

Agricultural Education Research Summary Report

**EXPLORING A MODEL FOR TEACHER RECRUITMENT AND
RETENTION IN AGRICULTURAL EDUCATION
BASED ON CAREER COMMITMENT AND TEACHER
EFFICACY OF STUDENT TEACHER AND NOVICE
TEACHERS IN ILLINOIS**

prepared by

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Exploring a Model for Teacher Recruitment and Retention in Agricultural Education Based on Career Commitment and Teacher Efficacy of Student Teacher and Novice Teachers

Introduction

The purpose of this project was to assess teacher efficacy regarding career commitment and anticipated career longevity of student teachers and novice teachers in agricultural education. A census of student teachers and novice teachers (1st, 2nd, and 3rd year teachers) in agricultural education in Illinois was surveyed to determine selected teacher characteristics, their efficacy beliefs (teacher confidence) about their teaching abilities, and career commitment in agricultural education.

This study addressed the FY03 Mini-Research Project Topic #2, “Determine models for teacher recruitment and retention.” Researchers have found that teachers who believe they can make a difference in helping students learn, and who display the confidence in their abilities to teach, tend to see greater achievement from their students, and are more likely to remain in the teaching profession (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). It is important that beginning teachers develop a belief in their own abilities to teach. “If teachers go into their first year of teaching without the belief that they can make a difference, chances are pretty good that they may never develop such an attitude” (Burley, Hall, Villeme, & Brockmeier, 1991, p. 15).

Teacher commitment is the psychological attachment one has to the teaching profession (Chapman, 1983). Researchers have found that committed teachers were intrinsically motivated, satisfied with their career choice, and intended to stay in the profession (Raju & Srivastava, 1994). Moreover, teachers think about how long they anticipate to stay in the teaching profession based on their personal needs and motives related to the teaching profession. If teacher efficacy plays such a critical role in performance, persistence, professional commitment, and career longevity, there was a need to investigate teacher efficacy of student teachers and novice teachers in agricultural education in Illinois.

Objectives

The overall goal of this project was to determine teacher characteristics, teacher efficacy, career commitment, and anticipated career longevity of student teachers and novice teachers in agricultural education in Illinois. The specific objectives of this research project were to:

1. Describe the teachers based on selected teacher characteristics, teacher efficacy, career commitment, and anticipated career longevity;
2. Describe the difference in teacher efficacy between student teachers and novice teachers with lower career commitment and their counterparts with higher career commitment;

3. Describe the difference in teacher efficacy between student teachers and novice teachers with lower anticipated career longevity and their counterparts with higher anticipated career longevity;
4. Explore the relationships between teacher characteristics, teacher efficacy, career commitment, and anticipated career longevity; and,
5. Determine if there was a model of fit for teacher recruitment and retention based on teacher characteristics, teacher efficacy, career commitment, and anticipated career longevity.

Methods

The following procedures were completed to address the objectives of this research project. This project was evaluated based upon the successful implementation of the research procedures outlined, response rate of teachers, reliability and validity of the findings, and if a model-of-fit was found from the study. Implications of the findings and data were assessed regarding further research, concept development, pre-service/in-service teacher development programs, and teacher characteristics related to recruitment and retention.

1. Although an existing instrument for teacher characteristics and teacher efficacy was used, new items were developed to measure career commitment and anticipated career longevity by the researcher.
2. The new items for career commitment and anticipated career longevity were pilot-tested for reliability and field-tested for validity by preservice teachers and graduate students in agricultural education who did not participate in the study.
3. The contact information of student teachers and novice teachers in agricultural education was collected and entered into a database for mailing purposes.
4. A mailed questionnaire survey was conducted to collect the data. The student teachers and novice teachers were contacted up to five times to maximize the response rate through a prenotice message, questionnaire with a cover letter, postcard thank you and reminder, phone call, and replacement questionnaire with a cover letter. Incentives were provided to the participants.
5. The questionnaires were entered into a computerized data analysis software program and analyzed using descriptive statistics. Multiple linear regression analysis was conducted to determine if there is a model-of-fit.

Findings

There were 26 out of 29 (90%) student teachers from Illinois State University, Southern Illinois University, University of Illinois, and Western Illinois University, and 66 out of 82 (80%) novice teachers who participated in the study. Eighty-five percent of the student teachers plan to teach in agricultural education. Seventeen percent of the novice teachers agreed that they would not teach next year.

