Relationships between Agricultural Science Student Teacher Placement Methodology and the Quality of the Student Teacher Experience

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Abstract

The purpose of this study was to examine the relationships between the importance of agricultural science student teacher placement methodology and the quality of the student teacher experience. The sample consisted of 50 randomly selected head teacher educators in agricultural education and 204 agricultural science student teachers from the 2001-2002 academic school year. Based on a review of literature, the head teacher educator questionnaire assessed the perceptions of the important characteristics and criteria of student teacher placement methodology; likewise, the student teacher questionnaire examined the perception of the overall student teaching experience component. Head teacher educators indicated that the number one placement practice was that of the cooperating teacher having at least three years teaching experience (M = 4.61, SD =.66) (1 = unimportant; 5 = very important). Student teachers indicated that they learned a great deal from their experience (M = 4.65, SD = .74) and that student teaching was the most valuable component of their education (M = 4.54, SD = .80) (1 = strongly)disagree; 5 = strongly agree). The correlation coefficient between the level of importance of student teacher placement methodology and the quality of the student teacher experience indicated a low, positive relationship (r = .389).

Introduction/Theoretical Framework

There is general agreement among researchers that student teaching is a key aspect in the teacher education program (Glickman and Bey, 1990; McIntyre et al., 1996), yet teacher education programs are not consistent with regard to placement methodology of agriculture student teachers (Deeds et al., 1988; Deeds and Barrick, 1986; Norris and Larke, 1989). In the past, many teacher education programs have developed specific criteria and characteristics for selecting schools and teachers, but unfortunately not all student teachers of these programs were receiving a good experience (Rome and Moss, 1990). This begs the question: Does the rigor and energy put forth in student teacher placement result in commensurate experiences for the student teachers?

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Researchers have had differing views on the procedures used in the placement of student teachers with both cooperating schools and teachers. Whitford and Metcalf-Turner (1999) believe that student teaching should take place in an innovative school which could possibly be partnered with the University in a joint program. Deeds et al. (1988) stated that many researchers have argued that the cooperating teacher was one of the most important entities in the structure of the teacher education program (Barnes and Camp, 2002; Covington and Dobbins, 2004).

Numerous studies regarding the selection of a cooperating teacher have been performed (Deeds et al., 1988; Deeds et al., 1991; Norris and Larke, 1989; Young and Edwards, 2005). These studies were conducted due to a concern among researchers about how much a cooperating teacher effected the overall satisfaction of the student teacher's experience (Deeds et al., 1991). Byler and Byler (1984) found that the cooperating teacher became important because the student teacher looked at the cooperating teacher as a mentor and began to build a strong rapport with him/her early in the student teaching experience.

According to a study by Camp and Bailey (1999), teacher education programs selected cooperating teachers using a variety of criteria. Supporting the same theme, Abel et al. (1986) indicated that new supervising or cooperating teachers should be selected on several qualifications or criteria. These qualifications included competency in technical curriculum, years of experience in teaching, skill in teaching in-school and out-of-school classes, educational philosophy, leadership ability, and philosophy of teacher training. Researchers generally agree that the cooperating teacher should support student teachers mentally, as well as give constructive feedback (Williams, 1994; Maynard, 1996). Cooperating teachers should team teach with the student teacher to help the interns understand the notion of collaboration within the classroom (Feiman-Nemser and Beasley, 1997; Fosnot, 1996). Norris and Larke (1989) determined that the ideal cooperating teacher should have a master's degree and be identified as an opinion leader in the local community. Results of a survey of teacher educators responsible for the placement of student teachers in the U.S. indicated that the cooperating teachers

should display some level of professional growth during the period of their supervising duties (Norris and Larke, 1989). The teacher educators also believed that the cooperating teachers should have taught for at least three years in the local school district and have a minimum of five years total teaching tenure (Norris and Larke, 1989).

