The Induction Of Novice Teachers: A Study Of First-Year Agriculture Teachers In Missouri

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Abstract

The purpose of the study was to determine the induction activities of first-year agriculture teachers in Missouri, with emphasis on the program management and professional development assistance provided by school districts and mentors. Survey research methods were utilized to collect data from beginning teachers during the 2000-2001 school year ($N = 31$), and a response rate of 97% was achieved.

Almost all first-year agriculture teachers indicated they received program management assistance from parents and other faculty members in the school district. In contrast, less than half of the first-year teachers received assistance from their administrators in making program management decisions, and satisfaction with the assistance was mixed. Results indicated that first-year teachers were receiving very little program management assistance from within their school district concerning time management, balancing personal/professional responsibilities, and in areas that were unique to an agricultural education program.

Although formal mentors are assigned to provide professional development assistance for first-year agriculture teachers, it appears that informal mentors may be more helpful. Further research should be conducted on the dyad of beginning teacher and informal mentor to gain a better understanding of this relationship. It was recommended that first-year agriculture teachers pursue all available sources of assistance during their induction into the profession. The unique needs of first-year teachers require a 'constellation of mentors' to assist in the growth of novice teachers.

Introduction and Theoretical Framework

Educational researchers agree that the first year of teaching is exceptionally challenging (Camp & Heath-Camp, 1989; Darling-Hammond & Sclan, 1996; Ganser, 1999; Joerger & Boettcher, 2000; Veenman, 1984), and that teaching may be one of the most difficult of all professions to master (Schulman, 1987). The experiences of a first-year teacher play a significant role in determining whether or not they remain in education, or pursue a different career (Keil, 1993; McDonald, 1980). Beginning teachers are in the most pivotal year of their career, and the experiences associated with the transition from student to first-year teacher will influence their effectiveness and longevity in the profession (Chapman & Green, 1986; Marso & Pigge, 1987).

Nationwide, more than half of all teachers leave the profession before the end of their sixth year of teaching (Marso & Pigge, 1997). The lack of a gradual induction and the isolation of beginning teachers often result in a challenging and stressful first year of teaching. Without support and assistance, beginning teachers may not fully develop teaching skills, and therefore leave the profession (Ingersoll, 1999). Beginning teacher induction programs and mentoring efforts can serve as a connecting link between the teacher preparation phase and the induction phase as a first-year teacher.

Several studies supported the concept that mentorship is an important influence on beginning teachers. Galvez-Hjornevik (1985) found that a mentor reduced beginning teacher stress by providing the teacher with knowledge of the school and curriculum. Odell and Ferraro (1992) concluded that mentors helped to promote new teacher professional development, thus reducing the number of teachers who leave the profession. In recognition of the promise mentoring holds as a vehicle for assisting beginning teachers, more than 46 states have mandated induction or mentoring programs (Wilkinson, 1997).

Many of today's beginning teacher induction programs are based on Houle's model (Houle, 1984) of becoming a professional educator. His approach conceptualized a general progression or series of developmental stages that apply to the teaching profession: General Education, Pre-service, Certification of Competence, Induction, and Continuing Education. However, the theoretical framework for this research study lies in Abbott's System Approach to Professionalization (Abbott, 1988). Abbott argued for a dynamic system approach in contrast to Houle's process model. Rather than viewing the progression of professional development stages as an independent or unidirectional process, Abbott contended that professions must be understood in the context of an interdependent system. Abbott focused on the context of the work environment, and the interdependent aspect of each profession.

Providing an adequate supply of highly motivated teachers is a major concern of the agricultural education profession. The teacher shortage was identified as the most critical issue facing the profession at the 1999 National Agricultural Education In-Service Meeting (National Association, Supervisors of Agricultural Education, Inc. [NASAE], 1999). In addition, teacher retention was targeted as the most important concern to affect the future of agricultural education as a result of the Reinventing Agricultural Education for the Year 2020 initiative (National Council for Agricultural Education [The Council], 1997).

