

Characteristics of Preservice Teacher Education Programs In Agricultural Education in the United States

James J. Connors, The Ohio State University
John P. Mundt, University of Idaho - Boise Center

Abstract

Teacher education programs throughout the United States are constantly being bombarded with calls for reform and increased standards. With most preservice teacher education programs in agriculture being encouraged, or required, to reform their programs, it is important to ascertain the characteristics of these programs throughout the United States. The purpose of this study was to ascertain the characteristics of preservice teacher education programs in agriculture in institutions of higher education in the United States. The target population for the study was all postsecondary institutions in the United States that offered pre-service programs in agricultural education. The instrument was sent to all recipients by electronic mail in the spring of 2000. A total of 61 completed surveys were returned by email, fax or mail for a response rate of 66%. An overwhelming percentage (82%) of preservice teacher education programs in agriculture were 4-year programs in length. Almost two-thirds of the programs (59%) were housed in Colleges of Agriculture at their institutions. Seventy-seven percent of institutions required a 2.5 G.P.A. for admission to teacher education. Almost half of the programs (49.2%) offered student teaching in the spring of the year. The length of the student teaching experience ranged from seven to 36 weeks for agricultural education majors. Respondents also indicated the length of student-teaching for various teacher education programs. When compared to other preservice teacher education programs, agricultural education was slightly shorter with a mean length for student-teaching of 13.78 weeks.

Introduction

Teacher education programs throughout the United States are constantly being bombarded with calls for reform and increased standards. Numerous studies over the past decade have investigated teacher preparation including *Achieving World Class Standards: The Challenge for Educating Teachers* (US Department of Education, 1992), *What Matters Most: Teaching for America's Future* (National Commission on Teaching & America's Future, 1996), and *Transforming the Way Teachers Are Taught* (American Council on Education, 1999). Teacher education has also witnessed the increased importance of standards as identified by the National Council for the Accreditation of Teacher Education (NCATE), the Interstate New Teacher Assessment and Support Consortium (INTASC) and the National Board of Professional Teacher Standards (NBPTS). While all of these reports and organizations have called for increased requirements and improved teacher education programs, most have developed general standards which do not begin to outline how much technical preparation preservice teachers should receive, standards for admission into teacher education or characteristics of field-based experiences preservice teachers should complete. With most preservice teacher education programs in agriculture being encouraged, or required, to reform their programs, it is important to ascertain the characteristics of these programs throughout the United States.

Theoretical Base

The Center on Education and Training for Employment (Lynch, 1997) stated that, “the greatest changes being implemented in vocational teacher education programs were in response to state legislated or mandated reforms, such as to increase entrance and exit grade point requirements, teacher testing, and the time devoted to field-based experiences” (p. 40).

A study conducted by the National Dissemination Center for Career and Technical Education (2000), states:

In an effort to improve the quality of new teachers, policies establishing a minimum undergraduate GPA as a prerequisite to admission to a teacher certification program were instituted. Pennsylvania, for example, recently adopted Chapter 354 of the Public School Code, *General Standards for the Institutional Preparation of Professional Educators*. Included in its provision are the following minimum grade point averages for admission into teacher education degree programs: 1) 2.6 GPA for the 2001-02 academic year; 2) 2.8 GPA for the 2002-03 academic year; and 3) 3.0 GPA for the 2003-04 academic year. These requirements may well contain some unanticipated consequences for Career and Technical Education... (p. 11)

In a study conducted by Swortzel (1997), the median grade point average required for admission to teacher education in agriculture was 2.5. The researcher also found that only 20 of the 73 programs that responded required the ACT and 20 programs required the Pre-Professional Skills Test (PPST) for admission. The median scores required for the PPST tests was 170 for math, and 172 for reading and writing. Swortzel also found that the length of student-teaching ranged from 10 to 24 weeks with a median number of 12 weeks. Teacher education programs have for years relied on the standard of 10 weeks of student-teaching for preservice teachers. The *Standards for Quality Vocational Programs in Agricultural/Agribusiness Education* for the State of Iowa (Department of Agricultural Education, Iowa State University) included the following two standards: “22. A minimum of 10 weeks of student teaching is required in the area for which certification is to be graded” (p. X-6) and “26. Each student teacher is observed and supervised a minimum of three times in the cooperating school by a teacher educator” (p. X-7).

