Journal of Agricultural Education
Volume 41, Number 2, pp. 25-35
DOI: 10.5032/jae.2000.02025

AN EXAMINATION OF SELECTED PRESERVICE AGRICULTURAL TEACHER EDUCATION PROGRAMS IN THE UNITED STATES

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Abstract

The researchers surveyed department heads of purposefully selected agricultural teacher education programs to determine the curricular structure of agricultural teacher education in the United States. Nominations ofprograms to examine were sought from members of the profession. Graduation checklists and course syllabi for all professional agricultural education courses were analyzed. The authors concluded that programs vary greatly across the country. Courses on teaching methods and program and curriculum planning are generally available. Separate courses on serving as FFA advisors or in managing Supervised Agricultural Experience (SAE) programs are offered in only a few of the selected institutions. FFA was listed as a topic in 9 of the 10 institutions. SAE, or an equivalent topic was listed in all of the institutions studied. The authors offer a potential composite structure based on the programs studied.

Introduction

Agricultural teacher educators have experienced significant pressure over the past 15 years to reform the process by which the teachers are prepared in the profession. Many of those pressures have been external to the profession, but strong calls for change have come from within agricultural education as well. Reports from a number of major national organizations have impacted very directly on the general teacher education reform movement, in which agricultural teacher education, as a member of the larger education family, finds itself embroiled:

First came criticism of public education in general. A Nation at Risk (United States National Commission on Excellence in Education, 1984) was the first of a series of national reports that called for fundamental changes in American education.

Teacher education next came under fire. A series of reports by the Holmes Group (Griggs, Jones, and Slocum, 1988), looked at teacher education within the context of the Nation at Risk reforms, and recommended a number of fundamental changes in the process by which teachers are prepared in this country.

Vocational education was later tasked to help address the problems of American Education. The Secretary's Commission on Achieving Necessary Skills (SCANS) Report (United States Department of Labor, 1991) identified basic competencies needed by Americans to meet the needs of the internationally competitive workforce of the future.

Agricultural education also was put on notice that change was needed. The National Academy of Science Committee on Agricultural Education in the Secondary Schools report, Understanding Agriculture: New Directions for Education (1988) examined agricultural education in this country, found it lacking, and recommended fundamental changes both in public school programs and in agricultural teacher education.

More recently, the National Commission of Teaching and America's Future (1996) issued a report entitled, What matters most: Teaching and America's future, in an effort to provide national leadership toward improving and empowering the nation's teaching force.

Currently, the National Board for Professional Teaching Standards (1996) is in the process of developing standards that can apply toward National Board Certification for vocational teachers. Although these standards will apply to so-called "accomplished teachers," they certainly will have implications for preservice teacher preparation programs in agricultural teacher education.

Conceptual Framework

Changes in vocational teacher education have been influenced not only by studies and reports (e.g. Lynch, 1997) issued in regards to the area, but also by shifts in demographics, the workforce, and economics (Pratzner, 1988). With these changes occurring, it is difficult to establish a common basis for vocational teacher education (Lynch, 1991). In addition to the challenges of reform, a recent trend in vocational teacher education has been the downsizing of departments and colleges and reduced funding, making in difficult for agricultural teacher educators to keep abreast of structural and programmatic changes that are actually taking place within the profession (Moss, 1992).

Lynch, Schmidt, and Asche (1988) sought to prioritize the research needs for vocational teacher education. They found that one of the major categories of research needs was to establish the competencies, content, and instructional methods for vocational teacher education. They went on to indicate that one of the priorities for research was to examine teacher education structure and curriculum.

Thus, teacher education as a whole is under pressure to reform. Within that framework, demands are being placed on vocational teacher education to change. Extending that trend, agricultural teacher education is under pressure to change. We would ignore such external pressures only at serious risk to the viability of our profession. An Ad Hoc committee of the American Association for Agricultural Education (Herring, 1992) described the administrative structure of agricultural teacher education programs. It described an ongoing trend toward downsizing of agricultural teacher education programs. The study also described a trend toward restructuring of the emphasis away from teacher preparation as the sole enterprise of traditional agricultural teacher education programs and toward expanded missions. Along that line of research, the study went on to describe the reform and reorganization efforts of three institutions: the University of Florida, Texas Tech, and the University of Nebraska-Lincoln. Finally, the study provided an overview of a conceptual reorganization of agricultural teacher education programs.