However, the problems and challenges of beginning teachers have received limited attention from agricultural education researchers. Even less research has been conducted on the mentorship of secondary agriculture teachers. The conceptual framework for this study reflects a synthesis of research related to the mentorship of beginning agriculture teachers that was conducted primarily during the past decade.

Issues of classroom management and time management surfaced as common concerns of beginning teachers (Joerger & Boettcher, 2000; Mundt, 1991; Mundt & Connors, 1999; Simon, 1989; Simon & Wardlow, 1989; Talbert, Camp, & Camp, 1994). In an experimental design, Simon and Wardlow (1989) concluded that beginning teachers with mentors were better able to manage the typical first-year classroom and student management concerns compared to beginning teachers without the benefit of a mentor. Other studies confirmed that mentors assisted beginning agriculture teachers to overcome common first-year problems (Barrera & Finley, 1992; Simon, 1989).

Barrera and Finley (1992) reported that beginning teachers received guidance from a mentor committee composed of a classroom teacher, an administrator, and a teacher educator. Upon completion of the first year of teaching, the committee determined whether or not the beginning teacher would be recommended for an Oklahoma Teaching Certificate. By contrast, Simon (1989) recommended that mentors should never be required to formally evaluate the performance of beginning teachers because it could negatively affect the mentoring relationship.

Simon (1989) focused on the induction process from the perspective of the mentor. Mentors perceived their role to be one of personal assistance and psychological support. Benefits of being a mentor consisted of increased dedication toward teaching, and professional growth. Mentors suggested that beginning teachers be allowed to select their own mentor(s). Simon recommended that mentor-induction programs not become over-formalized, as mentoring is an informal and naturally occurring process.

Mundt (1991) found that high school principals essentially dismissed the behaviors and feelings of beginning teachers as being typical reactions during the induction process. One principal commented: “I think that he would have liked more supervision-but he will grow out of it” (p. 22). Mundt raised the issue of what can be reasonably expected from a beginning agriculture teacher, when considering their management responsibilities for multiple components of an agricultural education program. Talbert, Camp, and Camp (1994) reported that little research has been conducted on the unique problems and needs of beginning agriculture teachers. Several studies recommended that educational stakeholders should work together to guide and nurture beginning teachers (Joerger & Boettcher, 2000; Mundt & Connors, 1999; Talbert et al., 1994). Further, the literature noted that mentor programs should extend into the second year of teaching (Simon, 1989; Simon & Wardlow, 1989).

In Missouri, the legislature passed the 1985 Excellence in Education Act. As a result, school districts were required to provide professional development programs for all teachers, and an assigned mentor to beginning teachers (Wilkinson, 1997). From a review of literature, it was discovered that a study of beginning agriculture teachers’ participation in mentorship and induction activities has never been conducted in Missouri. The results of the study will assist

educational stakeholders to better meet the professional development needs of beginning agriculture teachers.

Purpose and Objectives

The purpose of the study was to determine the induction activities of first-year agriculture teachers in a Missouri, with emphasis on the program management and professional development assistance provided by school districts and mentors. The specific questions this study sought to answer were:

1. What induction activities were provided to first-year agriculture teachers by school districts at the beginning of the school year?
2. Did first-year agriculture teachers receive program management assistance from within their school district, and to what extent were they satisfied with the assistance?
3. Where did first-year agriculture teachers receive professional development assistance, and to what extent was the assistance helpful?
4. What were the demographic characteristics of first-year agriculture teachers, their teaching environment, and their formal mentors?

Methods and Procedures

Survey research methods were utilized to collect data for the study. The population consisted of agriculture teachers in their first year of teaching at high schools or area vocational technical schools in Missouri during the 2000-2001 academic school year ($N = 31$). The population frame for the study was obtained from the State Professional Development Specialist. The entire population of first-year teachers was surveyed.

The data collection instrument was created by modifying a previously developed questionnaire (Wilkinson, 1997), and drew heavily from previous research conducted by Mundt and Connors (1999). The researchers also developed some new items to be more applicable to the beginning teacher experiences in Missouri. Former agriculture teachers served as the expert panel, and were asked to review the instrument for content and face validity. Several changes pertaining to clarity and formatting of the questionnaire were made as a result of the expert panel input.