Objective # 1

The first objective sought to describe the student teachers and novice teachers based on selected teacher characteristics, teacher efficacy, career commitment, and anticipated career longevity. Teacher characteristics were reported in Tables 1.1, 1.2, 1.3, 1.4, 1.5, 1.6 and 1.7. Sixty-five percent of the student teachers were enrolled in high school agricultural education programs and FFA for four years (Table 1.1). Eighty percent of the novice teachers were enrolled in high school agricultural education programs and FFA for one year or more. A little more than half of the novice teachers were enrolled in high school agricultural education program and FFA all four years.

Table 1.1: Years of Involvement in a High School Agricultural Education Program and FFA for Student Teachers (*N* = 26) and Novice Teachers (*N* = 59)

Years of HS Ag. Ed. and FFA Involvement	None	One	Two	Three	Four
Student Teachers (Ag. Ed.)	31%	4%	0%	0%	65%
Student Teachers (FFA)	35%	0%	0%	0%	65%
Novice Teachers (Ag. Ed.)	20%	5%	5%	14%	56%
Novice Teachers (FFA)	20%	5%	3%	14%	58%

Of those who were FFA members, 54% of the student teachers of the student teachers were chapter officers and 11% were state officers (Table 1.2). Of those who were in FFA, 58% of the novice teachers were chapter officers and 10% were state officers.

Table 1.2: Levels of Leadership Positions in the FFA for Student Teachers (*N* = 26) and Novice Teachers (*N* = 59)

Leadership Positions in FFA	N/A	Chapter Officer	State Officer
Student Teachers	35%	54%	11%
Novice Teachers	32%	58%	10%

Seventy-three percent of the student teachers held a leadership position in a college organization (Table 1.3). Sixty-seven percent of the novice teachers held a leadership position in a college organization.

Table 1.3: Leadership Positions in a College Organization for Student Teachers (*N* = 26) and Novice teachers (*N* = 58)

Leadership Position in College Organizations	No	Yes
Student Teachers	27%	73%
Novice Teachers	33%	67%

Forty-eight percent ($N = 32$) of the novice teachers had a mentor (Table 1.4). Of those who had a mentor, 94% agreed that their mentors were competent and supportive.

Table 1.4: Frequencies on Novice Teachers' ($N = 32$) Perception of Mentor Competence and Support

Mentor	Strongly Disagree	Mod. Disagree	Slightly Disagree	Slightly Agree	Mod. Agree	Strongly Agree
Competence	3%	0%	3%	12%	16%	66%
Support	3%	3%	0%	9%	19%	66%

All the student teachers agreed that they had an excellent student teaching experience (Table 1.5). Eighty-eight percent of the novice teachers agreed that they had an excellent student teaching experience. Eighty-five percent of the novice teachers agreed that they had an excellent first-year teaching experience.

Table 1.5: Frequencies on Perception of Student Teaching Experience and the First-Year of Teaching

Perception	Strongly Disagree	Mod. Disagree	Slightly Disagree	Slightly Agree	Mod. Agree	Strongly Agree
Student Teaching (ST, $N = 26$)	0%	0%	0%	12%	19%	69%
Student Teaching (NT, $N = 64$)	5%	2%	5%	12%	27%	49%
First Year (NT, $N = 66$)	4%	5%	6%	21%	41%	23%

Forty-nine percent of the novice teachers agreed that being an agriculture teacher takes too much time away from my family and personal interests (Table 1.6). Forty-one percent of the novice teachers agreed that they questioned their career choice at least once a week.

Table 1.6: Frequencies on Novice Teachers' Perception of Spending too much Time as an Agriculture Teacher ($N = 66$) and Questioning their Career Choice ($N = 65$)

Perception	Strongly Disagree	Mod. Disagree	Slightly Disagree	Slightly Agree	Mod. Agree	Strongly Agree
Being an agriculture teacher takes too much time away from my family and personal interests	11%	21%	20%	17%	23%	9%
Questioned career choice at least once a week	23%	17%	19%	18%	11%	12%

Student teachers believed they had some influence on the teaching-learning process and novice teachers believed they had some to quite-a-bit of influence on the teaching-learning process (Table 1.7). Student teachers' career commitment was 4.6 and novice teachers' career commitment was 4.2. Student teachers anticipated that they would teach 19 years and novice teachers anticipated that they would teach 15 years. In comparison between student teachers and novice teachers, there was a large effect size for teacher efficacy, and small effect sizes for career commitment and anticipated career longevity.