The earliest comprehensive model for agricultural teacher education was promulgated by the Federal Board for Vocational Education (1924). That document provided a recommended curricular framework and program structure for the profession that affected the development of a nation-wide system of teacher education for agriculture. The next major attempt at developing a model for teacher education in agriculture came in the form of a major book compiled and edited by Art Berkey (1967) on behalf of the American Association for Teacher Educators in Agriculture (AATEA), known today as the American Association for Agricultural Education (AAAE). The Berkey book involved 29 of the profession's leading scholars of that time and provided an updated vision of what agricultural teacher education should look like in the 1960s and 70s. Bar-rick (1993) proposed a model that could serve

as a conceptual framework for university agricultural education departments. Extending Barrick's research, Swortzel (1995) provided a model program of study for agricultural teacher education in Ohio. His study proposed an agricultural teacher education program based on a review of textbooks related to agricultural teacher preparation and the needs of program graduates in Ohio.

Swortzel's (1995) study addressed issues that had not been examined by other studies, including the relationship between science and agriculture, strong basic agricultural education courses, and a multicultural component. It provided specific recommendations regarding the curriculum needed in Ohio. However, it did not include a perspective addressing other states' needs for agricultural educators. Moreover, it did not examine extant curricular models or detailed content in agricultural teacher education.

Studies evaluating the effectiveness of courses for agricultural education majors have been reported by McGhee and Cheek (1990), Deeds and Has (1991), and Oliver, Finch, Schmidt, and Yu (1991). Bar-rick (1993) and Swortzel (1995) have addressed the broad structure of the agricultural teacher education program. But, the only two documents we could fmd which addressed the actual curriculum for the professional preparation of agriculture teachers were the 1924 (Federal Board, 1924) and 1967 documents (Berkey, 1967) mentioned earlier. The agricultural teacher education "standards" study currently underway should provide needed leadership in this process (Conroy & Kelsey, in press).

Problem, Purpose, and Objectives

The calls for reform in agricultural teacher education have been loud and long, from A Nation at Risk (United States National Commission on Excellence in Education, 1984) to Lynch (1997). The pressures for downsizing and reorganization forced by changing demographics and shifts in the political landscape have been immense. Unfortunately, there is a lack of current data on the curricular structure or content of agricultural teacher education programs across the country (Oliver, et al., 1991). As teacher educators, we have been told to change our programs; we agree that we should change (National Academy of Science, Committee on Agricultural Education in the Secondary Schools, 1988); we even recognize the inherent difficulty of implementing change (Pratzner, 1988). Yet, ironically little is known about what we are actually doing now.

Ninety-three agriculture education programs exist across the country (Graham, 1996). Of those, approximately 84 programs remain active in teacher preparation for agriculture with only 79 of those actually qualifying any new, potential teachers in 1995 (Camp, 1998). Yet we could find no current data to describe the curricular structure of those existing programs of agricultural teacher education or to document the educational content in use in those programs. If we would promote reform in our profession, surely it should be organized reform. As a prelude to organized reform, we ought to determine what successful programs are doing now. That knowledge may not provide all the answers we need, but it will certainly provide a good starting point in any systematic reform of the process by which teachers are prepared in agricultural education.

The purpose of the study was to provide a baseline examination of the curricular structure of agricultural teacher education in the United States from the perspective of selected, nominated programs. The specific objectives were as follows:

1. Identify programs of agricultural teacher education considered by the profession to offer quality teacher education.

2. Survey the selected programs to determine the professional courses they use for teacher preparation.

3. Identify specific course content taught in those courses.

4. Synthesize a composite curricular structure incorporating the common courses and content from those nominated programs.

Methodology

Selecting Participants

In order to obtain data for this study, an initial e-mail letter was posted on the American Association for Agricultural Education (AAAE) listserv based at Purdue University. The e-mail message requested listserv members to nominate agriculture teacher education programs that would be worthy of study. Respondents were requested to list up to three agricultural teacher education programs, excluding their own, that they viewed as innovative, exemplary, or otherwise of good quality, as well as reasons for each of their nominations. Eleven programs receiving two or more nominations were initially selected for use in the study.