In addition to increased G.P.A. requirements, there has been a call for increased field-based experiences for preservice teachers. One of the greatest pushes for increased length of field-based experiences for preservice teachers came from the report *What Matters Most: Teaching for America's Future* by the National Commission on Teaching & America's Future (1996). The report called for the development of “extended, graduate-level teacher-preparation programs that provide a year-long internship in a professional development school” (p. vii).

The report by the National Commission on Teaching & America's Future (1996) also addressed the issue of clinical experiences and supervision for preservice student-teachers. The report

stated that “universities should focus as much on building strong clinical training and induction programs - including preparing and supporting cooperating teachers and mentors so that they become excellent teachers of teachers and partners in the teacher education process” (p. 77).

In looking at the role of cooperating teachers and university supervisors in supervising student-teachers Veal and Rikard (1998) found that “...decisions about student teaching, including the assignment of grades, are made by the university” (p. 112). The researchers went on to state that “CTs [cooperating teachers] in this study indicated that they did not usually collaborate with the USs [university supervisors] because they make relatively few visits to the schools” (p. 112).

Purpose and Objectives

The purpose of this study was to ascertain the characteristics of preservice teacher education programs in agriculture in institutions of higher education in the United States. The specific objectives included:

1. Describe the length and location of preservice teacher education programs in agriculture.
2. Describe the requirements for admission into preservice teacher education programs in agriculture.
3. Describe the characteristics of student-teaching when compared to other preservice teacher education programs.
4. Determine if preservice teacher education programs in agriculture were planning major changes in the future.

Methods

This was a descriptive research study that followed the one-shot case study (*X O*) design identified by Campbell and Stanley (1963). The survey instrument was developed by the researchers and reviewed for content and face validity by the teacher educators in agriculture at the researchers' land-grant institution. The target population for the study was all postsecondary institutions in the United States that offered pre-service programs in agricultural education. The list of institutions was obtained from the AAAE Directory of University Faculty in Agricultural Education (Dyer, 1999). Frame error was controlled by reviewing the list with other teacher educators to determine if any institution was missing or should not be sent a survey instrument. The researchers identified one person in each institution, either the department head or head teacher educator to receive the survey. The resulting target population included 92 institutions. A census was conducted due to the small number of institutions in the target population.

The instrument was sent to all recipients by electronic mail in the spring of 2000. A second email was sent to all non-responding institutions two weeks after the initial email survey was sent. A

third email was sent one week later. A total of 61 completed surveys were returned by email, fax or mail for a response rate of 66%. To control for non-response error, responses were coded by the date they were received. Early and late responses were compared on selected descriptive program variables. No significant differences were found therefore the findings can be generalized to the target population (Miller & Smith, 1983). The data were analyzed using the Statistical Package for the Social Sciences (v. 10.0) (Norušis, 1997). Frequencies, means and standard deviations were used to analyze the data.

Results

An overwhelming percentage (82%) of preservice teacher education programs in agriculture were 4-year programs in length. Only seven programs indicated that they were 5-year programs. One indicated they could be either a 4- or 5-year program depending on the career aspirations of the student. Almost two-thirds of the programs (59%) were housed in Colleges of Agriculture at their institutions. Slightly over a quarter (26.2%) were in Colleges of Education and nine programs were located in some other college. Some of the colleges included College of Human Resources and Education, Applied Arts & Technology, Applied Science & Technology, Business, Industry, Life Sciences and Agriculture, Professional & Applied Sciences and the College of Applied Human Sciences. The information for length of program and its location is shown in Table 1.

Table 1

Characteristics of Pre-Service Teacher Education Programs in Agriculture (N=62)

Characteristic	Frequency	Percentage
Length of Program		
4-year	50	82.0
5-year	7	11.5
Both 4- and 5-year	4	6.6
Location of Program		
College of Agriculture	36	59.0
College of Education	16	26.2
Other	9	14.8

Teacher educators were asked to identify when preservice students were admitted to their teacher education program. The most frequently cited period when students are admitted was their junior year in college. One institution admitted students when they enrolled in the major as a freshman. Three institutions indicated students could enroll at any time from their freshman through their senior year.