Table 1.7: Teacher Efficacy, Career Commitment, and Anticipated Career Longevity of Student Teachers and Novice Teachers

	Teacher Efficacy ^A	Career Commitment ^B	Anticipated Career Longevity ^C
Student Teachers	5.1 (1.64) <i>N</i> = 26	4.6 (.83) <i>N</i> = 26	19 (11.95) <i>N</i> = 23
Novice Teachers	6.6 (.86) <i>N</i> = 66	4.2 (.86) <i>N</i> = 66	15 (11.79) <i>N</i> = 61
Effect Size	1.32 Large	.46 Small	.37 Small

Scales: ^A: 1 = Nothing, 3 = Very Little, 5 = Some Influence, 7 = Quite A Bit, 9 = A Great Deal

^B: 1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Moderately Agree, 6 = Strongly Agree

^C: Number of years expected to stay in the profession of teaching agriculture

Objective # 2

The second objective sought to describe the difference in teacher efficacy between student teachers and novice teachers with lower career commitment and their counterparts with higher career commitment (Table 2.1). Student teachers with lower career commitment had a mean of 4.7 on teacher efficacy. Comparably, student teachers with higher career commitment had a mean of 5.4 on teacher efficacy. Novice teachers with lower career commitment had a mean of 6.4 on teacher efficacy. Comparably, novice teachers with higher career commitment had a mean of 6.8 on teacher efficacy. Both comparisons had small effect sizes.

Table 2.1: Comparison of High and Low Career Commitment and Teacher Efficacy

	Student Teacher Efficacy	Novice Teacher Efficacy ^B
Low Career Commitment	4.7 (1.56) <i>N</i> = 13	6.4 (1.02) <i>N</i> = 32
High Career Commitment	5.4 (1.70) <i>N</i> = 13	6.8 (.63) <i>N</i> = 32
Effect Size	.42 Small	.40 Small

Scale: 1 = Nothing, 3 = Very Little, 5 = Some Influence, 7 = Quite A Bit, 9 = A Great Deal.

Objective # 3

The third objective sought to describe the difference in teacher efficacy between student teachers and novice teachers with lower anticipated career longevity and their counterparts with higher anticipated career longevity (Table 3.1). Student teachers with lower anticipated career longevity had a mean of 5.1 on teacher efficacy. Comparably, student teachers with higher anticipated career longevity had a mean of 5.1 on teacher efficacy. Novice teachers with lower career commitment had a mean of 6.4 on teacher efficacy. Comparably, novice teachers with higher career commitment had a mean of 6.7 on teacher efficacy. The comparison for student teachers had no effect size, and the comparison for novice teachers had a small effect size.

Table 3.1: Comparison of High and Low Anticipated Career Longevity and Teacher Efficacy

	Student Teacher Efficacy	Novice Teacher Efficacy ^B
Low Anticipated Career Longevity	5.1 (1.88) <i>N</i> = 11	6.4 (.98) <i>N</i> = 36
High Anticipated Career Longevity	5.1 (1.42) <i>N</i> = 12	6.7 (.62) <i>N</i> = 25
Effect Size	.01 None	.41 Small-to-medium

Scale: 1 = Nothing, 3 = Very Little, 5 = Some Influence, 7 = Quite A Bit, 9 = A Great Deal.

Objective # 4

The fourth objective sought to explore the relationships between four selected teacher characteristics, teacher efficacy, career commitment, and anticipated career longevity (Table 4.1). Having a mentor had a low relationship with teacher efficacy. High school

agricultural education enrollment, FFA membership, and leadership position in college had negligible relationships with teacher efficacy. Three teacher characteristics had low relationships with career commitment and one had a negligible relationship with career commitment. Having a mentor was moderately related to anticipated career longevity. Three teacher characteristics had low relationships with anticipated career longevity.

