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**PREPARING FUTURE SECONDARY AGRICULTURE TEACHERS  
TO WORK WITH STUDENTS WITH LEARNING DISABILITIES**

A Thesis in

Agricultural and Extension Education

by

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## ABSTRACT

The purpose of the study was to examine the practices agricultural teacher educators report to cover in pre-service programs to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural education programs. A secondary purpose was to examine the preparation pre-service teachers report to receive in pre-service programs to work with students with learning disabilities in secondary agricultural education programs.

The population of the study included land grant and non land grant institutions with active teacher education programs. Two, four-part survey instruments were developed to collect data. The agricultural teacher educator survey collected data regarding teacher educators' reported coverage of instructional techniques and accommodations for students with learning disabilities in secondary agricultural education programs, and the federal legislative acts that govern students with disabilities in secondary school settings. The agricultural education pre-service teacher survey collected data regarding the pre-service teachers' reported preparation to provide instructional techniques and accommodations for students with learning disabilities in secondary agricultural education programs, and the federal legislative acts that govern students with disabilities in secondary school settings. Usable responses were returned by 75% (n=63) of the agricultural teacher educators and 27% (n=69) of the agricultural education pre-service teachers. Descriptive and inferential statistics were used to analyze the data.

The majority of teacher educator respondents were male, assistant or associate professors, and pre-service coordinators. Pre-service coordinators covered more accommodations in pre-service programs than the other respondents. Respondents' whose pre-service programs received accreditation from both the respective State Department of Education and the National Council for Accreditation of Teacher Education (NCATE) covered more accommodations in pre-service programs.

Teacher educators covered each of the instructional techniques, accommodations, and federal legislative acts in pre-service programs. Cooperative pairs/groups was reported the most covered instructional technique in pre-service programs. Extra/Extended time was reported the most covered accommodation and The No Child Left Behind Act was reported the most covered federal legislative act in pre-service programs.

The majority of pre-service teacher respondents were female and seniors. Over half of the pre-service teachers completed one special education course. The majority of pre-service teachers acquired skills for teaching students with learning disabilities during a field experience.

Pre-service teachers reported each of the instructional techniques, accommodations, and federal legislative acts were covered in pre-service programs. Cooperative pairs/groups and differentiated instruction were reported the most covered instructional techniques in pre-service programs. Extra/Extended time was reported the most covered accommodation and The Individuals with Disabilities Education Act

(IDEA) of 1997 was reported the most covered federal legislative act in pre-service programs.

Collectively, both groups agreed cooperative pairs/groups was the most covered instructional technique in pre-service programs. They also agreed that extra/extended time was the most covered accommodation. The study concluded that both groups agreed to the extent which instructional techniques, accommodations, and federal legislative acts were covered in pre-service programs. However, neither group reported any of the instructional techniques, accommodations, and federal legislative acts as being completely covered in pre-service programs.

Taking into account the study's findings, it is recommended that agricultural education teacher education programs designate one faculty member as the special education contact for the agricultural teacher education program; agricultural teacher education programs provide in-service and pre-service training for pre-service teachers during and after completion of the teacher education program; and agricultural teacher education programs offer special education courses within the department, particularly if courses are not required by the accreditation agency or completed in other colleges and/or departments.

## TABLE OF CONTENTS

	<u>Page</u>
LIST OF FIGURES .....	x
LIST OF TABLES .....	xi
ACKNOWLEDGMENTS .....	xv
Chapter 1 INTRODUCTION .....	1
Statement of the Problem.....	5
Need for the Study .....	8
Purpose of the Study .....	9
Limitations of the Study.....	12
Assumptions of the Study .....	12
Operational Definitions.....	13
Chapter 2 REVIEW OF LITERATURE .....	17
Students with Learning Disabilities in Secondary Programs.....	18
Agricultural Education Pre-service Programs .....	19
Secondary Agricultural Education Programs.....	21
Instructional Techniques .....	22
Accommodations .....	26
Federal Legislative Acts .....	27
Summary of Literature Reviewed.....	31
Chapter 3 RESEARCH METHODOLOGY.....	34
Purpose of the Study .....	34
Design of the Study.....	36
Population and Sample .....	38
Instrumentation .....	41
Teacher Educator Survey Instrument.....	42
Pre-service Teacher Survey Instrument.....	43
Content Validity of the Instrument .....	45
Data Collection .....	46
Data Analysis .....	49

## TABLE OF CONTENTS (continued)

	<u>Page</u>
Chapter 4 FINDINGS.....	51
Agricultural Teacher Educators .....	52
Profile of Teacher Educators .....	52
Profile of Pre-service Programs .....	55
Number of Years Teaching in a Secondary Setting.....	55
Number of Years Teaching in a Postsecondary Setting.....	55
Number of Years Teaching Students with Learning Disabilities in a Secondary and/or Postsecondary Setting .....	56
Differences in Instructional Techniques, Accommodations and Federal Legislative Acts Summated Values Examined by Teacher Educator Characteristics .....	58
Number of Years Teaching in a Secondary Setting.....	58
Number of Years Teaching in a Postsecondary Setting.....	58
Number of Years Teaching Students with Learning Disabilities in a Secondary and/or Postsecondary Setting .....	58
Number of Workshops Completed in the Last Five Years Related to Teaching Students with Learning Disabilities...	60
Administrative Location of Pre-service Programs.....	62
Pre-service Program Accreditation .....	62
Special Education Credits Required by Accreditation Agency .....	62
Where Pre-service Students Receive Preparation in Special Education Courses.....	64
Number of Undergraduate and Graduate Students In Pre-service Programs .....	64
Teaching Instructional Techniques .....	66
Teaching Accommodations .....	68
Teaching Federal Legislative Acts.....	68
Exceptionalities Reported by Teacher Educators .....	70
Teacher Educator Additional Comments.....	72
Theme #1 – Pre-service Program Requirements .....	72
Theme #2 – Pre-service Program Needs.....	73
Further Analyses of Teacher Educators and Pre-service Programs...	73
Agricultural Education Pre-service Teachers .....	79
Profile of Pre-service Teachers.....	80

## TABLE OF CONTENTS (continued)

	<u>Page</u>
Chapter 4 FINDINGS (continued)	
Profile of Pre-service Programs .....	80
Number of Special Education Courses Completed.....	80
Where Special Education Course Completed .....	81
Where Skills Acquired for Teaching Students with Learning Disabilities .....	81
Administrative Location of Pre-service Programs.....	82
Exceptionalities Reported by Pre-service Teachers.....	84
Preparation to Provide Instructional Techniques .....	84
Preparation to Provide Accommodations .....	85
Preparation to Provide Federal Legislative Acts .....	86
Pre-service Teacher Additional Comments .....	87
Theme #1 – Pre-service Program Requirements .....	87
Theme #2 – Pre-service Program Needs.....	87
Theme #3 – Miscellaneous .....	88
Further Analyses of Pre-service Teachers and Pre-Service Programs .....	88
Chapter 5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.....	96
Purpose and Objectives of the Study .....	96
Research Questions of the Study .....	96
Procedures.....	98
Summary of Findings.....	100
Teacher Educators.....	100
Profile of Teacher Educators .....	100
Gender, Professional Title and Role .....	100
Profile of Teacher Educators’ Pre-service Programs.....	101
Number of Years Teaching in a Secondary Setting and/or Postsecondary Setting.....	101
Number of Years Teaching Students with Learning Disabilities in a Secondary and/or Postsecondary Setting..	101
Number of Workshops Completed in Last Five Years Related to Teaching Students with Learning Disabilities...	101
Administrative Location of Pre-service Programs.....	102
Pre-service Program Accreditation .....	102



## TABLE OF CONTENTS (continued)

	<u>Page</u>
Chapter 5 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS (continued)	
Profile of Teacher Educators' Pre-service Programs (continued)	
Where Pre-service Teachers Receive Preparation in Special Education Courses.....	103
Number of Undergraduate and Graduate Students in Pre-service Programs .....	103
Exceptionalities Reported by Teacher Educators .....	104
Pre-service Teachers .....	105
Profile of Pre-service Teachers.....	105
Profile of Teachers' Pre-service Programs .....	106
Conclusions and Discussion .....	109
Comparison of Teacher Educators and Pre-service Teachers' Responses.....	112
Implications.....	112
Recommendations.....	115
Recommendations for Future Research.....	116
Reflections by the Researcher.....	116
Special Education Credit.....	116
Number of Years Teaching Students with Learning Disabilities in a Secondary and/or Postsecondary Setting ..	117
Number of Workshops Completed in Last Five Years Related to Teaching Students with Learning Disabilities...	117
REFERENCES .....	118
Appendix A INSTRUMENTATION .....	128
Appendix B CORRESPONDENCE.....	142
Appendix C FREQUENCY DISTRIBUTION OF RESPONSES TABLES .....	148
Appendix D ADMINISTRATIVE LOCATION OF PRE-SERVICE PROGRAMS .....	152

**LIST OF FIGURES**

<u>Figure</u>		<u>Page</u>
1	Study Diagram: Agricultural Teacher Education Programs .....	32
2	Study Statistical Diagram .....	37
3	Teacher Educator Demographic and Pre-service Program Data .....	39
4	Pre-service Teacher Demographic and Pre-service Program Data.....	40

## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1	Reliability for Combined Survey Instrument Responses for Dependent Variable Scores/Values..... 45
2	Number and Percentage of Returns From Teacher Educators..... 48
3	Number and Percentage of Returns From Pre-service Teachers ..... 48
4	Frequency and Percentage for Teacher Educator Gender, Professional Title and Professional Role..... 54
5	Frequency and Percentage of Number of Years Teaching in a Secondary and Postsecondary Setting and Number of Years Teaching Students with Learning Disabilities in a Secondary/Postsecondary Setting by Teacher Educators..... 57
6	Mean Comparisons for Teacher Educator Years Teaching in a Secondary Setting and Dependent Variables..... 59
7	Mean Comparisons for Teacher Educator Years Teaching in a Postsecondary Setting and Dependent Variables..... 59
8	Mean Comparisons for Teacher Educator Years Teaching Students with Learning Disabilities in a Secondary/Postsecondary Setting and Dependent Variables..... 59
9	Mean Scores by Number of Workshops Teacher Educators Completed Related to Teaching Students with Learning Disabilities for Dependent Variables ..... 61
10	Frequency and Percent of Number of Workshops Completed Related to Teaching Students with Learning Disabilities by Teacher Educators ..... 61
11	Frequency and Percentage of the Administrative Location of Pre-service Programs Reported by Teacher Educators..... 63
12	Frequency and Percentage of Pre-service Program Accreditation Reported by Teacher Educators..... 63

