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## Current Status of Preservice Teacher Education Programs In Agriculture

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### Abstract

Preservice teacher education programs in agricultural education are administered in Colleges of Agriculture. The average preservice agricultural education program has 41 teaching majors educated by 1.7 full-time equivalent faculty members. Admission requirements into teacher education vary by institution. The curriculum/degree program preservice students complete to become certified teachers consists of 131 semester hours, including 45 semester hours in general education, 43 semester hours in technical agriculture, and 37 semester hours in professional education courses. Preservice students are also expected to complete coursework and experiences in multicultural education, exceptional children, computers/instructional technologies. Preservice teacher education students complete 60 clock hours of an early field experience in a local agricultural education program and complete student teaching for 12 weeks.

### Introduction

During the 1980s, national education reports criticized the way students were performing in the classroom and chronicled the need for the recruitment and preparation of talented individuals in the teaching profession. *A Nation at Risk* (National Commission on Excellence in Education, 1983) reported teaching majors should meet high educational standards, demonstrate an aptitude for teaching, and demonstrate competence in an academic discipline. The Holmes Group (1986) called for extended programs of teacher

education and stronger evaluations of candidates for entry, retention, and licensure in teacher education. *A Call for Change in Teacher Education* (National Commission for Excellence in Teacher Education, 1985) suggested that more rigorous academic and performance standards for admission into and graduation from teacher education programs was the solution to the problem of not having quality individuals entering the teaching profession.

Although teacher education programs have been held accountable for many of the perceived failures of public education, early education reports focused on curriculum reform for public school students and not that of preservice students (Lynch, 1990). These reports provided an impetus resulting in significant changes in teacher education and state-required certification in the mid 1980s. This impetus prompted a reform movement for school improvement to begin with upgrading the quality of those entering the teaching profession (Lynch and Griggs, 1989). This led to additional reform efforts that looked at teacher test scores, subject-matter credit or degree requirements, and hours or weeks of required clinical experiences in teacher preparation programs.

The dearth of research in teacher education has not helped answer the challenges brought forth by commission reports. Furthermore, research on vocational teacher education is relatively nonexistent. Lynch (1990) collected baseline data on preservice teacher education programs in the United States because such data was not included or segmented in larger studies on teacher education. Lynch's attempt provided the necessary data to formulate policy and teacher education reform decisions in vocational education. Data on agriculture teacher education programs was included in his study, but like in past research in teacher

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education, this data was not specifically segmented.

Requirements to both enter and exit a vocational teacher education program were a 2.5 cumulative GPA, a 2.5 GPA in an academic major, and a 2.5 GPA in education courses (Lynch, 1990). The curriculum anatomy of a vocational teacher education student was 128 semester hours required for graduation with 47 semester hours in general studies, 43 semester hours in teaching specialty courses, and 38 semester hours in professional studies (including student teaching).

In 1988, the Committee on Agricultural Education in Secondary Schools made six recommendations regarding teacher education in agriculture. The Committee recommended that: (1) applied learning be stressed as well as science, technology, economics, agribusiness marketing and management, international agriculture, and public policy strengthened; (2) technology transfer be improved; (3) partnerships be developed to deliver in-service programs; (4) centers be established for curriculum design; (5) linkages be developed with science, business, and educational technology; and (6) talented students be recruited into the teaching profession.

Cruickshank (1984) proposed a model to help guide inquiry in teacher education. Two components of Cruickshank's model were the context of teacher education and the curriculum in teacher education. The context of teacher education dealt with institutional characteristics of teacher education programs, like size of programs and composition of faculty and staff. Curriculum in teacher education referred to the nature and amount of the content of the preservice curriculum, including general education, professional education, and the teaching specialty.

Where does agriculture teacher education fall in the broad picture? If we are to meet the challenges brought forth by the Committee on Agricultural Education in the Secondary Schools (1988) to better prepare our students, how well is the profession currently preparing students? What are our admission requirements? What curriculum is being used? Before we can make substantial policy changes in teacher preparation in agriculture, our current status must be defined.

## Purpose and Objectives

The purpose of this study was to describe the current context and status of agriculture teacher education programs in the United States. Specific objectives of the study were to:

1. Describe the institutional characteristics of agriculture teacher education programs
2. Describe admission requirements of agriculture teacher education programs

3. Describe curricula completed by preservice students in order to graduate with a major in agricultural education

## Methods

The population for this study was all departments/programs at universities in the United States offering degree programs certifying agricultural education teachers (N = 85) during the 1995-96 academic year. These departments and programs were identified using the Directory of Teacher Educators in Agriculture (Shelhamer, 1995). The entire census was surveyed in the study.