The data collection instrument was comprised of four parts. The first part requested that first-year agriculture teachers indicate ‘yes’ or ‘no’ to several questions regarding the induction activities provided by the school district at the beginning of the school year. Respondents were also asked in an open-ended question to identify additional induction information that would have been useful at the start of their first year of teaching. The second part of the questionnaire asked respondents to indicate (yes or no) whether they had received program management assistance in 19 different areas. If first-year teachers answered ‘yes’ to receiving program management assistance, they were asked to indicate the extent of their satisfaction with the assistance. A five point Likert-type scale comprised of 1 = not satisfied and 5 = very satisfied was utilized to capture the information. In addition, an open-ended question asked beginning

teachers to identify additional program management assistance that would have been helpful during the first year of teaching.

In the third part of the questionnaire, first-year agriculture teachers were requested to indicate (yes or no) if they had received professional development assistance through various sources. If the respondents answered 'yes', they were asked to identify the extent to which the assistance was helpful by using a five point Likert-type scale (1 = not helpful and 5 = very helpful). The final part of the data collection instrument requested respondents to report demographic information related to the community, school, agriculture education program, their formal mentor, and themselves.

The data collection instrument was administered to agriculture teachers at the start of their second year of teaching. Questionnaires were collected from 21 respondents during a beginning teacher induction program. Teachers who were unable to attend the program were contacted by telephone to explain the study, and were mailed a cover letter, the data collection instrument, and a self-addressed, postage paid envelope. Follow-up telephone calls were made one week later requesting questionnaires from non-respondents. Completed data collection instruments were received from 30 respondents, which resulted in a 96.7% response rate.

Data were entered into a personal computer and analyzed using SPSS 10.0. Descriptive statistics were used to summarize and analyze the data since the purpose of the study was to describe the characteristics of the respondents, and their perception of the assistance they received as a first-year teacher.

Results and Findings

The first objective sought to describe the induction activities provided to first-year agriculture teachers by school districts at the beginning of the school year. Ninety percent of the respondents stated that they were given an orientation to the school buildings and facilities before school began. A majority of first-year teachers reported that they were made aware of the school policies and other procedural information, either verbally (87%) or in printed form (83%). Sixty percent of the respondents indicated that the school administrator made his/her expectations clear regarding the level of teaching performance desired.

Thirteen first-year teachers responded to the open-ended question that asked for identification of additional induction activities that would have been useful at the beginning of the school year. The most common (n = 6) response was the need to have more assistance with completing forms, reports, applications, and other paper work. Another group of respondents (n = 5) indicated that more interaction with faculty and staff earlier in the school year would have been desired. One first-year teacher reported that the advice of a formal mentor was needed before school started, but that they were not assigned a formal mentor until later in the school year. First-year agriculture teachers reported that they valued the experiences of current teachers and wished to learn from them. As one beginning teacher stated, "My best advice to all future first year teachers is don't be afraid to ask questions and ask early."

The second research question sought to discern whether first-year agriculture teachers received program management assistance from within their school district, and to what extent were they satisfied with the assistance. Sources of assistance and/or advice were determined to be other faculty members, parents, and school administrators. As shown in Table 1, respondents reported parents (96.7%) and other faculty members (96.7%) as the most common sources of program management assistance. First-year agriculture teachers indicated a higher level of satisfaction with the assistance from parents (M = 3.86) compared to other faculty members (M = 3.55). School administrators were identified by less than half (46.7%) of the respondents as providing program management assistance. Respondents were mixed in their level of satisfaction (M = 3.07) regarding the advice received from school administrators.