**LIST OF TABLES (continued)**

<u>Table</u>	<u>Page</u>
13 Frequency and Percentage of Special Education Credits Required by Accreditation Agencies Reported by Teacher Educators .....	65
14 Frequency and Percentage of Where Pre-service Students Receive Preparation in Special Education Courses Reported by Teacher Educators.....	65
15 Summary of Pre-service Undergraduate and Graduate Program Enrollment.....	66
16 Qualitative Mean Interpretation.....	67
17 Frequency, Mean and Standard Deviation for Teacher Educator Coverage of Instructional Techniques .....	67
18 Frequency, Mean and Standard Deviation for Teacher Educator Coverage of Accommodations.....	69
19 Frequency, Mean and Standard Deviation for Teacher Educator Coverage of Federal Legislative Acts.....	69
20 Percentages of Exceptionalities Reported by Teacher Educators and Pre-service Teachers .....	71
21 Correlations Among Dependent Variables for Teacher Educators.....	74
22 Mean Comparisons for Pre-service Coordinators and Other Respondents .....	75
23 Mean and Standard Deviation of Pre-service Program Accreditation Reported by Teacher Educators .....	75
24 Mean Comparison of Number of Workshops Completed by Teacher Educators.....	76
25 Mean and Standard Deviation for Teacher Educator Gender.....	77
26 Mean and Standard Deviation for Administrative Location of Pre-service Programs .....	77

**LIST OF TABLES (continued)**

<u>Table</u>	<u>Page</u>
27 Mean and Standard Deviation for Teacher Educator Learning Disability Item .....	78
28 Mean and Standard Deviation for Pre-service Program Special Education Credits Required by Accreditation Agency .....	78
29 Mean and Standard Deviation for Where Pre-service Teachers Receive Preparation in Special Education Courses .....	79
30 Frequency and Percentage for Pre-service Teacher Gender and Classification.....	80
31 Frequency and Percentage of Completed Special Education Courses by Pre-service Teachers .....	81
32 Frequency and Percentage of Special Education Courses Completed, Where Skills Acquired for Teaching Students with Learning Disabilities and Administrative Location of Pre-service Programs Reported by Pre-service Teachers .....	83
33 Frequency, Mean and Standard Deviation of the Instructional Techniques Covered in Pre-service Programs Reported by Pre-service Teachers .....	85
34 Frequency, Mean and Standard Deviation of the Accommodations Covered in Pre-service Programs Reported by Pre-service Teachers .....	86
35 Frequency, Mean and Standard Deviation of the Federal Legislative Acts Covered in Pre-service Programs Reported by Pre-service Teachers .....	87
36 Correlations Among Dependent Variables for Pre-service Teachers .....	90
37 Mean and Standard Deviation of Dependent Variables between Groups.....	91
38 Correlations Among Dependent Variables for Teacher Educators and Pre-Service Teachers Combined.....	92
39 Mean and Standard Deviation of Gender with Dependent Variables Reported by Teacher Educators and Pre-service Teachers.....	92

**LIST OF TABLES (continued)**

<u>Table</u>		<u>Page</u>
40	Mean and Standard Deviation for Where Special Education Courses Completed Reported by Pre-service Teachers .....	93
41	Mean and Standard Deviation for Where Skills Acquired for Teaching Students with Learning Disabilities by Pre-service Teachers.....	94
42	Mean and Standard Deviation for Pre-service Teacher Learning Disability Item .....	95
43	Frequency Distribution of Responses for Instructional Technique Items .....	149
44	Frequency Distribution of Responses for Accommodation Items .....	150
45	Frequency Distribution of Responses for Federal Legislative Act Items .....	151
46	Administrative Location of Pre-service Programs Reported By Teacher Educators.....	153

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## **Chapter 1**

### **INTRODUCTION**

According to *Agriculture in the Classroom* (2005) agricultural education began in the United States during the 18<sup>th</sup> century when civic and intellectual leaders copied the European interest in agriculture, science, and commerce. From the 1830's through the 1860's, agricultural education was the most prominent rural issue of the period, especially in the north. In 1862, the drive for agricultural education culminated in the passage of the Morrill Land Grant College Act fostering the establishment of a federally funded land grant college in every state. By the 1900's, the establishment of boys clubs was well underway and these clubs became the forerunner for 4-H clubs. The 1920's witnessed 31,000 students enrolled in agricultural courses and Future Farmers of America was founded. For the period of the 1940's, 584,000 students enrolled in agriculture courses. Between the years 1946 and 1954, land grant college enrollment increased greatly as veterans enrolled under the G.I. bill. In the 1970's, 853,000 students enrolled in agriculture courses (college level). Through the 1980s, enrollments in colleges of agriculture dropped in the wake of the farm recession crisis. During the 1990's, Distance education became an increasingly important way to make cooperative research and extension resources accessible.

Over the years, agricultural education has evolved from a once "strictly for farmers and rural persons" program to a more diverse, multi-cultural and mainstream program. The ethnic and gender make up of secondary programs demonstrates a marked



diversity of race and gender. The opportunity for students to enroll in agricultural education at the secondary level is an evolving process (Newcomb, McCracken, Warmbrod & Whittington, 2004).

The Committee on Agricultural Education in Secondary Schools appointed by the National Academy of Sciences (1988) concluded that instruction about agriculture should be offered to all students regardless of their career goals or whether they are urban, suburban, or rural. Through agricultural education, students from diverse backgrounds are afforded the opportunity to experience agriculture in environments that are conducive for learning. The current mission of agricultural education is to prepare and support individuals for careers, build awareness, and develop leadership for the food, fiber, and natural resource systems (Case & Whitaker, 1998).

Agricultural education instruction is delivered through three major components: classroom and laboratory instruction (contextual learning), supervised agricultural experience programs (work-based learning), and the student leadership organization (FFA Organization) (National FFA Organization, 2006). One of many vocational education programs, agricultural education's primary focus is to offer curriculum programs designed to prepare students, including those with disabilities, to acquire an education and job skills (Bottoms, Pucel & Phillips, 1997; Lynch, 2000). To prepare students for life after graduation, agricultural education programs traditionally use the problem-solving approach. Gagnon and Keith (1988) professed that the traditional approach to teaching agriculture has been, and is, problem solving. The problem-solving approach encourages the application of principles and concepts to actual situations in the

industries of agriculture. As students transition from secondary to postsecondary settings, this approach proves to be beneficial, especially for students with learning disabilities.

Even though enrollment numbers in agricultural education have fluctuated over the years (Soloninka, 2003), the enrollment numbers of students with learning disabilities in agricultural education programs continues to increase. Therefore, this study will focus exclusively on students with learning disabilities. Yet, research studies that examine students with disabilities and special needs will be included. The rationale for including these two categories of students is based on a number of studies that discuss students with disabilities or students with special needs that include students with learning disabilities (Phipps & Osborne, 1988). Elbaum, Vaughn, Hughes, Moody and Schumm (2000) supported this focus by stating, “Students with disabilities include students identified in the primary research as students with learning disabilities...” (p. 111). Learning disabilities are by far the most common disability among school-age children—more than half of students with disabilities are learning disabled (Jarrett, 1999; National Institutes of Health, 2002; Sindelar & Kilgore, 1995).

Today, as many as 2.4 million children in the United States have been diagnosed with a learning disability and each year approximately 120,000 additional students are identified (Morrison & Elliott, 2000). In just the past 16 years, the number of students ages 6-21 identified as LD (learning disabled) under the Individuals with Disabilities Education Act (IDEA) has increased 38% (Lyon, Fletcher, Shaywitz, Shaywitz, Torgesen, Wood, Schulte & Olsen, 2001).

Mainstreaming and inclusionary practices have increased the number of students with disabilities in agricultural education programs (Cotton, 2000; Gagnon & Keith, 1988; Kessell, 2005; Schwager & White, 1994). During the last two decades there has been an increasing awareness of the need for special needs students to participate in regular agricultural education programs (Gagnon & Keith, 1988). Kessell (2005) stated:

Agricultural education programs are becoming a popular course for the inclusion of students with disabling conditions, but little research has been conducted to assess teacher confidence and knowledge regarding special education and teaching diverse populations in agricultural education classrooms and laboratories. (p. vii)

Federal legislative acts, such as the Individuals with Disabilities Education Act (IDEA) that govern students with disabilities have increased the number of students with learning disabilities in agricultural education programs (Cotton, 2000; Elbert & Baggett, 2003; Phipps & Osborne, 1988; Rojewski, Pollard & Meers, 1992). Nowhere is inclusion more apparent than in the vocational school where the average percentage of students with disabilities is approximately 25-27% (Morrison & Elliot, 2000). For example, Richardson (2005) stated that agriculture teachers in North Carolina are faced with a growing population of students. About 14.2% have individualized education plans (IEPs). In Pennsylvania, 3,708 (18.2%) educationally disadvantaged students completed a career and technical education program and graduated high school in 2004 (Pennsylvania Department of Education, 2005). In 1998, The National Center for Education Statistics reported that 64,000 disabled high school students in 1990, 82,000 disabled high school students in 1994, and 74,000 disabled high school students in 1998

earned credits in US vocational education programs (L. Hudson, personal communication, February 23, 2007).

Taylor and Williams (2003) conducted a study to identify skills that Texas public school superintendents deemed important for agricultural education teachers to possess in the classroom. They reported that superintendents perceived skills in the area of service to special populations as an important skill needed by agricultural education teachers. The Taylor and Williams study supports the need for agricultural teacher educators to include instructional techniques that meet the curriculum, instructional, and educational needs of students with learning disabilities in agricultural education programs.

### **Statement of the Problem**

Agricultural teacher educators who effectively prepare pre-service teachers to work with students with learning disabilities in agricultural education programs are vital to the profession. Kessell (2005) stated, “Agricultural education is one form of vocational teacher education that could benefit from improved instruction and practice regarding inclusion techniques and strategies” (p. 2). Hill (1988) conducted a study of Texas vocational education [career and technical education] teachers’ competencies for working with special needs populations and stated that, “the failure of teacher preparation programs to adequately prepare teachers to service special needs students has been an issue for over 15 years” (p. 7). Cotton (2000) concluded that many new vocational and agricultural education teachers continue to be placed in classrooms with little or no preparation regarding how to teach or maintain a classroom environment for special

learners. There have been studies conducted that provide successful strategies for teaching students with learning disabilities. For instance, Schwager and White (1994) conducted a study to identify specific benefits that apply to students with special needs in secondary supervised agricultural experience (SAE) programs. They found SAE programs provided a wide range of experiences and were challenging in proportion to student's abilities.