Limitations

The reader should understand that this was not an attempt to rank agricultural teacher education programs or to select outstanding programs. Rather, it was an attempt to identify programs regarded by members of the profession as worthy of examining. Moreover, this was a qualitative study, so randomization was not deemed to be appropriate. Selection bias is not a consideration in a study such as this one, since there was to be no attempt to generalize the findings to the population. This was a study of a purposefully selected set of institutions and, in a strict sense, the findings apply only to the selected institutions.

Collecting Data

The department chairs for the selected schools were mailed letters requesting them to provide to us copies of their graduation checklists or similar documents, and syllabi of all courses they considered to be teacher professional development courses. General education courses, such as educational psychology, and technical preparation courses, such as agricultural mechanics skill courses were not included in this study. After one month, follow up letters were sent via e-mail to the schools whose department chairs had not responded. A telephone follow-up was used in conjunction with the e-mail follow-up. Of the eleven nominated programs, ten submitted packages of materials. Based on a telephone contact with a member of the eleventh institution's faculty, we determined that the school was in the process of a severe reorganization. We thus determined that the program would be inappropriate for inclusion in the study and eliminated that institution from consideration.

Data Analysis

Common Courses: To produce a list of common courses, course titles, course descriptions, and course content were used to build a single comprehensive list of all courses that were taught by the ten selected agricultural teacher education programs. The list of courses was then cross-matched to each of the ten institutions. We found it problematic to produce a list of common courses, because the content of a single course at one institution might be duplicated at several other institutions, yet be contained in a number of different course configurations.

Common Content: Course syllabi from each institution were analyzed for content (competencies, topics, or lesson titles as used at the various institutions.) Institutions differed in

terms of how topics were identified. Some syllabi listed student performance objectives; others listed specific topics; others provided more colorful lesson titles. A comprehensive list of content items was compiled, edited to remove duplications, and then listed in topic form for use in the analysis. The term **"topic"** will be used hereafter to refer to content items identified as competencies, problems, topics, or lessons in the course syllabi analyzed. Similar topics were edited and combined to produce a single, comprehensive, non-duplicative list of commonly taught content. The topics were then cross-matched across all ten selected institutions.

Composite Curricular Areas: Compiling the list of identifiable courses was intended to provide a curricular overview of the ten selected programs. Unfortunately, the results were ambiguous and provided a less than satisfactory curriculum model. We then grouped the 118 topics identified in the previous step into logically coherent packages that might represent composite courses or composite curricular areas.

Results

Selected Programs

The nomination process resulted in the identification of ten agricultural teacher education programs for examination, as determined by multiple peer nominations. We make no claim that these are the best agricultural teacher education programs in the country, or that other programs should not have been included. Inclusion here indicates only that each of these programs was nominated by two or more members of the AAAE listserv. Clearly, a more rigorous selection process at this stage would have strengthened the current study. The selected programs are listed alphabetically in Table 1.

Table 1. Agricultural Teacher Education Programs Selected for the Study (Alphabetical order by state)

University
The University of Arkansas
California Polytechnic State University, San Luis Obispo
The University of Florida
Iowa State University
The University of Missouri, Columbia
North Carolina State University
The Ohio State University
Oklahoma State University
Texas A & M University
Utah State University

Common Courses

Course offerings in the ten programs varied greatly among institutions. Based on analysis of the course syllabi, we developed a comprehensive list of 18 identifiable courses, see Table 2. Please note that institutions are listed in tables 1 and 2 in different orders. Please consider also, that we made no evaluation of the Common Content, rather we simply listed and categorized it.