Table 4.1: Relationships of Selected Teacher Characteristics between Teacher Efficacy, Career Commitment, and Anticipated Career Longevity

Teacher Characteristics	Teacher Efficacy	Career Commitment	Anticipated Career Longevity
HS Ag. Ed. Enrollment	-.08 (.49) <i>N</i> = 85 Negligible	.15 (.18) <i>N</i> = 85 Low	.15 (.19) <i>N</i> = 78 Low
FFA Membership	-.07 (.55) <i>N</i> = 85 Negligible	.13 (.24) <i>N</i> = 85 Low	.10 (.37) <i>N</i> = 78 Low
Held a Leadership Position in College	-.03 (.82) <i>N</i> = 84 Negligible	.06 (.58) <i>N</i> = 84 Negligible	-.12 (.29) <i>N</i> = 77 Low
Had a Mentor	.25 (.04) <i>N</i> = 90 Low	.29 (.02) <i>N</i> = 90 Low	.37 (.00) <i>N</i> = 82 Moderate

Nine relationships were moderate as indicated by bold-faced text. Novice teachers believed that teaching agriculture takes too much time away from personal and family interests was moderately related with teacher efficacy (Table 4.2). Anticipated career longevity, first-year teaching experience, and too much time were had moderate positive relationships with career commitment. Novice teachers' perception of questioning their career choice had a moderate negative relationship with career commitment. Novice teachers' perception of their first-year teaching experience and teaching taking too much time had moderate, positive relationships with anticipated career longevity. Novice teachers' perception of their first-year teaching experience had a positive, moderate relationship with teaching taking too much time, and had a negative, moderate relationship with questioning career choice.

Table 4.2: Relationships Between Teacher Perceptions, Teacher Efficacy, Career Commitment, and Anticipated Career Longevity

Variables	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇
Teacher Efficacy (X ₁)	-	.09	-.01	.06	.24	.31	-.24
Career Commitment (X ₂)		-	.47	.19	.37	.40	-.40
Career Longevity (X ₃)			-	.16	.32	.32	-.19
ST Experience was Excellent (X ₄)				-	.10	.17	.05
1 st Year of Teaching was Excellent (X ₅)					-	.42	-.43
Teaching Takes Up Too Much Time (X ₆)						-	-.25
Questioning Career Choice (X ₇)							-

Note. The perception scale for X₁: 1 = Nothing, 3 = Very Little, 5 = Some Influence, 7 = Quite A Bit, 9 = A Great Deal.

X₂: 1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Moderately Agree, 6 = Strongly Agree.

X₃:: Amount of years expected to stay in the teaching profession

X₄, X₅, X₆, and X₇: 1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Moderately Agree, 6 = Strongly Agree.

Objective # 5

The fifth objective sought to determine if there was a model of teacher recruitment and retention based on teacher characteristics, teacher efficacy, career commitment, and anticipated career longevity. The student teachers were asked to rank the following factors in the order of importance in selecting a career (Table 5.1). Student teachers ranked touching people's lives and making an impact as their first choice among the six factors. Serving others was the second most important factors student teachers used to select a career. None of the student teachers ranked salary and benefits as their first choice.

Table 5.1: Rankings and Frequencies of Career Choice Factors (N = 26)

Career Choice Factors in Order of Importance	Percent who ranked first
1 st - Touching people's lives/making an impact	77%
2 nd - Serving others	54%
3 rd - Balance between career and personal time	15%
4 th - Opportunities for advancement/professional growth	12%
5 th - "Calling" to a career	8%
6 th - Salary and benefits	0%

A Regression Model of Teacher Recruitment

For the student teachers, two variables (career commitment and teacher efficacy) were analyzed simultaneously to determine if they would explain and predict the number of years the student teachers anticipated to teach. The model was significant ($p = .003$). Collectively, career commitment and teacher efficacy explained 40% ($R = .64$) of the

variance in anticipated career longevity. Independently, career commitment explained 35% of the variance in anticipated career longevity. Teacher efficacy did not contribute significantly to the model. Using the regression equation from this study, it can be predicted that agricultural education student teachers in Illinois who are committed to teaching agriculture and are efficacious would plan to teach approximately 20 years ($\text{Anticipated Years of Teaching} = -27 + (9.2)(\text{Career Commitment}) + (.2)(\text{Teacher Efficacy})$).