According to Covington and Dobbins (2004), although there have been some efforts to change teaching methodology in agricultural education pre-service programs, a review of literature notes that there has not been a dramatic change over the past 80 years. It is no surprise to find that agricultural teacher educators are challenged to implement changes in pre-service programs. For example, McLean and Camp (2000) said, "Agricultural teacher educators have experienced significant pressure over the last 15 years to reform the process by which teachers are prepared in the profession" (p. 25). Lynch (1996) concluded that there is insufficient evidence in the literature that describes pre-service programs that prepare agricultural education teachers to teach students with special needs.

Covington and Dobbins (2004) conducted a study to build a task list of clinical experiences for student teaching in agricultural education programs in the United States. They selected panelists from the National Association of Agricultural Educators State Presidents to determine what should be included on the task list. The panelists identified the following tasks related to special education that student teachers should be able to perform:

1. Examine an individualized educational plan (IEP) and discuss with a special needs teacher;
2. Tutor a special needs student and provide strategies to help the student become successful in class;
3. Assist the cooperating teacher with the evaluation of an IEP, if time allows; and
4. Conduct a case study of a student with special needs that is identified by the cooperating teacher.

Several studies examined the expressed needs of agricultural education pre-service teachers for teaching students with learning disabilities (Farrington, 1981; Garton & Chung, 1996; Joerger, 2002; Layfield & Dobbins, 2002; Veenman, 1984) and for students with special needs (Covington & Dobbins, 2004; Harvey, 1999; Kleinle, 1988; Roberts & Dyer, 2004; Ruhland & Bremer, 2002). As these studies suggested, preparation for teaching students with learning disabilities is needed by agricultural education pre-service teachers. To accomplish this task, pre-service programs should provide appropriate instructional techniques and accommodations for teaching students with learning disabilities and the federal legislative acts that govern students with disabilities in secondary school settings. Students with learning disabilities benefit from the instruction teachers provide them, especially as they prepare for the transition from secondary to postsecondary settings (Deshler, Schumaker, Lenz, Bulgren, Hock, Knight & Ehren, 2001). Real changes in education come with changes in the content that teachers and students learn, and in the instructional methods that teachers apply (National

Academy of Sciences, 2000). Specifically, this study was designed to answer the questions: What practices do agricultural teacher educators report to cover to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural education programs, and what preparation do agricultural education pre-service teachers report to receive in pre-service programs to work with students with learning disabilities in secondary agricultural education programs?

### **Need for the Study**

Most research studies address the needs of teacher education programs, such as mathematics and science—not agricultural education programs. For instance, in a 2005 study, Clift and Brady examined research that addressed the preparation of teachers within the context of methods courses, early field experiences, and student teaching.

They stated:

We limited our summary to research in English, social studies, mathematics, science, professional development school contexts, and general supervision because of space limitations and because they represent well the state of the research on methods courses and field experiences. We noted, however, that there is a substantial body of work available in other content areas, such as physical education, music, and art. (p. 312)

Limited research studies of agricultural education programs is not exclusive; there are also limited research studies regarding special needs students in agricultural sciences and its programs (Davis, Akers, Doerfert, McGregor & Kieth, 2005). Not until lately has research addressed the need of pre-service teachers for teaching students with learning disabilities.

The basis of this study was to examine the practices agricultural teacher educators use to prepare agricultural education pre-service teachers to work with students with learning disabilities. Pugach (2005) surmised that the majority of today's new teachers are expected to know something about working with students with disabilities. For example, Principle 3 in the Interstate New Teacher Assessment and Support Consortium (INTASC) (1992) standards reads, "The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners" (p. 18).

Based on the literature cited, this study sought to increase the body of knowledge regarding instructional techniques and accommodations for students with learning disabilities in secondary agricultural education programs and the federal legislative acts that govern students with disabilities in secondary school settings. As stated by Salzberg (2003), "They [faculty members] are largely ignorant of the legal and programmatic issues that affect students with disabilities and have received little to prepare pre-service teachers for teaching students with learning disabilities" (p.2).

### **Purpose of the Study**

The purpose of this descriptive correlational study was to examine the practices agricultural teacher educators use to prepare agricultural education pre-service teachers to work with students with learning disabilities in secondary agricultural education programs.



Elbert and Baggett (2003) expressed the need for agricultural teacher education faculty to be knowledgeable in the areas affecting students with learning disabilities.

Elbert and Baggett stated that teachers in agricultural education in Pennsylvania do not feel prepared in completing individual vocational education plans (IVEPs) nor individual education plans (IEPs). As previously stated, special needs learners have long been a part of public education, but modification of curriculum and instruction to meet their needs is a relatively recent phenomenon (White, 1987). The research questions that guided this study are:

1. Does higher education agricultural teacher educator gender, professional title, professional role, years of teaching in a secondary setting, years of teaching in a postsecondary setting, years teaching students with learning disabilities in a secondary and/or postsecondary setting, number of workshops completed in the last five years related to teaching students with learning disabilities or disclosure of a disability by self, a child and/or family member influence the reported capability to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural education programs?
2. What practices do higher education agricultural teacher educators report to cover to prepare agricultural education pre-service teachers to provide instruction for students with learning disabilities in secondary agricultural education programs?
3. What practices do higher education agricultural teacher educators report to cover to prepare agricultural education pre-service teachers to provide

accommodations for students with learning disabilities in secondary agricultural education programs?

4. What practices do higher education agricultural teacher educators report to cover to familiarize pre-service teachers regarding federal legislative acts that govern students with disabilities in secondary settings?
5. Does agricultural education pre-service teacher gender, classification, special education courses completed, where special education courses were completed, where skills were acquired for teaching students with learning disabilities, administrative location of pre-service programs or disclosure of a disability by self, family member and/or a friend influence the reported capability to work with students with learning disabilities in secondary agricultural education programs?
6. What preparation do agricultural education pre-service teachers report to receive in pre-service programs to provide instruction for students with learning disabilities in secondary agricultural education programs?
7. What preparation do agricultural education pre-service teachers report to receive in pre-service programs to provide accommodations for students with learning disabilities in secondary agricultural education programs?
8. What preparation do agricultural education pre-service teachers report to receive in pre-service programs regarding federal legislative acts that govern students with disabilities in secondary settings?

### **Limitations of the Study**

This study was conducted with the following limitations:

1. Agricultural teacher educators' participation was limited to higher education institutions with active agricultural teacher education programs.
2. The potential bias of the selection of agricultural education pre-service teachers by the selected agricultural teacher educator.
3. The population of this study was limited to higher education institutions identified by the American Association for Agricultural Education (AAAE) website (2005).
4. Agricultural education pre-service teachers were enrolled in agricultural pre-service programs identified by the American Association for Agricultural Education (AAAE) website (2005).

### **Assumptions of the Study**

The following assumptions were made while conducting this study:

1. Agricultural teacher educators' responses on the survey instrument were honest and accurate.
2. Agricultural teacher educators instruct in agricultural teacher education programs.
3. Agricultural education pre-service teachers' responses on the survey instrument were honest and accurate.

4. Agricultural education pre-service teachers were current students in agricultural teacher education programs.

### **Operational Definitions**

Terms are provided with their accompanying definitions. The definitions are provided to familiarize the reader with the operational context with which key concepts were used within the study.

Accommodation: A change in instructional materials intended to allow a student with a disability to participate in state or district assessments or to enable the student to better demonstrate knowledge and skills (Thurlow, Lazarus, Thompson & Morse, 2005).

Agricultural education: The term “agricultural education” will be used interchangeably with the following terms, “agriscience” and “vocational agriculture” in this study.

Americans with Disabilities Act (ADA): Law that prohibits discrimination against people with disabilities in employment, transportation, public accommodation, communications, and government activities (U.S. Department of Labor, 2006).

Assistive device (AD): A tool that can aid a person with a disability in becoming more independent (Vergason & Anderegg, 1997).

Career and Technical Education: The term “career and technical education” will be used interchangeably with the following terms, “vocational education” and “workforce education” in this study.

Grouping format: An arrangement of students in classroom settings for instructional purposes. Grouping formats include pairs, small groups, a whole class, and/or multiple grouping formats (Elbaum et al., 2000).

Inclusion: The practice used for teaching students with disabilities in regular classrooms, rather than in special classes or pull-out sessions (National Organization on Disability, 2001).

Individualized Education Plan (IEP): A statement of the goals and objectives for students with disabilities. It includes a description of the services that the local education agency (LEA) will provide (The Special Education Project at Penn State, 2004).

Individuals with Disabilities Education Act (IDEA) of 1997: Its purpose is to assure that students with disabilities have real access to the general education curriculum (Deshler et al., 2001).

Individuals with Disabilities Education Act (IDEA) of 2004: Its purpose is to assure that all children with disabilities have available to them a free and appropriate public education which emphasizes special education and related services designed to meet their unique needs (Deltman, 2004).

In-service training: The training teachers receive to remain current in educational topics of interest, such as subject-related training, technology, special populations, and classroom behavior and management.

Learning disability: A disorder in one or more of the central nervous system processes involved in perceiving, understanding, and/or using concepts through verbal (spoken or written) language or non-verbal means. This disorder manifests itself with a

deficit in one or more of the following areas: attention, reasoning, processing, memory, communication, reading, writing, spelling, calculation, coordination, social competence, and emotional maturity (U.S. Department of Education, Office of Special Education and Rehabilitative Services Administration, 2000).

Learning strategies or techniques: Strategies, techniques, principles, and/or methods used to help a student with a learning disability with the acquisition, manipulation, storage, and retrieval of information (Vergason & Anderegg, 1997).

Least restrictive environment: Is an environment where a child with a disability is educated as much as possible with children who are non-disabled (The Special Education Project at Penn State, 2004).

Mainstreaming: Is the concept of serving students with disabilities within the general education program, with the aid of support services and personnel, rather than placing them in self-contained special classes (Vergason & Anderegg, 1997).

Mnemonic device: Is a procedure or operation that is used to improve student memory (Scruggs & Mastropieri, 1990).

Peer tutoring: Tutoring that occurs with older or higher ability students tutoring younger, disabled or lower ability students (Elbaum et al., 2000).