Table 1
Program Management Assistance Received Within the School District and Perceived Level of Satisfaction (n = 30)

Program Management Assistance	Received Assistance	Level of Satisfaction	
	%	*M*[a]	*SD*
Sources of Assistance/Advice			
Parents (in support of your program)	96.7	3.86	1.09
Other faculty members	96.7	3.55	0.95
School administrator (in making decisions)	46.7	3.07	1.33
Areas of Assistance/Advice			
Classroom supplies and materials	73.3	3.86	1.21
Supplies and equipment for the program/laboratory	66.7	3.65	1.23
Individual differences of students	66.7	3.40	1.14
Classroom/laboratory management	53.3	3.56	1.15
Advisory committee	53.3	3.31	1.08
FFA fund-raising activities	51.7	3.53	1.19
Role as FFA advisor	43.3	3.23	1.24
Teaching methods	36.7	3.64	0.81
Summer program	36.7	3.09	1.14
FFA officer elections	26.7	4.13	1.13
Student recruitment	26.7	3.38	1.06
Time management	26.7	2.88	0.99
Balancing personal/professional responsibilities	23.3	2.86	1.07
Development of lesson plans	20.0	3.50	1.05
SAE programs	20.0	3.43	0.98
Adult education in the program	20.0	3.17	1.47

[a] 1 = Not Satisfied, 5 = Very Satisfied

As indicated in Table 1, first-year agriculture teachers most commonly received program management assistance with obtaining classroom supplies and materials (73.3%), purchasing supplies and equipment for the program/laboratory (66.7%), and addressing the individual

differences of students (66.7%). Respondents indicated lower levels of program management assistance in regard to FFA officer elections (26.7%), student recruitment (26.7%), time management (26.7%), balancing personal/professional responsibilities (23.3%), development of lesson plans (20.0%), SAE programs (20.0%), and adult education (20.0%).

First-year agriculture teachers were the most satisfied with program management assistance regarding FFA officer elections ($M = 4.13$). The lowest rated means for level of satisfaction regarding program management assistance were time management ($M = 2.88$), and balancing personal/professional responsibilities ($M = 2.86$). Approximately 50% of the respondents did not receive program management assistance in 13 of the 16 areas (Table 1).

Responses were obtained from 11 first-year agriculture teachers regarding the open-ended question pertaining to program management assistance. Respondents were asked to identify program management assistance (beyond that which they received) that would have been helpful during their first year of teaching. Approximately 25% ($n = 3$) indicated that they would have liked for their administrator to have been more helpful and knowledgeable about the agricultural education program.

The third research objective was to determine where first-year agriculture teachers received professional development assistance, and to what extent the assistance was helpful. As revealed in Table 2, first-year teachers indicated the most common sources of professional development assistance were the formal mentor in the local school (93.3%), workshops or seminars on teaching/teaching skills improvement (90.0%), and an agriculture teacher in another school (86.7%). The highest mean scores for level of perceived helpfulness regarding professional development assistance were another teacher in the local school identified as an informal mentor ($M = 4.30$) and an agriculture teacher in another school ($M = 4.12$).

Table 2
Professional Development Assistance Received and Perceived Level of Helpfulness ($n = 30$)

Professional Development Assistance	Received Assistance	Level of Helpfulness	
	%	*M*[a]	*SD*
Formal mentor in local school	93.3	3.61	1.29
Workshops or seminars on teaching/teaching skills improvement	90.0	3.73	1.00
Agriculture teacher in another school	86.7	4.12	1.07
Another teacher in local school identified as an informal mentor	66.7	4.30	0.73
Formal staff development program for beginning teachers	60.0	3.22	1.31
Scheduled meetings with formal mentor	26.7	3.63	1.30
Scheduled meetings with other beginning teachers	26.7	2.88	1.36

[a] 1 = Not Helpful, 5 = Very Helpful

Figure 1 identifies the subject area categories of formal mentors. There were equal percentages of formal mentors in the subject area categories of core subjects (29%, $n = 8$), agricultural education (29%, $n = 8$), and career and technical (29%, $n = 8$). The subject area

categories of formal and informal mentors were defined as follows: 'Career and Technical' included vocationally certified instructors other than agricultural education. 'Core Subjects' were English, math, science, and social studies. The 'Other' category of formal mentors included non-vocationally certified technology instructors. The 'Other' category of informal mentors included teachers of band, chorus, keyboarding, physical education, Spanish, and special education. 'Administration' included superintendents, assistant principals, counselors, and athletic directors.