A Regression Model of Teacher Retention

For novice teachers, three variables (career commitment, had a mentor, and teacher efficacy) were analyzed simultaneously to determine if they could collectively explain and predict the number of years the novice teachers anticipated to teach. The model was significant ($p < .001$). Collectively, career commitment, having a mentor, and teacher efficacy explained 50% ($R = .71$) of the variance in anticipated career longevity. Independently, career commitment explained 36% of the variance in anticipated career longevity. Having a mentor independently explained 4% of the variance in anticipated career longevity. Teacher efficacy did not contribute significantly to the model. Using the regression equation from this study, it can be predicted that agricultural education novice teachers in Illinois who are committed to teaching as a career, have a mentor, and are efficacious would plan to teach approximately 26 years ($\text{Anticipated Years of Teaching} = -17 + (8.8)(\text{Career Commitment}) + (5.1)(\text{Mentor}) + (-1.0)(\text{Teacher Efficacy})$).

Conclusions/Recommendations

A model of recruitment and retention should be based on career commitment and mentoring. Student teachers should be recruited into the agricultural education based on their commitment to the teaching profession. Further, novice teachers in agricultural education are more likely to remain in the teaching profession if they are committed to the teaching profession and have a mentor. Upon career entry, it appears that the student teachers and novice teachers in this study plan to teach about 15 to 20 years. Further research should be conducted to determine if this reflects the actual career longevity of agriculture teachers in Illinois.

Prospective teachers should be recruited based on touching people's lives, making an impact, and serving others. Student teachers in this study ranked service to others as more important than some of the factors that were more self-serving such as balance between career and personal time, opportunities for advancement and professional growth, and salary and benefits. Several studies have reported that agricultural education graduates do not choose teaching as a career because they are lured away by higher salaries in business and industry (Camp, Broyles, & Skelton, 2002; Harper, 2000). This does not appear to be the case among these student teachers. Further, 85% of the student teachers planned to teach. This is much higher than the national average of 60% in agricultural education (Camp et al., 2002). These student teachers should be interviewed at various points in their early years as a teacher to determine if their motives helped them remain committed to the teaching profession. Moreover, experienced teachers

should be interviewed to determine which factors motivate them to stay (or want to leave) the teaching profession.

Career commitment was the most important variable that contributed to the number of years student teachers and novice teachers anticipate teaching agriculture in Illinois. Teacher educators, field advisors, and administrators should consider teacher commitment when admitting, placing, or hiring student teachers and novice teachers. Further studies should be conducted to determine the factors that contribute to teacher commitment. In addition, further research should be conducted to determine if teachers who feel that being an agriculture teacher takes too much time away from my family and personal interests leads to teacher turnover or less career commitment. Although many people may question their career choice, further studies should be conducted to determine why nearly half of the student teachers and novice teachers question their career choice at least once a week, and if this phenomena leads to teacher turnover or job dissatisfaction. The finding that 17% of the novice teachers do not plan to teach next year raised questions that should be investigated. What were their reasons? What is an appropriate percentage of leavers for agricultural education compared to other professions?

Mentoring contributed to anticipated career longevity in agricultural education. Half of the novice teachers had mentors. Nearly every teacher who had a mentor felt their mentor was a supportive mentor and competent teacher. Further, having a mentor contributed to the model of teacher retention among novice teachers in Illinois. All student teachers were in agreement that their student teaching experience was excellent. This could support that their cooperating teachers were effective mentors. Further studies should be conducted to determine why novice teachers were in less agreement regarding an excellent student teaching experience. Perhaps student teachers are a bit euphoric, and some novice teachers experienced “a reality check.” This phenomena may also be reflected in novice teachers being slightly less committed to their career.

Teacher efficacy did not contribute to the model of recruitment and retention. Teacher efficacy appears to increase with experience, while teacher commitment appears to decrease. As teachers gained confidence in their teaching abilities, they are probably more likely to stay in or leave the teaching due to factors that are related to career commitment and satisfaction. Although teacher efficacy has been very important in many other educational studies, perhaps the existing instrument, which measures teaching confidence, does not accurately measure the many roles that agricultural education teachers perform. Therefore, a new instrument should be developed to measure additional tasks such as managing and teaching in laboratories, program development and management, FFA supervision and coaching, and completing forms and applications. In addition, research should be conducted to determine why student teachers were less efficacious than novice teachers. Further, teacher efficacy should not be dismissed, based on one study, as an unimportant variable to teacher recruitment and retention. Teacher efficacy continues to be an important variable in education and perhaps it needs to be measured differently in agricultural education.

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