Pre-service training: Training teachers receive prior to placement in the classroom to become current in educational topics of interest, such as time management, lesson planning, classroom management, and behavior management.

Section 504 of the Rehabilitation Act of 1973 (Subpart D)]: Its purpose is to assure that no otherwise qualified individual with a handicap in the United States, shall,

solely by reason of his or her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance (Deltman, 2004).

Special education: Education created to meet the unique needs of a student with special needs (The Special Education Project at Penn State, 2004).

Specific learning disability: The official term used in federal legislation to refer to difficulty in certain areas of learning compared to difficulty in all areas of learning (Find Law for the Public, 2006).

Transition: Service that prepares students with disabilities for adult life. Statements about the student's transition needs must be included in the individual education program (IEP) after the student reaches age 14 (Office of Special Education and Rehabilitative Services, U.S. Department of Education, 2000).

## **Chapter 2**

### **REVIEW OF THE LITERATURE**

The focus of this chapter is to provide a review of literature related to agricultural education teacher educators and agricultural education pre-service programs. The review will include a discussion of previous research relative to the instructional techniques and accommodations used for teaching students with learning disabilities in secondary programs, and the federal legislative acts that govern students with disabilities in these settings.

Davis et al. (2005) stated, “Literature regarding special needs students [students with LD] in agricultural sciences [agricultural education] and its programs is limited” (p. 12). For this reason, this study has focused on students with learning disabilities in secondary agricultural education programs. Students with learning disabilities continue to face obstacles; especially related to the instruction they require for being successful in secondary programs. This notion is true whether students are in agricultural education programs or not.

Section one of this chapter reviews literature regarding students with learning disabilities in secondary programs. Section two reviews literature regarding agricultural education pre-service programs. Section three examines secondary agricultural education programs. Section four examines instructional techniques for students with learning disabilities in secondary programs. Section five examines accommodations for students with learning disabilities in secondary programs. Section six examines the federal



legislative acts that govern students with disabilities in secondary settings, and the last section summarizes related literature examined in the prior six sections.

### **Students with Learning Disabilities in Secondary Programs**

The term “learning disability” has been in our language for only the past forty years. Its meaning has evolved during this time. In earlier decades, children with these problems were thought to be “mildly retarded,” a condition caused by brain injury (Whisenhunt, 2001). Fuchs, Mathes and Lipsey (2000) stated that in 1977, the term learning disabilities (LD) was included as a category of exceptionality in the Education for All Handicapped Children Act (P.L. 94-142). Currently, IDEA uses a definition with only slight modifications from the definition that was originally used (Turnbull, Turnbull, Shank, & Leal, 1999). It reads:

The term “specific learning disability” means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such terms include conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and development aphasia. (Turnbull et al., 1999)

In just the past 16 years, the number of students age 6-21 identified as LD under IDEA has increased 38% (Lyon et al., 2001). For example, in Pennsylvania 252 children were identified in 1990 to 2,243 being identified in the 1998-1999 school year. This is an 800% increase and the number is still growing (Morrison & Elliott, 2000, p. 23).

Even though students with LD are the most frequently identified class of disabilities among students in public schools in the United States, it remains the most

least understood and most debated disabling condition that affects school-aged children [and adults] (Lyon et al., 2001).

### **Agricultural Education Pre-service Programs**

The need to examine the practices agricultural teacher educators use in pre-service programs to prepare pre-service teachers to work with students with learning disabilities is vital to the profession. This need has arisen as a result of the increasing number of students with learning disabilities in agricultural education programs.

Appropriate preparation of agricultural education teachers to adequately serve special needs students continues to be significant (Hill, 1988). Scott, Vitale and Masten (1998) stated, “Teachers do not feel knowledgeable and skilled in implementing individualized instruction for these [learning disabled] students” (p. 115).

While some teacher education programs require similar standards, it should be noted that there are differences, as well. Teacher education programs have been distinguished from one another in several different ways (Zeichner & Conklin, 2005). For instance, during agricultural teacher education programs, the use of specific instructional techniques is effective for students with learning disabilities, because of the subject matter and problem-solving approach to instruction. Gagnon and Keith (1988) reiterated that the problem-solving approach to teaching agriculture has been, and is, problem solving. This approach encourages the application of principles and concepts to actual situations in the industries of agriculture.

The methods for teaching agriculture are another distinction that solicits the use of specific instructional techniques in the agricultural education program.

The curriculum model of agricultural education involves: awareness, exploration, and preparation (Gagnon & Keith, 1988). Pre-service teachers will need pre-service training to be able to provide each of these curriculum items in the classroom. Ruhland and Bremer (2002) supported this proposal by stating, “Professional development [preparation] of teachers (CTE) has become a major issue in our nation’s schools” (p. 1).

Talbert, Camp and Heath-Camp (1994) reported that the process of becoming socialized into teaching is one of the most difficult stages in the professional development of teachers and agriculture teachers are certainly no exception. Pre-service programs are essential to both student teachers and teacher educators and most importantly for students with learning disabilities. Wakefield and Talbert (1999) conducted a study to gauge the degree to which agricultural education programs prepared their faculty and students to work with diverse populations. They found that only 32 (64%) of the 50 programs in agricultural education surveyed stated that they require their undergraduates to take a special education course. Fourteen programs stated that their department or university offered courses for special needs learners as optional/elective courses. One respondent in the study stated, “Some emphasis [in special needs] is needed in the preparation program...” (p. 468). The unanswered question is whether students are receiving only knowledge of laws and characteristics or are learning to effectively teach students with special needs (Wakefield & Talbert, 1999).

Cotton (2000) conducted a study [agricultural education teachers] to determine the knowledge and skills necessary for working with special needs learners and found that student teachers lack sufficient skills. Cotton stated, “One solution to this problem is to provide professional development opportunities to vocational teachers in teaching methods, learning styles, and topics related to learners with special needs” (p. vii). As such, teacher education programs could provide teachers with ways to implement activities for students with disabilities in SAE programs.

### **Secondary Agricultural Education Programs**

As previously stated, agricultural education is offered in three major learning environments: classroom and laboratory instruction (contextual learning), supervised agricultural experience (SAE) programs (work-based learning), and student leadership organizations (FFA Organization) (National FFA Organization, 2006). In a study conducted by Schwager and White (1994), it was reported that Oklahoma agricultural education teachers agreed that the SAEs of students with special needs typically satisfied the following quality criteria: students learned skills that had practical application; students were satisfied with their SAEs; SAEs were closely related to classroom instruction in agriculture; SAEs provided a wide range of experiences; and, SAEs were challenging in proportion to student’s abilities. Schwager and White (1994) further stated, “Teachers felt SAE for students with special needs was similar to SAE for mainstream” (p. 12). They concluded that, “Pre-service and in-service training should be

provided to agricultural education majors and teachers to deal with students with special needs who are mainstreamed into agricultural education programs (p. 12).

### **Instructional Techniques**

Many secondary educators struggle to prepare students with learning disabilities (LD) to successfully respond to heavy curriculum demands at the middle-school and high-school levels (Deshler et al., 2001). Many different methods and instructional techniques have been developed to remediate problems of teaching students with disabilities (Lloyd, Forness & Kavale, 1998). Agriculture teachers' decisions for selecting instructional techniques are significant; this is especially true as it pertains to the audience being taught. Meta-analysis is a particularly valuable method to use for synthesizing evidence that permits the examination of the effectiveness of different practices and instructional techniques (Hill, 1988; Kavale & Forness, 2000; Lloyd et al., 1998).

Research on special education interventions, such as instructional techniques has been extensive (Lloyd et al., 1998). A body of research suggests that specific programs and practices are effective with particular students (The Access Center, 2005).

Instructional adaptations require teachers to implement alternative teaching actions such as modifying materials, assignments, testing procedures, and grading criteria or varying presentation styles to enhance the success of students with disabilities in general education settings (Scott et al., 1998).

To help students with LD comprehend and acquire new information by specifying what concept is going to be learned, teachers can use graphic organizers (Deshler et al., 2001). *Graphic organizers* are text, diagrams, or other pictorial devices that summarize and illustrate interrelationships among concepts in a text. They are often known as maps, webs, graphs, charts, frames, or clusters (LD Online, 2006).

One of the most commonly described characteristics of learning disabled (LD) students is their failure to remember important information (Scruggs & Mastropieri, 1990). For this reason, the *mnemonic device* is an instructional technique that has been proven to benefit students with learning disabilities i.e. visual aids, verbal rehearsal or frequent reviews. An excellent example of a mnemonic is “please excuse my dear aunt sally” that helps students to remember the order of calculations (parentheses, exponents, multiplication, division, addition, and subtraction). The mnemonic device or memory tool helps students remember content (Bulgren, Hock, Schumaker & Deshler, 1995; Deshler et al., 2001; Jarrett, 1999; Lloyd et al., 1998; Sansone, 1987; Thompson, 2005). Scruggs and Mastropieri (1990) added, “Mnemonic instruction delivers the greatest learning increases seen in the history of learning disabilities intervention research” (p. 271). Teachers have consistently reported their approval of, and enthusiasm for, mnemonic methods and materials (Scruggs & Mastropieri, 1990). Good mnemonic instruction also includes components of direct instruction (Mastropieri, Scruggs, Levin, Gaffney & McLoone, 1985).

*Direct instruction* refers to a complex systematic approach to instruction that can have a considerable impact on curriculum content (design) and on instruction (delivery)

(Lloyd et al., 1998; Meers, 1987; Moran & Malott, 2004; Swanson, 1999). Hughes, Ruhl, Schumaker and Deshler (2002) determined that direct instruction is a comprehensive strategy comprised of organizational behaviors that can result in independent completion of more homework by students with LD. The direct instruction approach advocates selecting precise, measurable objectives for each student and setting up instructional environments and procedures in such a way that both student and teacher know exactly what is to occur during learning (Cartwright, Cartwright & Ward, 1989). Slocum (2004) added, “Direct instruction is one of the most thoroughly researched-based and research-validated systems in education” (p. 91).

The next instructional technique is *effective instruction*, which when applied correctly, provides outcomes that include: fluency, applying what is learned, maintaining skills, generalizing skills, and being able to work independently (Fredrick & Hummel, 2004).

Other instructional techniques proven to work effectively with students with learning disabilities include: *cooperative learning* (Ellis & Fouts, 1993; Sileo & Prater, 2000; Wang & Haertel, 1995); *grouping methods or strategies* (Elbaum et al. 2000; The Access Center, 2005); *modeling or demonstrations* (Case, Cates, Smith, & Jackson, 2003; Swanson, 2000); and *individualized instruction* (Case et al., 2003; Elbaum et al., 2000).

