain domain.
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Purpose and Research Questions

The two-fold purpose of this study was to describe what student teachers perceived to be important elements of the student teaching experience before and after a 12-week field experience, and to identify selected characteristics of student teachers and their cooperating centers. The following research questions guided this study: 1) What did student teachers perceive to be important elements of the student teaching experience in agricultural education before a 12-week field experience? 2) What did student teachers perceive to be important elements of the student teaching experience in agricultural education after a 12-week field experience? 3) Were student teachers' perceptions of the important elements different after a 12-week field experience compared to their perceptions before the field experience? 4) What were selected personal and professional characteristics of student teachers who completed a 12-week field experience? 5) What were selected characteristics of the schools that served as cooperating student teaching centers?

Methods and Procedures

This descriptive study sought to identify characteristics of student teachers and their cooperating centers, and to describe student teachers' perceptions of important elements of the student teaching experience before and after a 12-week field experience. The study's sampling frame (N = 25) included all student teachers in agricultural education who attended Oklahoma State University during the spring 2004 semester; thus, it was a purposive sample. Accordingly, caution should be used if generalizing beyond the participating sample. Characteristics of cooperating centers were gathered from data provided by cooperating teachers who participated in an earlier study (Young & Edwards, 2005) and reflects 19 of 24 cooperating centers used during the spring 2004 semester.

The data collection instrument was developed by Harlin et al. (2002) for use with agricultural education student teachers in Texas. Earlier researchers (Edwards & Briers, 2001) used cooperating teacher focus groups to identify 34 elements of the student teaching experience per five core areas derived from a review of literature (Edwards & Briers, 1999; Larke, Norris, & Briers, 1992; Martin & Yoder, 1985). Items were validated further via a postal mail questionnaire follow-up procedure (Edwards & Briers, 2001). Selected demographic items were modified to fit characteristics of student teachers but the elements (i.e., items rated for importance) remained the same (Harlin et al.).

Part one of the instrument was divided into five core areas of the student teaching experience and included 34 important elements: "Classroom and Laboratory Instruction" (5 items; α = .68), "Supervised Agricultural Experience Programs (SAEPs)" (4 items; α = .60), "Student Leadership Development (FFA)" (7 items; α = .82), "School and Community Relationships" (9 items; α = .75), and "Cooperating Teacher-Student Teacher Relationships" (9 items; α = .84). Student teachers were asked to indicate their perceived level of importance for the elements using a summated rating scale: "5" = "High Importance," "4" = "Much Importance," "3" = "Some Importance," "2" = "Low Importance," and "1" = "No Importance." Cronbach's coefficient alpha reliability estimates for the five core areas ranged from .60 to .84; the overall importance scale yielded an estimate of .91. Part two of the instrument included items identifying selected characteristics of student teachers. The instrument was modified slightly to reflect school setting characteristics and teachers of the state in which data collection occurred.

Student teachers completed the instrument at conclusion of the four-week on-campus portion of student teaching and again at conclusion of the 12-week off-campus field experience. The *Statistical Package for the Social Sciences v. 11.0.* was used for data analysis. Research questions were analyzed descriptively with frequencies, percentages, means, and standard deviations. Effect sizes were calculated for composite means of the core areas and the overall means. All student teachers who student taught during the

spring 2004 semester participated in the study.

Findings

As shown in Table 1, student teachers who participated in this study were mostly male; only two of the respondents were female. Four of the 25 respondents were earning master's degrees while the remaining student teachers were completing requirements for a baccalaureate degree. About two-thirds (15) planned to earn certification only in agricultural education, and the other student teachers indicated that they intended to pursue teaching certification(s) in other areas. Over one-half (14) of the participants responded that they were "probably" or "definitely interested" in a graduate degree. Three-in-four respondents (19) expected to teach agriculture 11 or more years. Nearly all (24) of the student teachers wished to teach in a school with an enrollment of 618 or fewer students. All but one of the student teachers saw value in the Curriculum and Instructional Materials Center (CIMC) teaching resources; however, all but two perceived at least "some need" existed for new instructional materials.