Far too often, models placing student teachers with cooperating schools and teachers were developed out of mere convenience for the supervising teachers, as well as the student teacher (Guyton and McIntyre, 1990; Report of the K-16 Teacher Education Task Force, 2000). Academic excellence of the cooperating school was disregarded, and the convenience of being close to the campus or the student's home and willingness of the cooperating school to participate prompted the program directors of the particular teacher education program toward usage of that cooperating school (American Federation of Teachers, 2000). Kern (2004) identified that one of the major obstacles of the student teaching supervision was time considerations for faculty supervisors who commute to numerous cooperating school sites in one semester. There has always been a growing need for research in the area of choosing effective cooperating schools and teachers to provide the best and most effective experience for the practicing student teacher (Bullough et al., 2002). Patterson et al. (1999) stated that better schools create better teachers and better teacher education programs.

Deeds and Barrick's (1986) research focused on the question: "What should a cooperating school and teacher possess to allow a student teacher the best experience?" They found that high quality programs might be associated with excellent instructional programs, facilities, and equipment that were in good working order and a supervised agricultural experience program where students and parents were active in both the school and the community. These particular characteristics were recommended for use in the future selection of cooperating schools to instill a more positive attitude toward the profession (Deeds and Barrick, 1986). Beamer (1981) also stated that it was much easier to develop the criteria for the selection of the cooperating school than it was to find a school to meet all of those developed criteria. It was, indeed, the responsibility of the teacher education program in agriculture to select student teaching centers. The teacher trainers were also encouraged to solicit help from supervisors of vocational agriculture, public school administrators, and others in the selection of these cooperating schools (Marvin, 1981).

Satisfaction from the student teaching experience has become an important aspect of retention to the profession. Borne and Moss (1988) studied student teachers' self-perceived level of preparation and concluded that first year teachers rated their level of preparation of teaching as acceptable. The researchers also found that specific teaching duties and educational goals improved as a result of student teaching (Borne and Moss, 1988). Rome and Moss (1990) also strongly agreed that student teaching was a positive experience and strongly disagreed that student teaching was of little or no value to the teacher education program.

It was found that some teachers were undecided on whether or not student teaching was a realistic example of actual teaching. Harlin et al. (2002) examined the student teachers' perceptions of important elements of the student teaching experience before and after the actual experience. The importance declined after experiencing student teaching in all of the specific core areas (Classroom and Laboratory Instruction, SAEP, Student Leadership Development, School and Community Relationships, and Cooperating Teacher - Student Teacher Relationships).

Purpose and Objectives

The purpose of this study was to examine head teacher educator's perceptions of important practices regarding student teacher placement methodology, student teachers' perceptions of the quality of the student teaching experience, and to determine if relationships existed between the two variables. The following research questions were included: 1) What were the personal and professional characteristics of head teacher educators and student teachers in the United States? 2) What were the head teacher educators' perceptions of important practices in placement of student teachers with a cooperating school and teacher? 3) What was the quality of the student teaching experience as perceived by student teachers in agricultural education? Finally, 4) Was there a relationship between the level of importance of student teacher placement methods and the quality of the student teacher experience?

Methods and Procedures

The study was conducted quantitatively using a correlational research design. The research was *ex post facto* in nature due to the fact that the causes were studied after the student teaching experience (Gall et al., 1996). All student teachers surveyed had completed the student teaching experience in the 2001-2002 academic school year.

The target population of this study consisted of agricultural science teacher preparation programs in the United States. For each program, data were sought from practicing head teacher educators in the United States as defined by the 2002 American Association for Agricultural Education (AAAE) directory (Dyer, 2002). There were a total of 88 teacher education programs as of August 19, 2002, according to the AAAE directory. A simple random sample approach was used to select 50 of the 88 agriculture teacher education programs. Two subgroups from each teacher education program were used. The first subgroup consisted of student teachers graduating in the 2001-2002 academic school year. The second subgroup consisted of head teacher educators at each randomly sampled institution.

Two different mail questionnaires were used, one for head teacher educators and the other for recent graduates of the program. The head teacher educator survey attempted to assess the important practices of placement methodology of student teachers. If the school graduated agricultural science student teachers in the 2001-2002 academic school year, the head teacher educator was asked for a list of those student teachers' names, telephone numbers, and addresses. Thus, student teachers and teacher educators were stratified in the teacher education program. Each student teacher survey was coded as to the university or college from which the respondent graduated. A composite student teacher perception from each university was then compared to head teacher educator responses of placement methods from the same college or university.