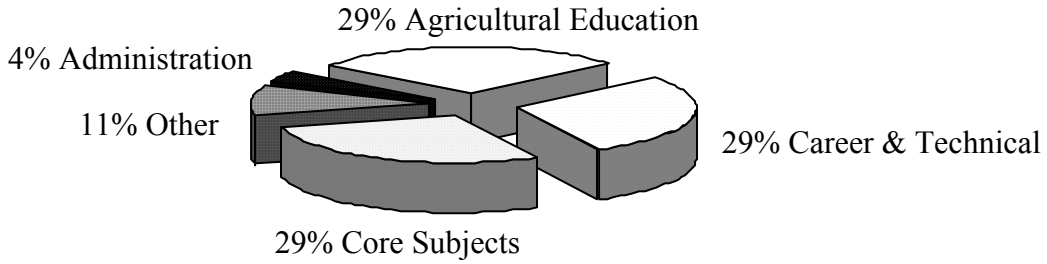

Figure 1. Subject area categories of formal mentors.

The subject area categories of informal mentors are identified in Figure 2. Slightly over one-third (35%) of the informal mentors taught core subjects.

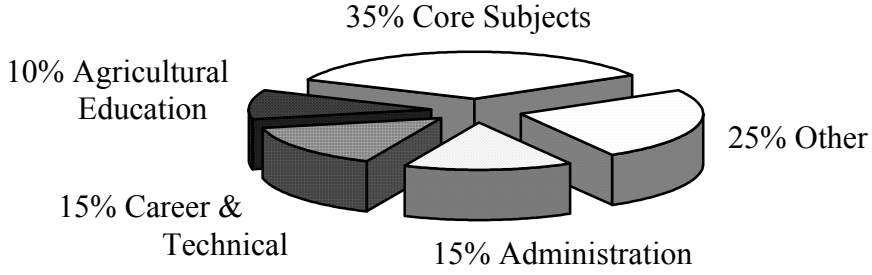

Figure 2. Subject area categories of informal mentors.

First-year agriculture teachers' perceived level of helpfulness of formal and informal mentors by subject area is summarized in Table 3. The highest mean scores for perceived level of helpfulness of formal mentors were in the subject area categories of administration (5.00) and agricultural education (4.25). When asked for the perceived level of helpfulness of their informal mentor, first-year agriculture teachers gave the highest marks to the subject area categories of administration *(M* = 4.67) and agricultural education (*M* = 4.50). Overall, first-year agriculture teachers indicated that informal mentors (*M* = 4.30) were more helpful than formal mentors (*M* = 3.61).

Table 3
Perceived Level of Helpfulness of Formal Mentor and Informal Mentors by Subject Area

	Formal Mentor (n = 28)			Informal Mentor (n = 20)		
Subject Area	n	M[a]	SD	n	M[a]	SD
Administration	1	5.00	n/a	3	4.67	0.58
Agricultural Education	8	4.25	0.71	2	4.50	0.71
Other	3	3.67	1.53	5	4.00	0.71
Career & Technical	8	3.50	1.41	3	4.00	1.00
Core Subjects	8	2.87	1.36	7	4.43	0.79

Note. Grand mean for formal mentors = 3.61, Grand mean for informal mentors = 4.30
[a] 1 = Not Helpful, 5 = Very Helpful.

Using a five point Likert-type scale (1 = not significant and 5 = significant), first-year agriculture teachers were asked to indicate the significance that their formal mentor had on their decision to teach a second year. Twenty-eight percent of first-year agriculture teachers indicated that their formal mentor had a significant influence (response scale 4 or 5) on their decision to teach a second year. Over half (53%) of the first-year teachers reported their formal mentor was relatively insignificant (response scale 1 or 2) in their decision to teach a second year.

The fourth objective of this study was to identify the demographic information of the first-year agriculture teachers, their teaching environment, and their formal mentors. The mean age of first-year teachers was 27.6, with a range from 22 to 43 years. Twenty (67%) of the first-year teachers were male, while 10 (33%) were female. Most of the first-year teachers had a Bachelors of Science degree (87%), while a few had already obtained a Masters degree (13%).