*Cooperative learning* is one of the biggest, educational innovations of our time. It has permeated all levels of teacher training from pre-service to in-service (Ellis, 2001; Ellis & Fouts, 1993). Ellis and Fouts (1993) believed cooperative learning complements

direct instruction and other teaching activities in the classroom. During cooperative learning, students work in pairs and/or groups to support learning of oneself and others.

*Grouping methods or strategies* is a viable alternative to individual tutoring. It provides the opportunity for students with similar instructional needs to work together (Moran & Malott, 2004) and helps teachers accommodate different students' needs (Elbaum, Vaughn, Hughes & Moody, 1999). The success of students with LD within the general education and agricultural education curriculum requires a multifaceted approach by teams of well-trained and coordinated professionals (Deshler et al., 2001).

During *modeling or demonstrations*, the teacher models the correct sequence of behaviors required for successful completion of an academic task by students (Hummel, Venn & Gunter, 2004). Hummel et al. further stated that typical ways to provide modeling techniques could be verbally, written, pictorially, or physically.

Finally, *individualized instruction* is the cornerstone of most special education models. Students are assessed to determine strengths and weaknesses, and then instruction is designed to capitalize on the strengths and remediate the weaknesses (Kavale & Forness, 2000). Ellis and Fouts (1993) stated, "Individualized instruction is one of two forms of mastery learning; it is based on the premise of continuous progress where a student works entirely at his/her own rate" (p. 107).

Along with the importance of providing proper instructional techniques for students with learning disabilities, appropriate accommodations and the federal legislative acts that govern students with disabilities must be provided and followed by agricultural teacher educators and agriculture teachers.



## Accommodations

Public schools have mechanisms in place to provide accommodations for students with learning disabilities (Whisenhunt, 2001). Accommodations provide adjustments to teaching and modes of responses or evaluation of a student's disabilities (Vergason & Anderegg, 1997). It should be remembered (Norton, 1997) that accommodations for one student may not be appropriate for another student: one might need a tape recorder for lectures, another may need a calculator for math, and both may need extended time and a quiet environment for examinations. Accommodations that are recommended in one state might be prohibited in another state (Thurlow & Ysseldyke, 1995). Norstrud (2000) reminded us that the number of students with disabilities has increased the demands for accommodations and modifications have increased as well.

Accommodations proven beneficial for educating students with learning disabilities include *extended time* (Koretz & Barton, 2003; Newcomb et al., 2004; Thompson, 2005; Thurlow & Ysseldyke, 1995), *read aloud or oral exams* (Thompson, 2005), *calculators* (Jarrett, 1999; Thompson, 2005), *preferential seating* (Thompson, 2005) and *scribe/note-taker* (Koretz & Barton, 2003; Thurlow et al., 2005). Even though many teacher educators may be unfamiliar with the federal legislative acts that govern students with disabilities, the fact remains that these laws are in place and must be adhered to.

### **Federal Legislative Acts**

Many factors influence the delivery of special education. There are education laws, court decisions, civil rights laws, parents and professional advocacy groups all working to expand and improve special education. For many years, students with disabilities were not allowed to attend school or gain an education. Nonetheless, things changed and special education classes in public schools occurred due to the implementation of federal legislation.

Court cases targeted toward the treatment of minorities and students with disabilities caused the educational landscape to drastically change. Cases such as the *Brown v Board of Education*, 347 U.S. 483 (1954) verdict (overturned separate but equal schools for African-American students in the United States) set in motion legislation that included educational legislation. On May 17, 1954, it read, “Where a state has undertaken to provide an opportunity for an education in its public schools, such an opportunity is a right which must be made available to all on equal terms...” (National Center for Public Policy Research, 2006).

Subsequently, Public Law 88-352, more commonly known as the Civil Rights Act of 1964, opened the door toward social equality for all individuals who were different in skin color, religion, and ability (Graham, 1999). The initial federal legislation acts governing students with disabilities consist of: the P. L. 89-10, Elementary and Secondary Education Act (ESEA) of 1965. P. L. 89-10 was enacted to provide federal aid to states for economically disadvantaged “regular” education students. Subsequently, it was amended by P.L. 89-313 to provide funds to the states that ran programs for the

“handicapped” that involved students who were deaf, blind, and mentally challenged. As time progressed, so did the amount of federal legislative acts that govern students with disabilities in secondary school settings.

As it relates to the federal legislative acts that govern students with disabilities in secondary settings, including agricultural education programs, the following legislation has been passed: The Carl D. Perkins Act, The Individuals with Disabilities Education Act, The No Child Left Behind Act, Section 504, of the Rehabilitation Act, and The Americans with Disabilities Act (ADA). Morrison and Elliott (2000) provided, “Federal law is very specific that students with disabilities have the right to free and appropriate public education to be delivered in the least restrictive environment” (p. 12).

The Carl D. Perkins Vocational Act of 1998 (P.L. 105-332) fully developed the academic, vocational, and technical skills of secondary and postsecondary students enrolled in vocational and technical education programs. According to Cotton (2000), learners with special needs are encouraged to enter vocational programs as a result of federal initiatives such as the P.L. 105-332. For example, The Carl D. Perkins Vocational and Applied Technology Act provides equal access to special needs learners in recruitment, enrollment, and placement. It was expanded (1990) to include: individuals with disabilities, educationally and economically disadvantaged individuals, individuals of limited English proficiency, individuals who participate in programs designed to eliminate sex bias, individuals in correctional facilities, and migrants (Deltman, 2004). The Individuals with Disabilities Education Act (IDEA) (replacing P.L. 94-142 or Education for all Handicapped Children Act 1975) requires public schools

to make available to all eligible children with disabilities a free and appropriate public education in the least restrictive environment appropriate to their individual needs.

Vergason and Anderegg (1997) stated that it (IDEA) is specifically designed instruction, at no cost to the parent, to meet the unique needs of a student with a disability, including classroom instruction, physical education, home instruction, and instruction in hospitals and institutions. Thompson, Morse, Sharpe and Hall (2005) reiterated that IDEA specifically governs services provided to students with disabilities. Accountability at the individual level is provided through individual education programs (IEPs) developed on the basis of each child's unique needs. IDEA requires the participation of students with disabilities in state and district-wide assessments. IDEA provides students of the age of 14 or older with transition services, which is designed with an outcome-oriented process that promotes movement from school to post-school activities including post-secondary education, and vocational training (Deltman, 2004).

Congress reauthorized IDEA on November 19, 2004. It is now known as the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004. It maintains the basic principles of the law, a free appropriate public education for all students with disabilities, in the least restrictive environment. However, there have been a few changes, which include the emphasis on outcomes, not process, reduction of paperwork, and aligning NCLB with IDEIA (Pennsylvania Department of Education, 2005)

The Elementary and Secondary Education Act (ESEA) was renamed the "No Child Left Behind" (NCLB) Act of 2001. It established laudable goals—high standards and accountability for the learning of all children, regardless of their background or

ability (National Education Association, 2002). Recently, the NCLB Act has caused many debates concerning its stipulations. One reason is due to its call for stronger accountability for results (Thompson et al., 2005).

Section 504 is an outcome of the civil rights movement that was designed to prevent discrimination against individuals with disabilities (Friend & Bursuck, 2006). Section 504 of the Rehabilitation Act of 1973 (P. L. 93-112) states that, “no qualified individual with a disability in the United States... shall, solely by reason of his or her disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance” (Newcomb et al., 2004, p. 291). Under the previous guidelines of Section 504 of the Rehabilitation Act of 1973 (P.L. 93-112), only those programs receiving federal funding were affected (Kraska, 2003). As the number of students with disabilities increase in public schools, all educators will need to be knowledgeable of the federal legislative acts that govern students’ rights.

According to Graham (1999), approximately 43 million Americans with disabilities and over 4.3 million students enrolled in the public school system have been identified as being entitled to legal protection under the Americans with Disabilities Act. It is imperative to determine the degree of understanding faculty have regarding legal requirements to understand, implement, and uphold the requirements of the laws in an educationally friendly manner. Graham (1999) stated, “By determining and increasing the level of awareness regarding the Rehabilitation Act and the Americans with

Disabilities Act, we are not only educating our faculty, staff, and administration but also are providing better services to our students” (p. 3).

### **Summary of Literature Reviewed**

A review of literature indicates a number of studies have examined the needs of pre-service teachers including those in agricultural education for teaching students with learning disabilities. Yet, a limited number of studies have been conducted that examine the practices agricultural teacher educators cover to prepare agricultural education pre-service teachers to work with students with learning disabilities. After conducting the literature review, it was found that most research examined the instruction of students with disabilities in regular education teacher programs, such as mathematics and science with little focus on agricultural education programs or other vocational and career and technical education programs.

Based on the availability and limited scope of research regarding practices agricultural teacher educators’ cover for preparing agricultural education pre-service teachers to work with students with learning disabilities in secondary agricultural education programs, additional studies are needed. As supported by Davis et al. (2005), literature regarding special needs students in agricultural sciences and its programs is limited.

This study will provide information regarding teaching students with learning disabilities in agricultural teacher education programs (see Figure 1).