The head teacher educator instrument was pilot tested with the Agricultural Science Teaching Workgroup at Texas A&M University. The student teacher instrument was tested using graduates of the Agricultural Science Teaching Program at Texas A&M University, all of whom were current graduate students in the program. Participants were contacted through graduate courses and asked to fill out the instrument. Cronbach's coefficient alpha was calculated to provide internal consistency of the instrument. The reliability of the scale relating to the student teacher placement methods on the head teacher educator was $\alpha = .88$. On the student teacher instrument reliabilities, consisted of the overall student teaching experience $\alpha = .89$.

From the 50 teacher education programs in the sample, one particular school no longer had a teacher education program in the agricultural education department, so this particular school was excluded from the study. The head teacher educator was asked

asked a series of questions to compare responses of respondents to non-respondents. Respondents and non-respondents were compared using a chi-square tests. An independent samples t-test was used to determine if there were differences between respondents and non-respondents. The researcher concluded that there were no statistically significant differences; therefore, respondents did not differ from non-respondents and the responding sample was deemed to be representative of the population of student teachers in agriculture in the United States.

SPSS 10.0 for Windows software (2002) was used for data analysis. Descriptive statistics were used to familiarize the reader with the demographics of the teacher educators and the student teachers. Frequencies, percentages, measures of central tendency, and variability were all used to fully describe the data that were collected by the researcher. Rankings were used to determine the important practices in placement methodology of student teachers as perceived by head teacher educators. Cronbach's alpha was used to determine the reliability of each scale of the instrument. If a certain item decreased the alpha, it was eliminated to increase the final alpha (Gall et al., 1996). After the highest Cronbach's alpha was achieved, each section was compiled into a composite mean for each teacher educator and student teacher. The individual means were then aggregated to form a school mean. These aggregated means were used to determine the relationships of the overall student teaching experience. Pearson's Product Moment Correlation was used to determine the r and p value of each set of variables. Confidence intervals and tests for statistical significance were set a priori at the .05 level.

Results

As shown in Tables 1 and 2, the typical head teacher educator was male, Anglo in descent, tenured, and held a Ph.D. There were a few more female

to supply names of those students who student taught in the 2001 - 2002 academic school year (fall 2001 through summer 2002). A total of 35 out of 49 head teacher educators responded for a response rate of 71.5%. Of the 204 student teachers contacted, 140 responded for a response rate of 69.0%. To account for non-response error, the researcher randomly selected 31 student teachers that did not respond to the instrument (Gall et al., 1996). Each of the 31 student teachers were called and

Characteristics	n	%
Gender		
Male	32	91.0
Female	3	9.0
Ethnicity		
African-American	5	14.2
Anglo	29	82.8
Hispanic	1	2.8
Native-American/Alaskan	0	0.0
Professorial Ranking		
Instructor/Lecturer	1	2.9
Associate Professor	8	23.5
Assistant Professor	8	23.5
Professor	18	50.0
Tenure Status		
Tenured	26	74.3
Not Tenured, but Tenure Track	7	7
Not Tenure Track	2	5.7
Highest Degree Earned		
Ph.D.	32	91.4
Ed.D.	3	8.6
MS. MA. MBA	0	0

Characteristics	п	%
Gender		
Male	61	43.5
Female	79	56.5
Age		
22 to 25 years	119	85.0
26 to 29 years	13	9.3
30 to 35 years	6	4.3
> 35 years	2	1.4
Ethnicity		
African-American	1	0.7
Anglo	136	96.4
Hispanic	2	1.42
Pacific Islander	1	0.7
Current Job of Student Teachers		
Teaching Agricultural Education	106	75.7
Other (not listed)	10	7.1
Teaching Another Subject	7	5.0
Graduate School	7	5.0
Working in Ag Industry	5	3.5
Unemployed	3	2.1
Working Outside Agriculture or Education	2	1.4
Size of Schools Student Teaches Taught In		
500 or Fewer Students	53	38.1
501 to 900 Students	48	34.5
901 to 1200 Students	13	9.3
1200 or More Students	25	18.0
Number of Classrooms Student Teachers Had at Their Cooperating Schools		
One Classroom	59	42.4
Two Classrooms	47	33.1
Three Classrooms	23	16.5
More Than Three Classrooms	11	7.9
Facilities Student Teachers' Cooperating Schools Contained		
Agriculture Mechanics Laboratory	120	86.3
Greenhouse	98	70.0
Some Other Horticulture Facility	48	34.5
Meats Laboratory	7	5.0
Aquaculture Facility	45	32.4
Land Laboratory	62	44.6
Project Center/Feeding Facility	34	24.4