Schools of first-year teachers were located in communities with a median population of 1000-2500 people. Ninety percent of first-year teachers taught in comprehensive high schools, while 10% taught in an area vocational technical school or career center. Respondents reported their school teaching schedules as follows: 7-period schedule (43%), 8-block system (40%), 10-block system (10%), 8-period schedule (3%), and a combination of blocks and periods system (3%). First-year agriculture teachers taught in high schools with a mean enrollment of 271 students (SD = 143), while the mean number of students in the agricultural education program was 92 (SD = 49).

Sixty percent of first-year teachers were in a single-teacher agricultural education program, 37% were in a two-teacher department, and only one (3%) was in a three-teacher program. Seventeen (57%) did not have an SAE visitation period, while thirteen (43%) did. The mean planning time provided per day was approximately 65 minutes, with a range from 15 to 90 minutes per day.

The mean years of teaching experience of formal mentors was 17.5, with a range of 7 to 30 years. There were 20 (71%) males and 8 (29%) females serving as formal mentors in the school districts of first-year teachers. Sixty-two percent of formal mentors had earned a Masters Degree.

Conclusions, Implications, and Recommendations

It can be concluded from the responses provided by this cohort group of first-year agriculture teachers that most received an induction to school buildings, facilities, school policies, and procedural information at the beginning of the school year. However, they were not prepared for the onslaught of paper work required of today's educators, and indicated that additional assistance would have been helpful. First-year teachers desired for even more time to interact with experienced teachers, and they recognized the importance of establishing communication with mentor teachers early and often at the beginning of the school year.

An implication for teacher educators is that preservice teachers should be exposed to a collaborative structure that focuses on peer mentoring. The concept of being an isolated first-year teacher should be combated, especially during student teaching. The sharing of best practices, instructional plans, group problem solving, and other mentoring activities should take place during seminars or student teaching meetings. Teacher educators should require student teachers to complete local school district and department of education forms (i.e., monthly travel forms, SAE supervision reports, etc.) during their student teaching experience. Appropriate discussion time should be devoted to explaining their completion, either during student teaching, or by state department of education personnel during induction meetings.

It is recommended that the matching of formal mentors with first-year teachers be conducted in advance of the start of the school year. School districts and administrators should facilitate this assignment process so that meaningful and helpful assistance can take place before the first day of school begins. Extended contract days for teachers might be necessary for this induction practice to occur, and if so, school board members and legislators should be made aware of this need. Furthermore, it is recommended that additional research be conducted on strategies to match formal mentors with beginning teachers.

Almost all first-year agriculture teachers indicated that they received program management assistance, advice, and support from parents and other faculty members in the school district. This finding concurs with previous research indicating the importance of parental support (Joerger & Boettcher, 2000). In contrast, less than half of the first-year teachers received assistance from their administrators in making program management decisions, and satisfaction with the assistance was mixed. This finding raises the issue of whether first-year agriculture teachers are asking administrators for their input and program management suggestions. Could it be that administrators trust the program management skills of first-year teachers and do not wish to micro-manage the agricultural education program? Or might it also be concluded that there are barriers to communication with administrators? School administrators should be encouraged to take a more proactive role in the mentorship of first-year teachers. In concert, first-year teachers should regularly communicate with their building administrator, and seek their advice and input. It is recommended that future research be conducted on the role that administrators play in the mentorship of first-year agriculture teachers.

Further, it is recommended that preservice courses and induction programs for first-year agriculture teachers include sessions on developing administration relationships. It appears that strategies to inform and involve administrators in the agricultural education program are needed

by beginning teachers. It is also recommended that future research attempt to determine the sources of where first-year agriculture teachers seek program management assistance, and the extent of their satisfaction with the assistance. This study only sought to determine the program management assistance received from three sources (faculty, administration, parents) within the school district of the first-year teacher.