Table 1
Selected Characteristics of Student Teachers (N = 25)

Characteristics	*f*	%
Gender		
Male	23	92
Female	2	8
Highest Degree Held		
Bachelor's	21	84
Master's	4	16
Teaching Certificates Planned in Other Areas		
No other teacher certification	15	60
Yes, in general science	3	12
Yes, in biology	4	16
Yes, in fields other than above	3	12
Interested in a Graduate Degree		
Definitely not	3	12
Probably not	4	16
Unsure	4	16
Probably yes	10	40
Definitely yes	4	16
Years expected to teach		
1-2 years	1	4
3-5 years	1	4
6-10 years	4	16
11 years or more	19	76

Characteristics	*f*	%
Size of School Where You Hope to Teach		
< 132 students	2	8
132 – 363 students	11	44
365 – 618 students	11	44
659 – 1229 students	1	4
Value of CIMC[a] Materials		
No Value	1	4
Limited value	4	16
Average value	9	36
Much value	8	32
Great Value	3	12
Need for New Instructional Materials		
Little need	2	8
Some need	7	28
Much need	9	36
Great need	7	28

[a] Curriculum and Instructional Materials Center

Regarding selected characteristics of cooperating student teaching centers, 19 of the centers reported campus enrollments of 618 or fewer students (Table 2). Nearly one-half of centers (9) had two or more classrooms in their agricultural education departments. The most common laboratory facility was for teaching agricultural mechanics (19). Slightly more than one-half (11) of the responding cooperating centers had a greenhouse or some other facility for teaching horticulture. Thirteen schools had a project center/feeding facility to support students' livestock SAEs. About one-in-three centers (7) had a land laboratory but very few (2) had an aquaculture facility (Table 2).

Table 2
Selected Characteristics of Cooperating Student Teaching Centers (N = 19[a])

Characteristics	*f*	%
Size of School		
< 132 students	4	21
132 – 363 students	8	42
365 – 618	7	37
Number of Agricultural Education Classrooms		
1	10	53
2	9	47
Ag Mech Laboratory (Yes)	19	100
Greenhouse (Yes)	9	47
Other Hort. Facility (Yes)	2	11
Aquaculture Facility (Yes)	2	11
Land Laboratory (Yes)	7	37
Project Center/Feeding Facility (Yes)	13	68

[a] The table represents data from 19 of 24 cooperating student teaching centers that hosted student teachers during the spring 2004 semester (Young & Edwards, 2005). Five cooperating centers did not provide this information.

Student teachers' ratings of 34 important elements of the student teaching experience are shown in Table 3. Student teachers rated elements (items) of the student teaching experience on level of importance ("5" = "High Importance", "1" = "No Importance"). The overall pretest and posttest means were 4.30 and 4.53, respectively, or approximately midway between "much" and "high importance" ($M \geq 4.00$).

The 34 elements were grouped conceptually into five core areas and a composite mean was computed for each area (Table 3). The core area "Cooperating Teacher-Student Teacher Relationships" was rated the highest area both pre and posttest (4.65 and 4.84, respectively). Pretest rankings for the remaining core areas resulted in "School and Community Relationships" (4.28) ranked second, "Student Leadership Development (FFA Activities)" (4.19) ranked third, "Classroom and Laboratory Instruction" (4.18) was fourth, and the core area "Supervised Agricultural Experience Programs" had the lowest composite mean (3.90). The posttest results ranked "Classroom and Laboratory Instruction" (4.59) second, "Student Leadership Development (FFA Activities)" (4.41) third, "School and Community Relationships" (4.40) fourth, and "Supervised Agricultural Experience Programs" (4.23) fifth.

The highest rated element before the field experience was "a cooperating teacher who has a positive attitude" ($M = 4.84$; $SD = .37$). "A cooperating teacher who is willing to be a mentor" ($M = 4.80$; $SD = .41$) tied for second with "a cooperating teacher who communicates clear expectations to the student teacher" ($M = 4.80$; $SD = .41$). The element "a student teacher who is willing to be mentored by the cooperating teacher" tied for fourth with "A cooperating teacher who is a "good" role model" ($M = 4.76$; $SD = .44$). All five of these elements belonged to the core area "Cooperating Teacher-Student Teacher Relationships." Of the remaining elements, 14 had mean importance ratings ranging from 4.60 to 4.32, while ten items had mean rating scores approaching "much importance" ($M < 4.25$). Only five of the elements rated below "much importance" (3.60 to 3.92).