Analysis of the professional development

Table 2. Identifiable Courses Taught in Selected Agricultural Teacher Education Programs

Course	A	B	C	D	E	F	G	H	I	J	n
Methods of Teaching Agriculture	X	X	X	X	X		X	X	X	X	9
Program Planning in Agricultural Education	X	X	X	X	X		X	X		X	8
Student Teaching	X	X	X		X	X	X	X			7
Ag Ed Seminar, Orientation, or Introduction	X	X				X	X	X			5
Foundations & Philosophies of Ag. Education		X	X	X	X					X	5
Field Experience	X			X					X		3
Personal and Professional Leadership Development					X		X		X		3
Supervised Agricultural Experience (SAE)						X	X	X			3
Ag Mechanics					X			X			2
Computers In Agricultural Education							X	X			2
Contemporary Issues & Emerging Technologies		X								X	2
Principles of Teaching in Laboratory Settings	X				X						2
Principles of Teaching				X						x	2
Programs for Out-of-School Groups				X					X		2
Agricultural Youth Organizations					X						1
Curriculum Assessment and Development				X							1
Ethics in Ag. Education and Extension					X						1
FFA Advisement	X										1
Total Number of Courses in Program	7	6	4	7	9	3	7	7	4	5	

Note: Programs are not identified here. The order shown is different than that in Table 1.

course syllabi that were submitted resulted in an unduplicated, edited list of 118 discrete topics. Forty-four topics were taught in at least half of the programs, see Table 3. The number of professional preparation courses taught in the programs studied ranged from 3 to 9. The most common course was Methods of Teaching Agriculture followed by Program Planning in Agricultural Education. One institution offered a separate course on agricultural youth organizations and another offered a separate course on FFA Advisement. The two courses could not be reasonably combined since one dealt solely with FFA, with the other encompassing several organizations. No two programs offered the same combination of courses.

Composite Curricular Areas

We found that the 118 identified topics could be grouped logically into five curricular areas, each of which might comprise a coherent course. Several of the composite curricular areas represented much larger collections of topics that the others, but clearly they could form a coherent model for a series of meaningful courses in an agricultural teacher education program. The results are presented in Table 4.

Table 3. Topics Taught in Half or more of Selected Agricultural Teacher Education Programs (Alphabetical Order By Number Reporting)

Topic	n	Topic	n
Presenting Micro-lessons	10	SAE	10
Advisory Councils or Committees	9	Philosophical Issues	9
Diverse Populations and Special Needs	9	Problem Solving	9
FFA	9	Professionalism & Professional Organizations	9
Awards	8	Lesson Plans	8
Early Field Exp./Teacher Shadowing	8	Student Evaluation	8
Adult Agricultural Education	7	Effective Teaching	7
Ag Education History and Evolution	7	Motivation and Positive Classrooms	7
Career Development Events	7	Needs Analysis or Assessment	7
Computers and Telecommunications	7	Summer Program	7
Curriculum Design	7		
Classroom Management (not behavior)	6	Integrating Academics & Ag Ed Instruction	6
Fundraising	6	Role of an Ag Educator	6
Laboratory Management	6	Student Behavior Management	6
Legislation	6	Teaching Resources	6
Questioning Techniques	6		
Budgeting	5	Equipment and Facilities	5
Certification Issues	5	FFA Advisors	5
Community relations	5	Instructional Objectives	5
Computer Curriculum - Lesson Design	5	Personal Educational Philosophy	5
Demonstration Techniques	5	Program of Work or Activities	5
Developing a Teaching Plan or Calendar	5	Teacher Record Keeping	5
Principles of Teaching and Learning	5	World Wide Web	5

Conclusions, Recommendations, and Implications

Conclusions

Curricular structure differs widely among agricultural teacher education institutions. Given that divergence, it is impossible to build a single set of commonly taught courses that represent the "typical institution. Almost all of the institutions offer special methods courses, program planning courses, and student teaching through their own auspices.

The 10 selected programs display a variety of approaches to presenting their course syllabi. Whether the curricular items are listed as problem areas, competencies, or simply topics, there are surprisingly few items that are taught in all of the programs.