It was concluded that first-year teachers received very little program management assistance in a variety of areas. Most first-year teachers were provided with assistance regarding ordering supplies and materials for the classroom and laboratory, but they were less likely to receive assistance in a number of areas that were unique to an agricultural education program. Some of the most difficult challenges facing beginning teachers are time management and balancing personal/professional responsibilities (Simon & Wardlow, 1989; Talbert et al., 1994; Mundt & Connors, 1999; Joerger & Boettcher, 2000). Only a small percentage of first-year teachers reported receiving assistance in these two areas, and their level of satisfaction with that assistance was low. It is recommended that school districts and/or agricultural education stakeholders conduct professional development programs that address time management and balancing personal/professional responsibility needs of first-year teachers.

From the results of this study, it appears that most first-year agriculture teachers had access to formal and informal mentors. It can be implied that first-year teachers are utilizing several mentors to assist them during the induction process. However, it was disconcerting that two of the 30 first-year agriculture teachers did not have a district assigned formal mentor, even though this support is mandated by legislation. Although formal mentors are assigned to provide professional development assistance for first-year teachers, it appears that informal mentors may be more helpful. The majority of the respondents in this study indicated that a teacher within the school district and an agriculture teacher located outside the local school district were more helpful in providing professional development assistance than the formal mentor. In contrast to previous research (Galvez-Hjornevik, 1985; Odell & Ferraro, 1992, Simon, 1989), the study found that only 28% of first-year teachers indicated that formal mentors had a significant influence on their decision to teach a second year. It is recommended that further research should be conducted on the dyad of beginning teacher and informal mentor to gain a better understanding of this relationship.

The majority of first-year teachers reported receiving assistance from an agriculture teacher in another school, and the level of helpfulness was high. It is recommended that this type of mentorship be promoted in a more organized manner. There are implications that an agriculture teacher in another school district can provide valued assistance and guidance for a beginning agriculture teacher. The state department of education, universities, and/or the state agriculture teachers' organization should consider organizing this type of program.

Formal mentoring programs can be helpful in contributing to the success of beginning agriculture teachers. However, it is recommended that first-year agriculture teachers pursue all available sources of assistance during their induction into the profession. The unique needs of first-year teachers require a 'constellation of mentors' to assist in the growth of novice teachers.

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The Induction of Novice Teachers: A Study of First-Year Agricultural Teachers in Missouri

A Critique
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This study used a mail survey to collect data from the entire population of first year agricultural education teachers in Missouri. A number of studies dealing with teacher induction in general and in agricultural education in particular have been conducted over the last 15 years or so, but it is good to see state-specific studies. The authors correctly, in my opinion, identified the process of teacher induction to be an area that still warrants research in the agricultural education community. Their use of a dynamic systems model for the theoretical basis for the study is interesting, but a more complete explanation of the concept is needed to judge its advantage over a more traditional stage theory framework such as that advanced by Ryan (1986). I believe that the authors' approach might provide a very illuminating way to look at the induction process.

The topic of the research is an important one. The introduction provides a solid rationale for the study. The paper is very well written and the problem was established cleanly and succinctly. The design was suitable for the research questions. The analysis is appropriate and the conclusions and recommendations flow cleanly from the findings. Graduate students who want to see a an illustration of the logical flow that we should all strive for in our research papers may want to read this paper twice: once for the content and then a second time for the mechanics of research reporting.

Several questions to consider:

1. Researchers frequently get confusing or surprising results from descriptive surveys that leave us wondering what is really going on in the respondent's minds. With such small numbers, a qualitative study would have been practical. What findings from the data analysis would you have explored in more depth if you had been able to conduct face-to-face interviews or focus group sessions?

2. The fact that the school system is as much an impediment to successful teacher induction as a facilitator is nothing new. Now that you have found that school administrators are part of the problem in Missouri, what can we do as university researchers to help correct that situation?

3. As you compare your findings to the teacher induction studies in agricultural education and in the broader fields of career and technical education and education in general, can you identify any improvements in practice that have resulted from the other research you reviewed in the past 15-20 years?

Ryan, K. (1986). *The induction of new teachers*. Bloomington, IN: Phi Delta Kappa Education Foundation.