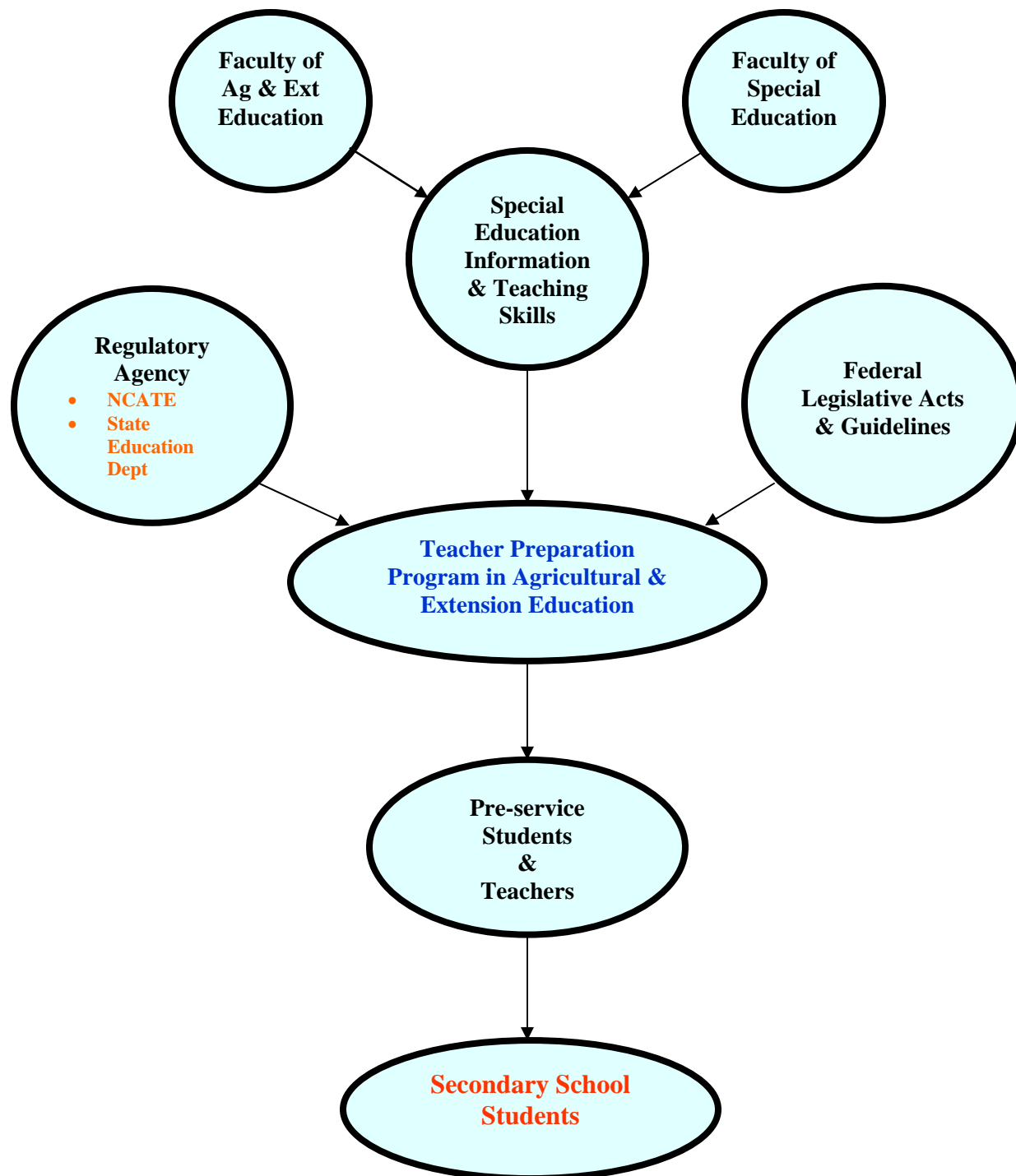


Figure 1  
Study Diagram: Agricultural Teacher Education Programs

Providing research based on instructional techniques and accommodations for students with learning disabilities and the federal legislative acts that govern students with disabilities will only enhance student learning as students make the transition from secondary to postsecondary school settings or future career choices. Amid the increasing number of students with learning disabilities enrolling in secondary agricultural education programs, it is vital that pre-service teachers be properly prepared to work with them. Once enrolled, students with learning disabilities are entitled to the best instruction teachers can provide.



## **Chapter 3**

### **RESEARCH METHODOLOGY**

This chapter outlines the methods and procedures used in the study and consists of the following sections: Purpose of the Study, Design of the Study, Population and Sample, Instrumentation, Data Collection, and Data Analysis.

#### **Purpose of the Study**

Tuckman (1972) stated,

Basic research is concerned with the relationship between two or more variables. It is carried out by identifying a problem, examining selected relevant variables through a literature review, constructing a hypothesis where possible, creating a research design to investigate the problem, collecting and analyzing appropriate data, and then drawing conclusions about the relationships of the variables. (p.1)

The purpose of this descriptive correlational study was to examine the practices agricultural teacher educators report to cover to prepare agricultural education pre-service teachers to work with students with learning disabilities enrolled in their programs. In addition, this study was designed to examine the preparation agricultural education pre-service teachers report to receive in pre-service programs to work with students with learning disabilities in secondary agricultural education programs. In this correlational research study (Tuckman, 1972; Urdan, 2005) the researcher collected data on several variables and conducted statistical analyses to determine how different variables were related to each other as detailed in the following research questions:

1. Does higher education agricultural teacher educator gender, professional title, professional role, years teaching in a secondary setting, years teaching in a postsecondary setting, years teaching students with learning disabilities in a secondary and/or postsecondary setting, number of workshops completed in the last five years related to teaching students with learning disabilities or disclosure of a disability by self, a child and/or family member influence the reported capability to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural education programs?
2. What practices do higher education agricultural teacher educators report to cover to prepare pre-service teachers to provide instruction for students with learning disabilities in secondary agricultural education programs?
3. What practices do higher education agricultural teacher educators report to cover to prepare pre-service teachers to provide accommodations for students with learning disabilities in secondary agricultural education programs?
4. What practices do higher education agricultural teacher educators report to cover to familiarize pre-service teachers regarding federal legislative acts that govern students with disabilities in secondary settings?
5. Does agricultural education pre-service teacher gender, classification, special education courses completed, where special education courses were completed, where skills were acquired for teaching students with learning disabilities, administrative location of pre-service programs, or disclosure of a disability by self, a family member and/or friend influence the reported capability to work

with students with learning disabilities in secondary agricultural education programs?

6. What preparation do agricultural education pre-service teachers report to receive in pre-service programs to provide instruction for students with learning disabilities in secondary agricultural education programs?
7. What preparation do agricultural education pre-service teachers report to receive in pre-service programs to provide accommodations for students with learning disabilities in secondary agricultural education programs?
8. What preparation do agricultural education pre-service teachers report to receive in pre-service programs regarding federal legislative acts that govern students with disabilities in secondary settings?

### **Design of the Study**

A descriptive correlational research design was used to address the research questions (see Figure 2). The design determined the relationship among variables.

Tuckman (1972) stated,

...the design is simply to show that a relationship exists between variables. While correlations are the statistics typically employed in analyzing such data, they are by no means exclusive in this regard. (p. 148)

The dependent variables in the study include participants' exposure to instructional techniques, accommodations, and federal legislative acts. Eight variables associated with agricultural teacher educators' demographic and pre-service program data were used to determine the relationships between each of the independent variables in the

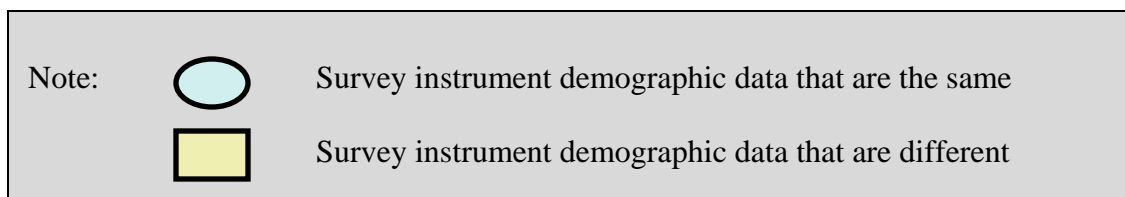
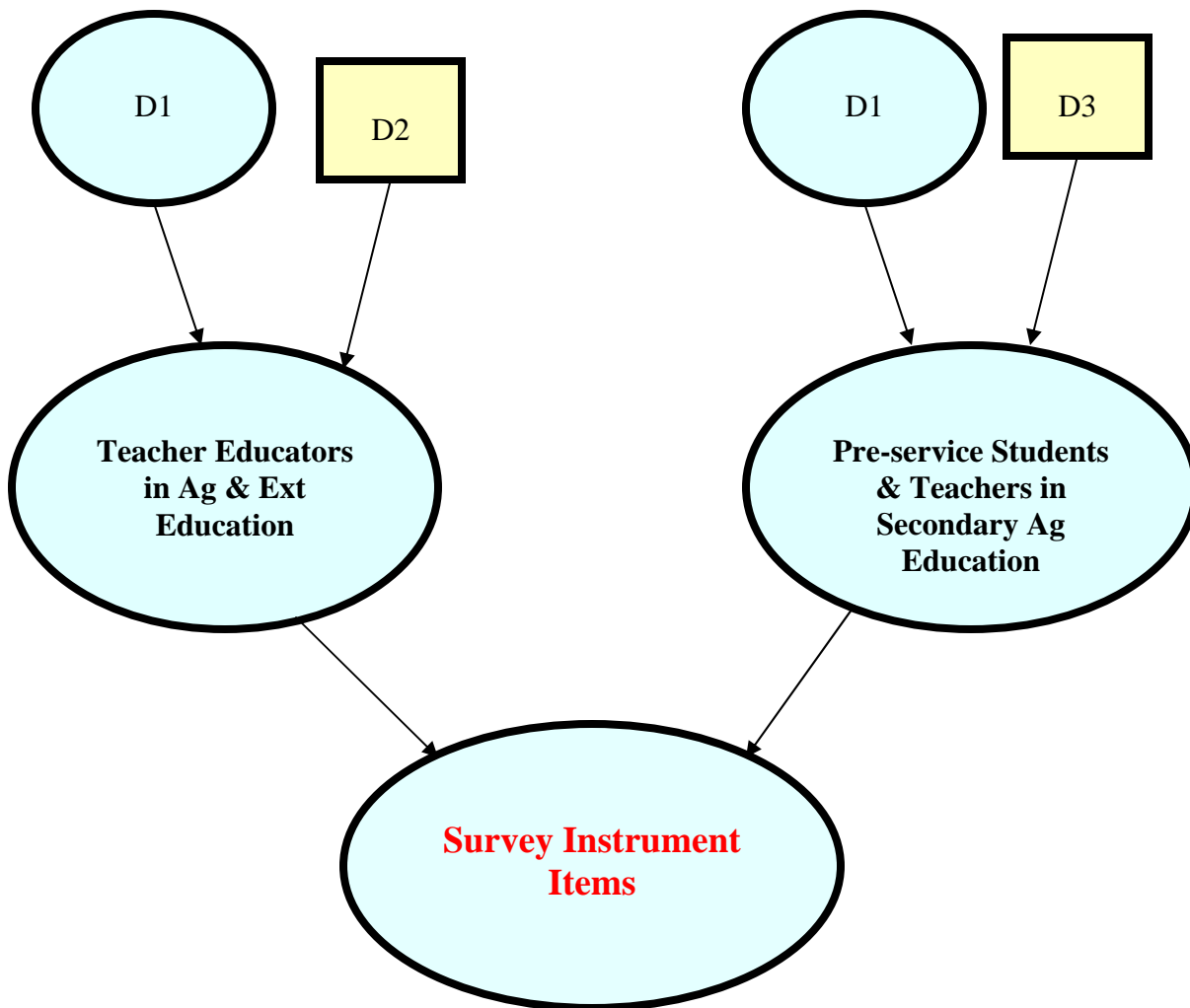


Figure 2  
Study Statistical Diagram

study. Seven variables associated with the agricultural education pre-service teachers' demographic and pre-service program data were used to determine the relationship between each of the independent variables in the study and pre-service teachers' reported preparation received in pre-service programs regarding instructional techniques, accommodations and federal legislative acts.