Table 3
Student Teachers' Perceptions of Important Elements of the Student Teaching Experience Before and After a 12-Week Field Experience (N = 25)

Elements[a]		Pre Test M[b]	Pre Test SD	Post Test M[b]	Post Test SD
Classroom and Laboratory Instruction					
Daily (systematic) classroom and/or laboratory instruction		4.00	.65	4.72	.54
A discipline management plan is used in a structured environment		4.16	.69	4.76	.52
Current technology used in instruction		4.12	.67	4.12	.88
Creative teaching methods as a basis for daily instruction, e.g., use of multimedia and varied teaching techniques		4.12	.73	4.48	.65
A well-rounded program emphasizing instruction, SAEs, and youth leadership activities		4.48	.71	4.88	.44
Composite Mean[c]	α =.68	4.18	.46	4.59	.46
			d =	.75	
Supervised Agricultural Experience Programs					
All students meeting state SAE requirements, with accurate record books		4.04	.68	4.00	.78
Diversity within the students' SAEs		3.60	.58	3.88	.60
Project supervision and an explanation of this commitment to the student teacher		4.04	.68	4.60	.50
Student participation in advanced awards and degrees on district, state, and national levels		3.92	.70	4.44	.71
Composite Mean[c]	α = .60	3.90	.44	4.23	.45
			d =	.49	
Student Leadership Development (FFA Activities)					
Strong classroom instruction in student leadership development		4.08	.80	4.40	.76
These activities as essential for a balanced program		4.12	.73	4.44	.65
A history of successful participation		4.04	.74	4.12	.83
Cooperating teachers who are familiar with current rules for participation in events (e.g., CDEs)		4.36	.70	4.52	.59
Cooperating teachers who delegate the training of at least one team to the student teacher		4.44	.58	4.68	.56
Resources available to train a competitive team		4.36	.49	4.56	.65
Opportunities for the student teacher to judge or monitor a district or state CDE		3.92	.70	4.12	.67
Composite Mean[c]	α = .82	4.19	.47	4.41	.48
			d =	.45	

Elements[a]		Pre Test *M*[b]	Pre Test *SD*	Post Test *M*[b]	Post Test *SD*
School and Community Relationships					
Recognized integrity of the cooperating teacher		4.56	.65	4.64	.49
Departmental support organization(s) (e.g., advisory committees, booster clubs, and Alumni)		4.40	.71	4.48	.65
A cooperating teacher who supports other school activities (e.g., athletic events)		4.16	.75	4.08	.83
A cooperating teacher who supports activities in the community (e.g., service organizations)		4.32	.48	4.24	.78
A spirit of professional cooperation among fellow teachers		4.44	.51	4.52	.51
Use of local media		3.92	.70	4.29	.75
School administrators who are involved in program activities		4.32	.63	4.36	.75
Community service projects		3.84	.55	4.36	.64
Availability of facilities (e.g., computer lab, shops, horticultural lab, school farm)		4.56	.65	4.64	.64
Composite Mean[c]	α = .75	4.28	.36	4.40	.49
			d =	.29	
Cooperating Teacher-Student Teacher Relationships					
A cooperating teacher who is willing to be a mentor		4.80	.41	4.84	.37
A student teacher who is willing to be mentored by the cooperating teacher		4.76	.44	4.88	.33
A cooperating teacher who has a positive attitude		4.84	.37	4.84	.37
A cooperating teacher who is a "good" role model		4.76	.44	4.88	.33
A cooperating teacher who communicates clear expectations to the student teacher (e.g., role in classroom and calendar of events)		4.80	.41	4.92	.28
A cooperating teacher who provides frequent evaluations and feedback to the student teacher		4.52	.59	4.88	.33
Discipline policies that are in place and enforced		4.36	.70	4.80	.41
"Reinforcement" techniques in teaching (e.g., pace, re-teaching, retesting, and accommodation of various learning styles)		4.40	.58	4.76	.44
Assistance in job placement		4.60	.71	4.76	.52
Composite Mean[c]	α = .84	4.65	.35	4.84	.30
			d =	.52	
Overall Mean	α =.91	4.30	.32	4.53	.35
			d =	.66	

[a] Important elements were derived from an earlier study (Harlin et al., 2002). Selected items were modified slightly to reflect the "language" of secondary agricultural education of the state in which data were collected. [b] 5 = High Importance, 1 = No Importance. [c] Composite mean of elements for that core area.