Table 3. Ranking of Important Elements in Placement Methodology of Agricultural Science Student Teachers Reported by Head Teacher Educators in Agricultural Education

Placement Methodology	Rank	M^{v}	SD
Use cooperating teachers having at least three years experience	1	4.61	.66
Place student teachers by a joint effort of the agricultural education faculty and the student teacher	2	4.18	.77
Collect data from student teachers	3	4.16	1.10
Place student teachers by a joint effort of the agricultural education faculty	4	3.97	1.00
Interview student teachers	5	3.72	1.30
Use input from the State Educational Agency	6	3.63	1.20
Use cooperating teachers that hold a Master's Degree	7	3.44	.98
Use cooperating centers only once a year	8	3.27	1.40
Allow student teachers to pick cooperating centers and cooperating teachers from a compiled list	9	3.25	1.10
Use cooperating centers that are relatively close to the University	10	2.84	1.10
Allow cooperating teachers to pick student teachers from a compiled list	11	1.90	1.30
OVERALL MEAN		3.50	
^v Scale: 1= unimportant, 2= of little importance, 3= moderately important,	4 = importa	ant, and $5 = ve$	ery importan

(79) student teachers than males (61). The typical student teacher was 22 to 25 years of age (85.0%), Anglo (96.4%), and currently teaching agricultural education (75.7%). A majority (72.7%) of the student teachers taught in a school with 900 or fewer students. A few (18.0%) student teachers taught in a large school with a capacity of 1,200 or more students.

When assessing the size of the school, it was deemed necessary to assess the number of classrooms that the student teachers had at their cooperating school. Table 2 indicates that a majority (75.5%) of the student teachers taught in a school with one or two classrooms while the remaining (24.5%) in a school with more than two classrooms. Facilities of the student teachers' cooperating school were determined by a series of questions presented to the student teachers. A majority of the student teachers' cooperating schools contained an agricultural mechanics laboratory (86.3%) and a greenhouse structure (70.0%). Few of the cooperating schools contained a meats laboratory (5.0%) or a project center/feeding facility (24.4%).

The means and standard deviations were computed for each specific placement process. The mean and standard deviation for each placement procedure as perceived by head teacher educators were listed in descending order (Table 3). Head teacher educators ranked the placement method of using cooperating teachers having at least three years experience first (M = 4.61,SD = .66). Placing student

 Table 4. Perceptions of Agricultural Science Stude nt Teachers Regarding the Quality of Their Student

 Teaching Experience

Overall Student Teaching Experience:		Individual		As	geregate		
	п	M^{x}	SD	n	M^x	SD	Rank ^y
As a student teacher, I learned much from my student teaching experience	140	4.65	.74	25	4.63	.38	1
Student teaching is the most valuable component of the teacher education program	140	4.54	.80	25	4.57	.35	2
Student teaching was a positive experience	140	4.46	.89	25	4.50	.38	3
My cooperating teacher was helpful	140	4.47	1.00	25	4.49	.46	4
I was thoroughly pleased with my overall student teaching experience	140	4.31	1.05	25	4.35	.48	5
My cooperating center was an excellent facility	140	4.21	.99	25	4.32	.46	6
Student teaching is a realistic example of actual teaching	140	3.96	1.12	25	4.07	.60	7
^x Scale: 1= Strongly disagree, 2= Disagree, 3= Unsure, 4 = Agree, and 5 = Strongly agree							
^y Ranked by aggregate mean score							

 Table 5. Pearson's Product Moment Correlation Between the Level of Importance of Agricultural Science

 Student Teacher Placement Methods and the Quality of the Student Teacher Experience