In order to be admitted to the preservice program in agricultural education students had to maintain a minimum grade point average (G.P.A.). One institution admitted students who had a G.P.A. of 2.0. Seventy-seven percent of institutions required a 2.5 G.P.A. for admission. The highest G.P.A. of 3.0 was required by one teacher education program. Table 2 contains the frequency and percentages for each ordinal G.P.A. category.

Table 2

Grade Point Average Required for Admission to Preservice Teacher Education in Agriculture Programs (N=61)

Grade Point Average	Frequency	Percentage
3.00	1	1.6
2.85	1	1.6
2.80	3	4.9
2.75	5	8.2
2.70	1	1.6
2.66	1	1.6
2.60	1	1.6
2.50	47	77.0
2.00	1	1.6

Note. G.P.A. was on a 4.0 scale

Teacher educators were asked to identify other programmatic requirements for admission into their preservice teacher preparation program. Between 42% and 56% of programs require a minimum grade in Introduction to Teaching, Communications, English and Math courses for admission to teacher education. The most frequently required minimum grade in these courses was a 2.0 or “C.” A small percentage of programs required either the American College Test (ACT), Scholastic Aptitude Test (SAT) or Pre-Professional Skills Test (PPST) (Table 3).

More than 90% of institutions were on the semester system. Only 5 institutions (8.3%) were on the quarter system. The teacher educators were asked to indicate how many credits were required of technical agriculture, agricultural education, science and general education and for graduation. The credits required for these areas for programs on the semester and quarter systems are shown in Table 4. Teacher educators were asked to indicate if they required an early-field experience for their preservice students prior to student-teaching. Slightly over half (54.1%) required an early field experience in the fall and 29.5% required one in the spring. Exactly two-thirds of programs (66.7%) provide a workshop for cooperating teachers who will be working with student-teachers. The length of the workshops ranged from two hours to a complete 45 hour - 3 credit required course. The average length of the workshops was 8.9 hours. Fifty-six programs (93.3%) had the cooperating teachers participate in the grading process.

Table 3

Pre-Service Teacher Education Program Requirements

Admission Requirement	Frequency	Percentage	Range
Introduction to Teaching	33	54.1	
Communications	26	42.6	
English	34	55.7	
Math	26	42.6	
ACT and/or SAT	10	16.4	19-23 (ACT) 860-1100 (SAT)
PPST	13	21.3	169-174 (Math) 170-176 (Reading) 170-176 (Writing)

Table 4

Credits Required for Completion of a Preservice Teacher Education Program

Category	Quarter System (n=5)			Semester System (n=55)		
	Range	Mean	Median	Range	Mean	Median
Technical Agriculture	43-101	62.80	60	16-60	43.44	45
Agricultural Education	18-45	36.00	38	3-72	26.22	27
Science (e.g. biology, chemistry, physics, etc.)	8-30	20.00	21	8-32	14.52	13
General Education (English, Math, Humanities, etc.)	9-72	31	21.5	3-60	34.64	37
Graduation	120-190	162.0	169	120-149	128.76	128

Teacher educators were asked when their preservice students completed student teaching. Almost half of the programs (49.2%) offered student teaching in the spring of the year. Only six

programs offered student teaching in the fall and one required a full-year internship. The length of the student teaching experience ranged from seven to 36 weeks for agricultural education majors. Respondents also indicated the length of student-teaching for various teacher education programs. When compared to other preservice teacher education programs, agricultural education was slightly shorter with a mean length for student-teaching of 13.78 weeks. Table 5 shows the data for student-teaching.