Teaching methods dominate the content identified as common across the ten selected programs, followed closely by program and

Table 4. Composite Curricular Content Areas (Courses) Derived from Analysis of Common Topics Taught in Selected Agricultural Education Programs

Experiential Components	Foundations	Program and Curriculum Planning	Teaching Methods	Teaching Technology
-Awards -Career Development Events -FFA -FFA Advisors -Fund raising -Program of Work or Activities -SAE	-Agricultural Education History and Evolution -Certification Issues -Diverse Populations and Special Needs -Legislation -Personal Education Philosophy -Philosophical Issues -Professionalism and Professional Organizations -Role of an Agricultural Educator	-Adult Agricultural Education -Advisory Councils or Committees -Budgeting -Community Relations -Developing a Teaching plan or calendar -Equipment and facilities -Instructional Objectives -Laboratory Management -Needs Analysis or Assessment -Summer Program -Teacher Record Keeping -Teaching Resources	-Classroom Management -Curriculum Design -Demonstration -Effective Teaching -Lesson Plans -Micro-lesson presentations -Motivation and Positive Classrooms -Principles of Teaching and Learning -Problem Solving -Questioning Techniques -Student Behavior Management -Student Evaluation	-Computers and Telecommunications -Computer Curriculum and Lesson Design -World Wide Web

curriculum-related topics. Clearly, problem solving remains the dominant instructional method taught in agricultural teacher education programs.

Although a manageable set of common courses could not be identified directly, it was possible to group common content (topics) into a realistic set of composite common content areas. These topic groupings could form the basis for five courses.

Recommendations

Several topics that seem central in agricultural teacher preparation, such as student teaching and lesson planning, were not reported by all responding programs. Further research is needed to ascertain the extent to which such topics and experiences are offered in more generic settings such as general education programs. Future research in this area should collect data to indicate where such generic content is provided in various institutions. This oversight was a shortcoming in the present study.

1. This was not an attempt to determine what the curricular structure and content **SHOULD BE** for agricultural teacher education -- merely what it **IS** for selected programs. Given the incessant external pressures for reform, we cannot afford to assume that practitioners in a field, even those in programs nominated as exemplary or innovative are the only source of content for that field. Research is needed to identify other problem areas, competencies, or topics should be added

to agricultural teacher education programs

2. With the advent of national teacher licensure standards, research is needed to determine the degree to which agricultural teacher education program curricula address national trends in teacher education.

3. The grouping of the common topics taught into five coherent "packages" or composite curricular areas might have formed the basis for five meaningful courses in the selected programs.

4. Programs providing for preservice teacher preparation in agricultural education should include lessons and experiences related to Experiential Components of Agricultural Education, Foundations of Agricultural Education, Program and Curriculum Planning in Agricultural Education, Teaching Methods for Agricultural Education, and Teaching Technology in Agricultural Education.

5. Further study is needed to analyze other commonalities between agricultural education programs such as: student teaching activities and assignments, credits required in general studies, professional development, and technical courses. Additionally, the skills, experiences, and attitudes of students in agricultural teacher preparation programs should be evaluated to determine success factors for teachers. Results from all of these dimensions can then be used to determine the optimum mix of coursework for agriculture teacher preparation.

Implications

It is likely that not all content is specified as separate topics in course syllabi. We would hope that additional topics are provided informally in many programs. Again, using the concept of FFA Advisor as an example, it is difficult to imagine an agricultural education student completing a professional teacher education program without having been provided with some of the knowledge and skills that he or she will be expected to possess as an FFA advisor. Yet that apparently critical topic was not listed in course syllabi for several of these selected programs. Creative topic titles may well have disguised such fundamental content, but the course syllabi did not provide indications to the contrary.

The content depth of teacher preparation programs in agricultural education varied widely among the selected programs. Clearly, there was little agreement across institutions as to what courses are needed to prepare teachers for the field and even less agreement as to specific blocks of instruction that should be included in teacher preparation programs.

We certainly would not advocate an effort to provide uniform teacher preparation curricula across the agricultural teacher education programs in the United States. Just as agriculture in such states as Arizona and Georgia are vastly different, so too, agricultural education in such disparate states will also be inherently different. At the same time, we believe that members of the profession should be able to agree on certain, fundamental knowledge and skills needed by potential teachers in agricultural education.

Finally, we believe that a dialogue among leaders of the profession regarding what content SHOULD be provided in professional teacher preservice programs would be a worthwhile undertaking. This study reinforced the researchers' original assumption that agricultural teacher education programs were widely disparate in their offerings and content. Efforts such as the current Standards project (Conroy, 1999) should help in that regard. But beyond that project,

specific efforts among agricultural education professionals to seek a consensus as to what professional skills should be taught in our preservice teacher preparation programs are clearly indicated by this study.

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