A four-part mailed questionnaire was used to collect data on agricultural education departments/programs. Questions were developed using the Lynch (1990) study on vocational teacher education departments. Part one collected information regarding institutional characteristics of agriculture teacher education programs. The second part collected information regarding the admission requirements of preservice teacher education students. Information on curricula requirements for agricultural education majors was collected in part three. The final part identified instructional alternatives used by teacher educators when delivering the curricula for preservice teacher educators. Only data from the first three parts are included in this article.

Appropriate mailing and follow-up procedures, as outlined by Salant and Dillman (1994), were used in the study. Seventy-three of 85 departments/program area questionnaires had been returned after the third mailing for a response rate of 86%. To address non-response error, five departments/program areas that had not responded were contacted and asked a set of purposefully selected questions. No significant differences were found between responses from non-respondents and respondents, thus allowing the results to be generalized to the population.

Data were analyzed using the Statistical Package for the Social Sciences (SPSS Version 6.1 for Windows). Descriptive parameters, including frequencies, percentages, means, medians, modes, ranges, and standard deviations were used to organize, summarize, and analyze data.

## Findings

### Institutional Characteristics

Fifty-nine percent of departments/programs were located in a college of agriculture. Twenty-three percent were administered through colleges of education. Eighteen percent were administered either through colleges of business or technology.

Forty-six percent of the departments/programs had

the words “agricultural education” in their department name. Twenty-nine percent had department names relating to technical agriculture. Twenty-five percent of the departments/programs were in departments of vocational education, technology, or education (curriculum and instruction).

Eighty-six percent of the departments/programs were on the semester calendar system and 14% were on the quarter calendar system (Table 1). Eighty-one percent of the departments/ programs reported they had four-year degree certification programs, 18% had five-year degree certification programs, and 1% reported their degree certification program could be either a four-year or a five-year program (Table 1). Ninety-six percent of agriculture teacher education programs were accredited through a regional or national association while 4% of the programs were not accredited (Table 1).

Table 1. Institutional characteristics of agriculture teacher education programs (N = 73)

Characteristic	n	%
<b>Calendar Schedule</b>		
Quarter	10	14
Semester	63	86
<b>Length of Program</b>		
Four Year	59	81
Five Year	13	18
Either Four Year or Five Year	1	1
<b>Accredited</b>		
Yes	70	96
No	3	4

The number of teaching majors in departments/programs ranged from 0 to 200 students, with an average of 41 teaching majors per department/program (Table 2). The number of full-time equivalents (FTE's) devoted to agriculture teacher education in departments/ programs ranged from 0.00 to 6.12 with an average of 1.7 FTE's per department/program.

Table 2. Teaching majors and FTE's in agriculture teacher education programs (N = 73)

Characteristic	Mean	SD	Range	Mode	Median
Number of Teaching Majors	41.3		37.6 0 - 200	20	30
FTE's	1.7		1.3 0 - 6.12	1	1.5

### Admission Requirements

Sixty-seven departments/programs reported that a minimum grade point average (GPA) was required for admission into teacher education. Minimum GPAs required for admission into teacher education ranged from 2.00 to 3.00 (on a 4.00 point scale) with a median GPA of 2.50 (Table 3).

Twenty programs indicated they required no competency or basic skills tests for admission into teacher education (Table 3). Twenty-five programs required a minimum score on the American College Test (ACT). Minimum scores on the ACT for 20 institutions who provided this data ranged from 16 to 23 with a median ACT score of 20. Eleven programs required the Scholastic Aptitude Test (SAT), of which 8 reported the minimum combined verbal and quantitative score required. Minimum scores required on the SAT ranged from 800 to 1050 with a median SAT scored of 922. The Pre-Professional Skills Test (PPST) was an option for preservice student majors at 22 institutions, 20 of which provided the minimum scores required. Minimum scores required on the PPST Math portion ranged from 168 to 174 with a median score of 170. The median PPST Reading scored required was 172 (range = 169 to 176). Minimum PPST scores on the writing portion ranged from 170 to 175 with a median PPST writing score of 172.

Table 3. Admission requirements for agriculture teacher education programs

Criteria	n <sup>a</sup>	Median	Range
Grade Point Average	67	2.50	2.00-3.00
ACT Test	20	20	16-23
SAT Test	8	922	800-1050
PPST - Math	20	170	168-174
PPST - Reading	20	172	169-176
PPST Writing	20	172	170-175

<sup>a</sup>n = number of departments/programs providing this data

Forty-seven percent indicated that a personal interview was required for admission into teacher education. Seventy percent reported that letters of recommendation were for required for admission. The number of letters ranged from 1 to 4 with a median of 3.