Table 5

Characteristics of Student-Teaching in Teacher Education in Agriculture Programs

Student-Teaching	Frequency	Percentage	
Fall semester or quarter Spring semester or quarter Either fall or spring	6	10.2	
	29	49.2	
Full-year internship	23	39.0	
	1	1.7	
Length of Student Teaching (weeks)	Mean	Median	Mode
Agricultural Education	13.78	12	12
Career & Technical Ed. Secondary Education	14.60	15	16
Elementary Education	15.49	15	16
	16.64	15	16

Teacher educators were asked who supervises the student-teachers, how many supervisory visits are made and how long the normal visit lasts? An overwhelming percentage of supervisory visits were made by faculty members in agricultural education. Only three programs indicated that visits were made by faculty members in the College of Education. The number of supervisory visits ranged from two to 10. The median number of visits was three. The length of visits ranged from one hour to eight hours. The mean length of the visits was 5.44 hours. Table 6 shows the data for the number and length of supervisory visits.

Teacher educators were also asked if their preservice teacher education program in agriculture was planning any major changes in the structure of the program in the near future. Almost half (45.0%) indicated that they were planning changes. Slightly over 46% responded that they were not planning changes and 8.3% stated they had just made changes within the past few years. Five programs were planning changes in education coursework, three programs were anticipating changes in the required grade point average for admission to teacher education and two programs were considering changes in the length of the student-teaching experience.

Table 6

Characteristics of Supervisory Visits to Preservice Student Teachers in Agriculture

Characteristic	Mean	Median	Mode
Number of supervisory visits	3.77	3.00	3.00
Length of supervisory visits (hours)	5.44	6.00	8.00

Conclusions

The majority of preservice teacher education programs in agriculture remain 4-year programs. Even with the push for increased admission requirements the most often required grade point average for admission to teacher education was still 2.5 on a 4.0 scale. Only 10 programs required a G.P.A. greater than 2.75. Less than 13 programs required a minimum score on either the ACT, SAT or PPST examinations for admission to teacher education. The amount of course work in technical agriculture averages 60 credits hours for quarter programs and 45 credit hours for semesterized programs. The overall credits for graduation averaged 162 hours for quarter based programs and 128 hours for semester based programs. This probably remains stable due to the pressure from university boards and state legislatures to allow students to graduate within 4 to 5 years.

Most student teaching experiences occur during the spring of the year. A slightly smaller percentage of programs allow preservice students to complete student-teaching in either the fall or the spring. Only one program indicated they required a full-year internship for preservice students in agricultural education. The length of student teaching varied based on the type of program. Agricultural education required the least amount of student teaching time with a mean of 13.78 weeks. This is the lowest when compared to other career and technical education areas ($O=14.60$), secondary education ($O=15.49$) and elementary education ($O=16.64$). The most often indicated length of student teaching was 12 weeks for agricultural education majors and 16 weeks for all other areas. One of the biggest areas of concern about agricultural education is that student-teaching is relatively short when compared to other preservice teacher education areas. Teacher educators appeared to be conducting adequate number of supervisory visits to student-teachers. The mean number of visits was 3.77 and they lasted an average of 5.44 hours. With the recent push for reform in teacher education, almost half of the teacher education programs in agriculture were anticipating making changes in the programs in the near future. These changes included increasing the G.P.A. for admission to teacher education and the length of student-teaching.

Implications

As teacher education in agriculture addresses proposed reform measures it is important to be aware of the characteristics of existing programs. Teacher educators should conduct regular discussion

sessions on standards for all aspects of the teacher preparation program. Within the past two years the American Association for Agricultural Education's Program Improvement Committee has been addressing this issue of standards and potential accreditation of teacher education programs.

Linkages should be developed between the standards identified by the AAAE Program Improvement Committee and standards for teacher education established by the National Council for Accreditation of Teacher Education (NCATE), the Interstate New Teacher Assessment and Support Consortium (INTASC) and the National Board of Professional Teacher Standards (NBPTS). Each teacher education program in agriculture should evaluate their preservice program to make sure they are meeting these accepted standards.

The professional association for teacher educators in agriculture, the American Association for Agricultural Education, needs to play a more active role in facilitating discussion about the organization of teacher education programs in agriculture. These discussions could focus on pedagogical and technical knowledge required by future secondary agriculture teachers, the nature of field-based experiences students receive prior to student-teaching, and finally the nature and length of the student-teaching experience, including supervisory and evaluation procedures.

The AAAE should also establish a regular forum at professional meetings to examine the latest teacher education reform efforts and identify ways the profession can prepare for these changes in order to be in a better position to prepare future agricultural education teachers.

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