Post field experience ratings started with "a cooperating teacher who communicates clear expectations to the student teacher" (M = 4.92; SD = .28). "A student teacher who is willing to be mentored by the cooperating teacher," "a cooperating teacher who is a 'good' role model," and "a cooperating teacher who provides frequent evaluations and feedback to the student teacher" all tied for second (M = 4.88; SD = .33). "A well-rounded program emphasizing instruction, SAE's, and youth leadership activities" (M = 4.88; SD = .44) was rated the fifth most important element. Four of the five highest rated elements were derived from the core area "Cooperating Teacher-Student Teacher Relationships." Of the remaining elements, 22 had mean importance ratings ranging from 4.84 to 4.29, while six items had mean rating scores approaching "much importance" (M < 4.25). Only one of the elements was rated below "much importance": "all students meeting state SAE requirements, with accurate record books" (M = 3.88; SD = .60).

The practical significance (i.e., Cohen's d) of mean differences in students' perceptions pre and post field experience for four of the importance constructs as well as the overall means was approaching "medium" or larger (Green, Salkind, & Akey, 1997). The effect size for the remaining construct, "school and community relationships," was "small."

Conclusions, Recommendations, and Implications/Discussion

Student teachers participating in this study who student taught during the spring 2004 semester were primarily males who were completing requirements for a baccalaureate degree. Most expected to teach agriculture 11 or more years and over one-half were interested in pursuing a graduate degree. Nearly all participants wished to teach in a school with an enrollment of 618 or less. All but one student teacher saw value in CIMC teaching resources but most also recognized the need for new instructional materials. All cooperating centers reported campus enrollments of 618 or fewer students. Nearly one-half of centers had two or more classrooms. The most common laboratory facility was for teaching agricultural mechanics.

The overall pre and posttest means for 34 elements of the student teaching experience were approximately midway between "much" and "high importance" (Table 3). Results from both observations revealed that student teachers perceived the relationship with their cooperating teacher was the most important core area of the student teaching experience. Accordingly, that core area produced the five highest rated items prior to the 12-week field experience and four of the five highest rated items post experience. Harlin et al. (2002) reached a similar conclusion for student teachers in Texas. Moreover, an examination of perceptions of cooperating teachers in Oklahoma found that they too perceived "relationships" to be the most important dimension of the student teaching experience in agricultural education (Young & Edwards, 2005).

The composite means of student teachers' perceptions for all five core areas of the student teaching experience increased following the 12-week field experience as did the overall mean. In the case of "classroom and laboratory instruction," the increase approached one-half of a point (Table 3). In contrast, Harlin et al., using a very similar questionnaire administered in the same fashion, found that student teachers' perceptions actually declined in four of the five core areas and overall. Notably, effect sizes for mean differences in students' perceptions pre and post field experience for four of the importance constructs as well as the overall means were approaching "medium" or larger (Green et al., 1997). The effect size for the remaining construct, "school and community relationships," was "small."

Recommendations for Future Practice

1) Teacher educators should continue to address and reinforce importance of the cooperating teacher-student relationship through preservice preparation for student teachers and inservice professional development for current and future

cooperating teachers. For example, strategies for communicating effectively and characteristics of successful mentor/mentee relationships should be stressed with both groups (Byler & Byler, 1984; Deeds & Barrick, 1986; Edwards & Briers, 2001; Harlin et al., 2002; Martin & Yoder, 1985). Beginning cooperators, in particular, should receive professional development before supervising their first student teachers. 2) Teacher educators should expend additional effort toward identifying and then using cooperating centers that offer a diverse range of curriculum offerings and have the facilities needed to support such courses. Centers lacking a variety of curricula should be encouraged to diversify. Programs that fail to implement curriculum change should not be used as cooperating centers in the future. 3) Preservice course work supporting the role of SAEs in augmenting the comprehensive secondary agricultural education model should be examined. In particular, course content related to diversity of students' SAEs may need revision.