Tuckman (1972) wrote that this type of approach is considered a descriptive correlational design. Figure 3 displays agricultural teacher educator demographic and pre-service program data and reported practices covered in pre-service programs. Figure 4 displays agricultural education pre-service teacher demographic and pre-service program data and reported preparation received in pre-service programs.

### **Population and Sample**

A criterion-based sample (Patton, 1990) of agricultural teacher educators (n=84) listed in The American Association of Agricultural Education (AAAE) Directory of University Faculty in Agricultural Education (Dyer, Myers & Washburn, 2005) and the American Association of State Colleges of Agriculture and Renewable Resources, 2004 (Food and Agricultural Education Information System, 2006) was selected for this study. The Food and Agricultural Education Information System is a comprehensive web-based database of student and faculty data from the 1862, 1890, 1994 Land Grant Institutions and Non Land Grant Institutions (Food and Agricultural Education Information System, 2006).

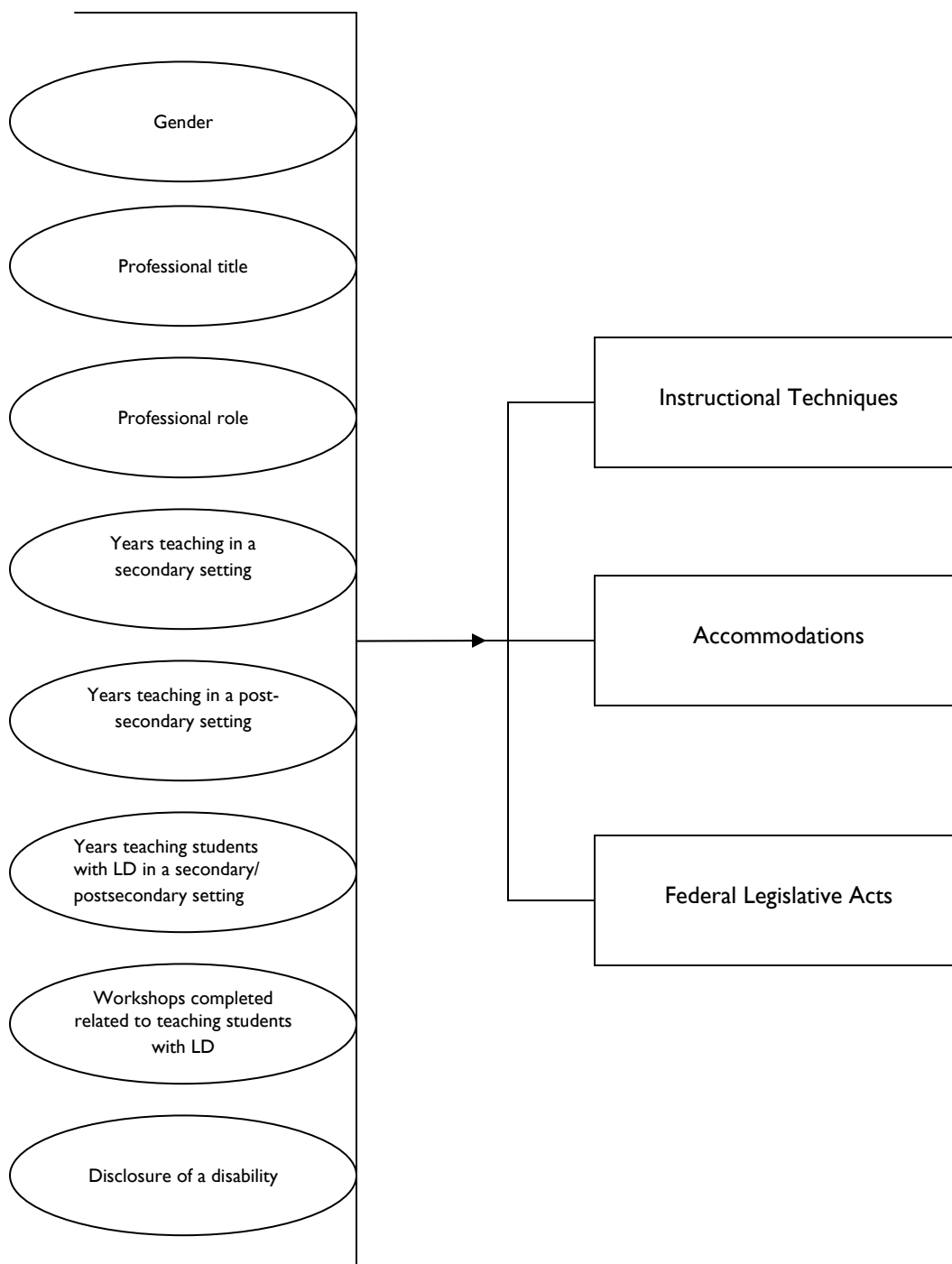


Figure 3  
Teacher Educator Demographic and Pre-service Program Data

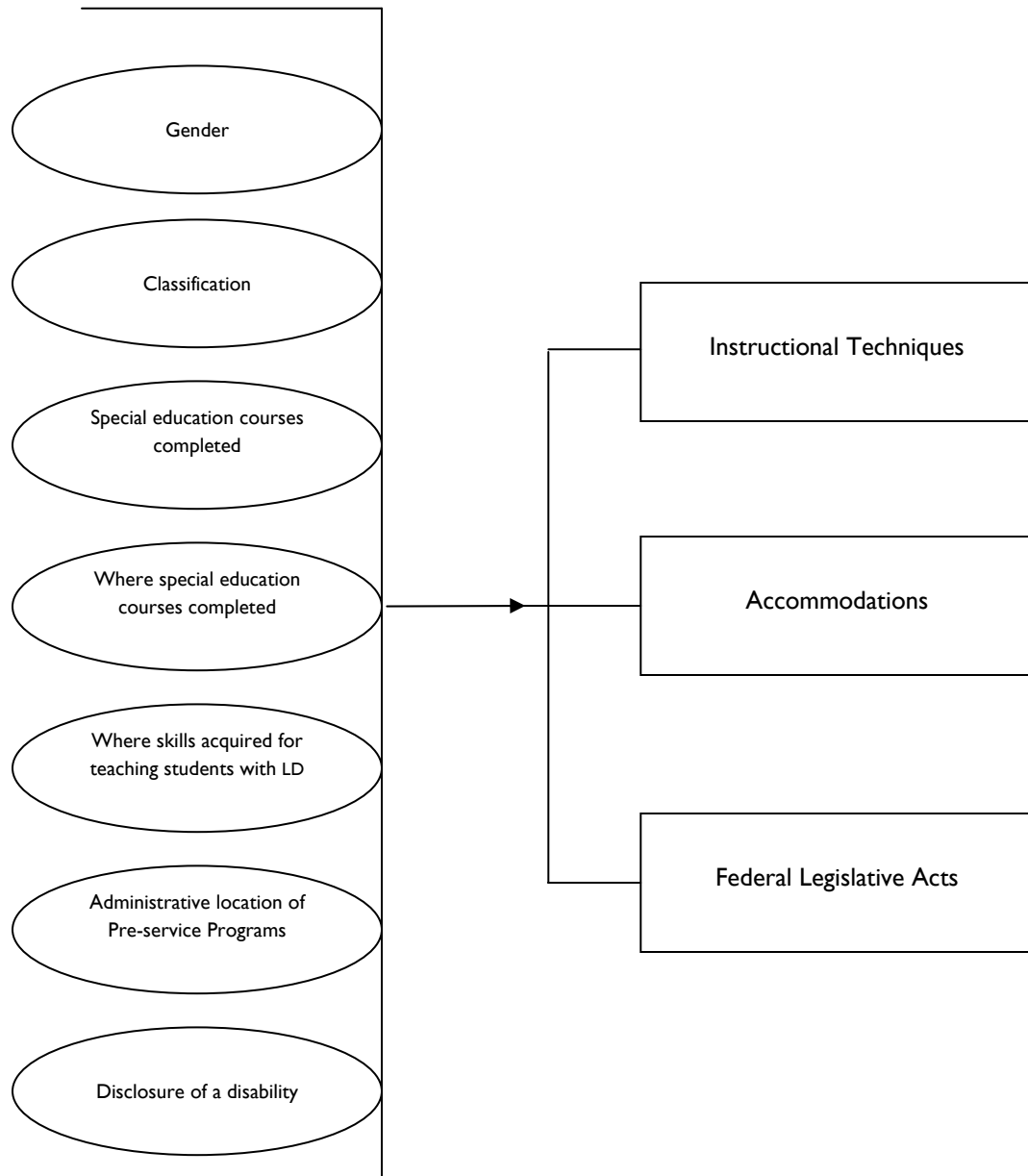


Figure 4  
Pre-service Teacher Demographic and Pre-service Program Data

In this study, a higher education faculty member with primary responsibility in an active agricultural teacher education program representing a land grant or non land grant institution was selected. Originally, the researcher identified 86 institutions for the study. However, it was discovered that two institutions' agricultural teacher education programs were inactive. One respondent stated the institution no longer had an active program. The researcher was informed that another institution's teacher education program had relocated to another institution. Thus, 84 institutions were used for data analysis purposes in the study. The study also included agricultural education pre-service teachers (n=252). In the cover letter, the researcher asked each agricultural teacher educator to identify three agricultural education pre-service teachers to participate in the study.

To control for potential frame error, current names, addresses, telephone numbers, and electronic mail addresses of agricultural teacher educators was obtained. The researcher also solicited assistance from academic department heads and/or lead faculty members of selected teacher education programs to develop the teacher educator frame.