A series of open-ended questions were asked about the desirable qualities departments/ programs looked for in teaching majors regarding suitable attitudes toward teaching, leadership qualities, agricultural work experience, and experiences working with youth and children. Agricultural education departments/programs looked for excellent communication skills, empathy for youth, an interest in the teaching profession, and a positive attitude toward the teaching profession. In terms of exhibiting leadership skills, teaching majors should be former members of the FFA and/or 4-H, have strong communication skills, and be actively involved in university clubs and activities.

Most departments/programs required between 2,000 and 4,000 hours of work experience in some phase of agriculture. Students could attain some work experience while they were in college besides that attained while in high school. Departments/ programs desired that preservice students have some experience working with youth organizations like FFA, 4-H, or church youth groups.

#### Curricula Requirement

For the five departments/programs having a four-year degree certification program, the number of quarter hours required for graduation ranged from 186 to 220 with a mean number of 201.6 quarter hours (Table 4). Teaching majors averaged 67.2 quarter hours in general studies (range = 33 to 93 quarter hours), 56.4 quarter hours in technical agriculture (range = 44 to 75 quarter hours), and 47.4 quarter hours in professional studies (range = 45 to 50 quarter hours). For the four departments/ programs having a five year degree certification program, the number of quarter hours required for graduation ranged from 180 to 243 with a mean number of 207.0 quarter (Table 4). Teaching majors averaged 60.3 quarter hours in general studies (range = 35 to 85 quarter hours), 77.8 quarter hours in technical agriculture (range = 66 to 104 quarter hours), and 62.3 quarter hours in professional studies (range = 48 to 92 quarter hours).

Table 4. Quarter hours required for graduation with a major in agricultural education with teacher certification

Course Description/Length of Program	n	Range	Mean	Median
<b>Total Hours</b>				
Four-year program	5	186-220	201.6	200.0
Five year program	4	180-243	207.0	198.0
<b>General Studies</b>				
Four year program	5	33-93	67.2	70.0
Five year program	4	35-85	60.3	61.0
<b>Technical Agriculture</b>				
Four year program	5	44-75	56.4	57.0
Five year program	4	66-104	77.8	70.5
<b>Professional Studies</b>				
Four-year program	5	45-50	47.4	48.0
Five year program	4	48-92	66.3	62.5

For the 53 departments/programs having a four-year degree certification program, the number of semester hours required for graduation ranged from 120 to 148 with a mean number of 130.5 semester hours (Table 5). Teaching majors averaged 44.7 semester hours in general studies (range = 22 to 70 semester hours), 42.8 semester hours in technical agriculture (range = 3 to 63 semester hours), and 35.8 semester hours in professional studies (range = 22 to 60 semester hours).

For the nine departments/programs having a five-year degree certification program, the number of semester hours required for graduation ranged from 120 to 165 with a mean number of 138.7 semester hours (Table 5). Teaching majors averaged 51.2 semester hours in general studies (range = 40 to 63 quarter hours), 47.3 semester hours in technical agriculture (range = 30 to 66 semester hours), and 46.6 semester hours in professional studies (range = 31 to 61 semester hours).

**Table 5. Semester hours required for graduation with a major in agricultural education with teacher certification**

Course Description/Length of Program	n	Range	Mean	Median
<b>Total Hours</b>				
Four-year program	53	120- 148	130.5	131.0
Five year program	9	120- 165	138.7	131.0
<b>General Studies</b>				
Four year program	53	22 - 70	44.7	45.0
Five year program	9	40 - 63	51.2	49.0
<b>Technical Agriculture</b>				
Four year program	53	3 - 63	42.8	46.0
Five year program	9	30 - 66	47.3	48.0
<b>Professional Studies</b>				
Four-year program	53	22 - 60	35.8	35.5
Five year program	9	31 - 61	46.6	45.0

Ninety-three percent of departments/programs indicated that preservice students completed an early field experience before student teaching. The number of clock hours teaching majors were required to spend in their early field experience ranged from 16 to 200, with an average of 60.2 clock hours.

Ninety-nine percent of the departments/programs reported that student teaching was required. The minimum number of weeks teaching majors were required to student teach ranged from 10 to 24 weeks, with a median of 12.0 weeks per student teacher.

Seventy-one percent of the respondents required their teaching majors to complete course work in multicultural education, 75% required their teaching majors to complete course work in exceptional children, and 88% required majors to complete course work in computers and instructional technologies (Table 6).

**Table 6. Special course work required of teaching majors in agricultural education (n = 73)**

Course	n	%
Multicultural Education	52	71
Exceptional Children	55	75
Computers/Instructional Technologies	64	88

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