Important Elements Scale ^z	п	r	р			
Student Teacher Placement Methods ($\alpha = 0.83$)	33	.389	.067			
^z Important element scale: 1 = unimportant, 2 = of little importance, 3 = moderately important, 4 = important, 5 = very important						

teachers by a joint effort of the agricultural education faculty and the student teacher (M = 4.18, SD = .77) and the collection of data from student teachers (M =4.16, SD = 1.10) were ranked second and third. Head teacher educators ranked in the fourth position the placement of student teachers by a joint effort of the agricultural education faculty (M = 3.97, SD = 1.00). Interviewing student teachers and using input from a state's educational agency were in a close fifth and sixth position, respectively (M = 3.72, SD = 1.30 andM = 3.63, SD = 1.20). On the bottom end of the importance scale, head teacher educators ranked the placement methodologies of using cooperating teachers who hold a master's degree (M = 3.44, SD =.98), using cooperating centers only once a year (M = 3.27, SD = 1.40), and allowing student teachers to pick cooperating centers and teachers from a compiled list (M = 3.25, SD = 1.10) in the seventh, eighth, and ninth positions, respectively. Head teacher educators felt that using cooperating centers relatively close to the university (M = 2.84, SD = 1.10)and allowing cooperating teachers to pick student teachers from a compiled list (M = 1.90, SD = 1.30)were relatively unimportant in the placement process of student teachers.

To examine the quality of the student teaching experience, student teachers were aggregated by schools and the findings were ranked from highest to lowest (Table 4). The scale consisted of 1 = stronglydisagree and 5 = stronglyagree. The highest ranking finding was the student teachers' perceptions of learning an enormous amount of material during student teaching (M = 4.63,SD = .38). The lowest ranking finding was the student teachers' perceptions of student teaching being a realistic example of teaching (M = 4.07, SD = .60). Many thought that student teaching was not a realistic example of what an agriculture teacher actually does both in and out of the classroom. Individually, the student teachers indicated that the quality of their experience was a good one with individual means ranging from (M = 4.65 to M)= 3.96) respectively.

Table 5 illustrates the correlation between the level of importance of

student teacher placement methods and the quality of the student teacher experience. There was a moderate correlation according to Davis (1971) between the level of importance of student teacher placement methods and the quality of the student teacher experience. An r value of .389 (P = .067) was not statistically significant at the 0.05 level. The overall mean (M = 3.50) regarding the importance of placement methodology told the researcher that the majority of the head teacher educators thought that most of the methods were moderately important.

Conclusions, Implications, and Recommendations

The "typical" teacher educator participant was a white, male, tenured or on tenure-track, with a Ph.D. degree (Table 1). The "typical" student teacher of agriculture in the United States was of Anglo decent, 24 years of age, and currently teaching agricultural education at the secondary level. Student teachers' gender was closely distributed between males and females. The "typical" student teacher taught in a cooperating school with two or fewer agriculture classrooms and fewer than 900 students in the high

school. A majority of the student teachers' cooperating centers had an agricultural mechanics laboratory and a greenhouse structure. A limited number of the student teachers' cooperating centers had a meats laboratory, aquaculture facility, or project center (Table 2).

Head teacher educators felt that when placing student teachers, it was highly important to use cooperating teachers with at least three years teaching experience. Additionally, the teacher educators felt that the placement methodology of placing student teachers by a joint effort of the agricultural education faculty and the student teacher, collection of data from student teachers, placing student teachers by a joint effort of the agricultural education faculty, interviewing the student teachers, and using State Department input was important to use in placement. Only moderately important to the placement process was cooperating teachers that held a Master's Degree, using cooperating centers only once a year, and allowing student teachers to pick cooperating centers and teachers. Head teacher educators indicated that when placing student teachers, cooperating centers close to the University and allowing cooperating teachers to pick student teachers were not as important in the placement process. When the placement processes were put in rank order, the placement practice of using cooperating teachers having at least three years experience ranked first and allowing cooperating teachers to pick student teachers from a compiled list ranked last (Table 3).