Recommendations for Future Research

1) Student teachers' and cooperating teachers' perceptions of important elements of the student teaching experience should be compared in an attempt to better understand differences as well as similarities that may exist between these groups (Edwards & Briers, 2001; Harlin et al., 2002; Young & Edwards, 2005). 2) To further triangulate our understanding of this phenomenon, the perceptions of other significant groups should be sought, e.g., members of the state staff for secondary agricultural education and selected teacher educators. Findings may generate additional research questions about important elements of the student teaching experience. 3) In this study, the core area of SAE contained three of the six lowest rated importance items prior to the 12-week field experience, the lowest rated element following student teaching, and it earned the lowest composite mean score of the five areas both pre and post experience (Table 3). These findings may support the work of other investigators (Dyer & Osborne, 1995; Camp, Fallon, & Clarke, 1999) who have identified a "sense of uncertainty" or lack of philosophical imperative regarding how students' SAEs are conceptualized and implemented by many agricultural education teachers. So, further inquiry related to SAEs and the student teaching experience may be warranted. 4) Researchers should use a similar instrument to collect perceptions of future student teachers about important elements of the student teaching experience. However, investigators should consider modifying core areas that may consistently yield less than desirable reliability estimates (e.g., $\alpha < .70$).

Implications/Discussion

The level of importance perceived by student teachers regarding 31 of 34 elements of the student teaching experience either increased (29) or remained constant (2) following student teaching. For example, student teachers' pretest perceptions of importance of the core area "classroom and laboratory instruction" were slightly higher than "much importance" (M = 4.18). But their posttest perceptions exceeded the midway point between "much" and "high importance" (M = 4.59). In particular, student teachers' perceptions regarding the importance of systematic instruction increased by more than seven-tenths of a point (Table 3).

Does this finding and similar results suggest that more could (or should) be done through preservice preparation to further "sensitize" student teachers about the importance of selected student teaching experiences? Or, does it support portions of the theoretical frame undergirding this study, i.e., "concrete experiences" or opportunities for "practice" are critical to, and will modify, one's subjective theories (Argyris & Schön, 1989; Kolb as cited in Miller, 1999; Korthagen & Kessels, 1999), including views held by student teachers about student teaching and by extension their future careers as agricultural educators? What is more, does a "perceptual ceiling" exist regarding the effects of preservice preparation prior to extended field experience because by its very nature on-campus preparation is theoretical (Argyris & Schön, 1989) or

primarily abstract? Some theorists (e.g., Korthagen & Kessels, 1999) suggest it is only by participating in the experience of student teaching that perceptions about the theoretical versus the practical *may be* reconciled. What is more, Kagan (as cited in Henry & Beasley, 1996) opined that during their field experiences student teachers should become more cognizant of their "initial and changing knowledge and beliefs about pupils and classrooms" (p. 21) and reconstruct "idealized and inaccurate images of students and . . . of early images of self as teacher" (p. 21). Accordingly, understanding better how to facilitate an effective student teaching experience, one in which student teachers' personal "theories" about teaching and learning can be tested, confirmed, modified, or rejected (Figure 1), should continue to attract sustained interest from teacher educators of agricultural education.

Finally, a significant tangential question arising from implications raised by this study relates to those teachers who enter secondary agricultural education through the plethora of alternative certification (or licensure) options in place nationwide. How does the lack of student teaching experience manifest itself per one's attempts to reconcile his or her subjective theories about teaching and self as teacher absent an opportunity to practice under the supervision and mentoring of an expert cooperating teacher? To that end, Roberts and Dyer (2004b) suggested that alternatively certified teachers may lack the professional knowledge needed to make valid decisions about their teaching deficiencies. So, a lack of student teaching experience could amplify that deficit and distort one's perception of it.

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