Abel et al. (1986) found similar results and indicated that new supervising or cooperating teachers should be selected on several qualifications or criteria. The results found in the study agreed with those found by Norris and Larke (1989) that the ideal cooperating teacher should have a Master's degree and be identified as an opinion leader in the local community.

Overall, student teachers strongly agreed they learned a great deal from their student teaching experience and stated it was the most valuable component of the teacher education program. The "typical" student teaching experience was one that was positive, one that had a helpful cooperating teacher, and one had at an excellent cooperating center facility. Student teachers were pleased with their overall experience and agreed that student teaching was a realistic example of actual teaching (Table 4).

Similar results were found by Rome and Moss (1990) in that student teachers strongly agreed that student teaching was a positive experience and strongly disagreed that student teaching was of little or no value to the teacher education program. Additionally, Borne and Moss (1988) studied student teachers' self-perceived levels of preparation and concluded that first year teachers rated their level of preparation of teaching as acceptable. Rome and

Moss (1990) also found that teachers were undecided on whether or not student teaching was a realistic example of actual teaching. Harlin et al. (2002) discovered that changes in student teachers' theories about teaching resulted after student teaching. The researchers suggested that this was further evidence supporting the need for the student teaching experiences afforded by student teaching – experiences that assist the novice teachers in developing their professional behaviors.

The correlation coefficient (r = .389) between the level of importance of student teacher placement methods and the quality of the student teaching experience indicated a low positive relationship according to the correlation scale developed by Davis (1971), but was not significant at the .05 alpha level. Due to low number of paired responses, there was no statistical significance, but practical significance may be present. The correlation coefficient for student teacher placement methods was r = .389; (P = .067). This indicated that head teacher educators' perceptions on the importance of the various student teacher placement methods might, indeed, have some slight effect on the quality of the student teacher experience. In other words, rather than just placing students teachers at cooperating schools out of mere convenience due to proximity or ease, rigor and research regarding each placement could strongly positively effect how student teachers perceive their experience.

This study indicates that student teachers learn a great deal and consider student teaching as the most valuable component of the teacher education program. Keeping in mind Koziol et al. (1996), the student teaching experience is widely accepted as one of the most essential and useful components of a teacher education program. As a result of their participation in this study, student teachers indicate that their overall quality of experience is, for the most part, positive. When assessing relationships between student teaching experience and head teacher educators' perceptions on the importance of various student teacher placement methods, a low positive relationship was found that may directly affect the overall student teacher experience. Although head teacher educators appear to know what the important elements of placing student teachers are, it is obviously difficult to limit student teacher placement methodology to only the ones listed or utilize all of these elements. Teacher education programs must use their perceptions of these important elements and what is ideal, to effectively find a cooperating school and cooperating teacher that best fits the student teacher. This fit may negatively or positively affect the overall quality of the student teachers' experience while student teaching.

Based on the results of the study, recommendations for practice are presented as follows: 1) The degree to which teacher educators invest "energy" in selecting student teaching centers and placing student teachers in these centers could be positively related to the quality of experience as perceived by student teachers. Thus, teacher educators should determine what the ideal cooperating teacher and school should possess and use these multiple measures to place student teachers in the most "ideal" cooperating center. This recommendation concurs with research conducted by Deeds and Barrick (1986) and Norris and Larke (1989). 2) When placing student teachers, teacher education programs in agriculture should consult with other agricultural education faculty and the student teacher. Data indicate that the number one placement methodology was using a cooperating teacher with at least three years teaching experience. Additionally, teacher educators should research cooperating schools, cooperating teachers, and student teachers to find the "ideal" situation for the student teacher. This very well could determine if the student teacher enters and is retained in the agricultural education teaching discipline.

As a result of this study, recommendations for further research include: 1) Due to the fact that the researcher was unable to determine what actual student teacher placement measures each teacher education program utilized, a more in-depth and direct measure should be used to examine the actual procedures used by different teacher education programs in placing student teachers; 2) Develop a series of discussion groups of agriculture teacher education faculty to determine "Ideal Student Teaching Placement Practices;" and 3) Student teaching documents from agriculture teacher education programs should be compared for innovative ideas and similarities. From these recommendations, a model set of student teaching elements should be prepared and disseminated for use in the agricultural education profession.

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