### **Instrumentation**

Two, four-part survey instruments were developed by the researcher (see Appendix A). The survey instrument items were developed using Turnbull, Turnbull, Shank, Smith and Leal's (2002) Test Bank to Accompany Exceptional Lives: Special Education in Today's Schools. The researcher also modified items from the Kessell (2005) survey instrument that investigated and measured student confidence in regard to teaching students with disabilities in agricultural education programs and laboratories and



other related studies and materials. The Chronbach's alpha coefficient for Kessell's survey instrument was calculated .79. The researcher also developed a teacher educator web survey replicated from the mail version of the agricultural teacher educators' survey instrument.

Literature reviews were conducted on topics of special education instruction and accommodations for students with learning disabilities in secondary programs, and the federal legislation that governs students with disabilities in secondary school settings. Items on the survey were limited to research questions.

### **Teacher Educator Survey Instrument**

Section one of the teacher educator survey instrument included twelve 4-point Likert-type response scale items ranging from 0=not covered, 1=partially covered, 2=mostly covered to 3=completely covered. Items were intended to assess the extent to which teacher educators covered instructional techniques in pre-service programs to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural education programs. Items included instructional techniques such as mnemonic devices/memory tools, direct instruction, and cooperative pairs and groups.

Section two of the teacher educator survey included eight 4-point Likert-type response scale items ranging from 0=not covered, 1=partially covered, 2=mostly covered to 3=completely covered. Items were intended to assess the extent to which teacher educators covered accommodations in pre-service programs to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural

education programs. Items included accommodations such as extra/extended time and alternative assignments.

Section three of the teacher educator survey included four 4-point Likert-type response scale items ranging from 0=not covered, 1=partially covered, 2=mostly covered to 3=completely covered. Items were intended to assess the extent to which teacher educators covered federal legislative acts that govern students with disabilities in secondary school settings for pre-service teachers. Items included federal legislative acts such as The No Child Left Behind Act of 2001 and the Individuals with Disabilities Education Act (IDEA) of 1997.

Lastly, section four of the teacher educator survey included eight open-ended and multiple-response items regarding teacher educators' demographic and pre-service program data. This section included items regarding agricultural teacher educators' self-disclosure of a disability, professional title and role, and if special education credits were required in pre-service programs by the pre-service program's accreditation agency.

### **Pre-service Teacher Survey Instrument**

Section one of the pre-service teacher survey instrument included twelve 5-point Likert-type response scale items ranging from 0=don't know, 1=not covered, 2=partially covered, 3=mostly covered to 4=completely covered. Items were intended to assess the extent to which instructional techniques were covered in pre-service programs to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural education programs. Items included instructional techniques such as scaffolding, guided practice, and choral response.

Section two of the pre-service teacher survey instrument included eight 5-point Likert-type response scale items ranging from 0=don't know, 1=not covered, 2=partially covered, 3=mostly covered to 4=completely covered. Items were intended to assess the extent to which accommodations were covered in pre-service programs to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural education programs. Items included accommodations such as extra/extended time, a scribe/note-taker, and preferential seating.

Section three of the pre-service teacher survey included four 5-point Likert-type response scale items ranging from 0=don't know, 1=not covered, 2=partially covered, 3=mostly covered to 4=completely covered. Items were intended to assess the extent to which federal legislative acts that govern students with disabilities in secondary school settings were covered in pre-service programs to familiarize pre-service teachers.

Lastly, section four included seven open-ended and multiple-response items regarding pre-service teachers' demographic and pre-service program data. This section included items regarding pre-service teachers' self disclosure of a disability, the number of special education courses completed, and where skills were acquired for teaching students with learning disabilities.

Summated Likert scale scores/values were checked for reliability utilizing combined survey responses. The Chronbach Alpha internal consistency coefficient for each of the dependent variables in the study is provided in Table 1.

Table 1  
Reliability for Combined Survey Instrument Responses for Dependent Variable  
Scores/Values (n= 132)

<b>Dependent Variable</b>	<b># of Items</b>	<b>Alpha</b>
Instructional Techniques	12	.83
Accommodations	8	.82
Federal Legislative Acts	4	.84

### **Content Validity of the Instrument**

The agricultural teacher educator questionnaire was reviewed by a panel of experts consisting of faculty members and graduate students of the Department of Agricultural and Extension Education at The Pennsylvania State University and five agricultural education department faculty members not selected to participate in the study. The panel was identified based on the recommendations of the researcher's graduate committee. Panel members were identified because of their knowledge of agricultural teacher education programs, special education instructional techniques and accommodations for students with learning disabilities in secondary programs, the federal legislative acts that govern students with disabilities in secondary school settings and research methods. The panel reviewed the agricultural teacher educator questionnaire to establish content validity. The questionnaire was revised based upon the comments and suggestions received from the panel.

The revised questionnaires and cover letters were reviewed by The Pennsylvania State University Office of Regulatory Compliance to ensure compliance with University policies. The study was approved to be conducted according to the rules and guidelines

of the Office of Regulatory Compliance on October 26, 2006, IRB # 24220 (see Appendix B).

### **Data Collection**

Data collection was conducted in three stages. A postcard informing 86 agricultural teacher educators regarding the study was mailed on October 27, 2006. One week later, cover letters, coded questionnaires, the response by specified date and prepaid return addressed envelopes were mailed on November 3, 2006. The cover letter requested the questionnaires be completed and returned by November 15, 2006. Participating teacher educators were asked to identify and distribute pre-service teacher questionnaires, cover letters, to respond by a specified date, and return addressed envelopes to three pre-service teachers. Both cover letters for agricultural teacher educators and agricultural education pre-service teachers stressed that the strictest confidentiality would be upheld during the study.

Two weeks after the first mailing, 13 (15.5%) teacher educators and 19 (7.5%) pre-service teachers responded. On November 17, 2006, a second mailing of the teacher educator questionnaire, a cover letter, the response by specified date and a prepaid return addressed envelope was mailed to all non responding teacher educators stressing the importance of their participation as well as the participation of the identified pre-service teachers. As a result, 13 (15.5%) additional teacher educator surveys and 18 (7.1%) additional pre-service teacher surveys were received. To increase the low response rate, the researcher developed a web survey version of the teacher educator questionnaire.

On December 4, 2006, all non responding teacher educators were contacted by electronic mail which included a web survey using SurveyMonkey.com stressing the importance of their participation as well as identified pre-service teachers' completion of the mail pre-service questionnaire.

As a result, 20 (23.8%) teacher educator web surveys were received. Non responding teacher educators were also contacted by telephone call December 4, 2006 to increase the low response rates. As a result, 17 (20.2%) teacher educator mail surveys and 32 (12.7%) pre-service teacher mail surveys were received. At the end of data collection, 63 useable teacher educator surveys were received for a total response rate of 75% (see Table 2). Sixty-nine useable pre-service teacher surveys were received for a total response rate of 27.3% (see Table 3).

To address the issue of nonresponse bias, a comparison was made between early and late respondents (Miller & Smith, 1983). Early respondents (n=13) were those teacher educators who responded within two weeks after the questionnaires were mailed and late respondents (n=50) were those teacher educators that responded two weeks after the initial mailing. The chi square analysis procedure was used to compare early and late respondents' responses with each of the items of the dependent variables (instructional techniques, accommodations, and federal legislative acts) in the study. There were no statistically significant differences ( $p > .05$ ) found between early and late respondents in the study. The chi square analysis procedure was used to compare teacher educator mail survey respondents and teacher educator web survey respondents with each of the dependent variables (instructional techniques, accommodations, and federal legislative

Table 2  
Number and Percentage of Returns from Teacher Educators (n=63)

<b>Time and Date of Mailing</b>	<b>n</b>	<b>%</b>
<b>Returns</b>		
First Mailing		
November 3, 2006 - November 15, 2006	13	15.5%
Second Mailing		
November 17, 2006 – December 1, 2006	13	15.5%
Third Mailing		
December 4, 2006 – January 15, 2007	<u>37</u>	<u>44.0%</u>
<b>Total Returns</b>	63	75.0%

Note: Percent return was based upon N=84. Two institutions were removed from the study because they were inactive.

Table 3  
Number and Percentage of Returns from Pre-service Teachers (n=69)

<b>Time and Date of Mailing</b>	<b>n</b>	<b>%</b>
<b>Returns</b>		
First Mailing		
November 3, 2006 - November 15, 2006	19	7.5%
Second Mailing		
November 17, 2006 – December 1, 2006	18	7.1%
Third Mailing		
December 4, 2006 – January 15, 2007	<u>32</u>	<u>12.7%</u>
<b>Total Returns</b>	69	27.3%

Note: Percent return was based upon N=252. Two institutions were removed from the study because they were inactive.

acts) in the study. There were no statistically significant differences ( $p > .05$ ) found between teacher educator mail survey respondents and teacher educator web survey respondents.

### **Data Analysis**

The data were used to make comparisons and address the study research questions. The data computations were conducted using the Statistical Package for the Social Science (SPSS, version 15.0) available through The Pennsylvania State University. A sample of the population of agricultural teacher education programs justified the researcher to use descriptive and inferential statistics.

Descriptive statistics included frequency distributions, percentages, means, and standard deviations. Inferential statistics indicate that on a basis of the statistics collected on representative samples, inferences will be made about characteristics, traits or performances of populations (Black, 1999). Inferential statistics included independent t-test, correlations, and chi square analysis. The researcher used the correct analysis to provide appropriate analyses. Trochim (1986) stated that, “there is an increasing recognition of the implications of not attending to the correct analysis when analyzing the data and of the advantages and implications of conducting analyses as multiple levels” (p. 5). Several of the independent variables in the study were dummy coded to perform further analyses with each of the summated Likert scale dependent variables (instructional techniques, accommodations, and federal legislative acts). Statistical



significant values of  $\leq .05$  are reported. The researcher also reports marginally significant differences when  $p < .08$  and  $p > .05$  (Huck, 2004).

## **Chapter 4**

### **FINDINGS**

The purpose of this study was to examine the practices agricultural teacher educators report to cover to prepare agricultural education pre-service teachers to work with students with learning disabilities in secondary agricultural education programs. A secondary purpose was to examine the preparation pre-service teachers report to receive in pre-service programs to work with students with learning disabilities in secondary agricultural education programs.

Findings in this chapter are organized into the following sections: 1) demographic data of agricultural teacher educators and pre-service programs; 2) practices agricultural teacher educators report to cover to prepare agricultural education pre-service teachers to provide instruction for students with learning disabilities in secondary agricultural education programs; 3) practices agricultural teacher educators report to cover to prepare agricultural education pre-service teachers to provide accommodations for students with learning disabilities in secondary agricultural education programs; 4) practices agricultural teacher educators report to cover to familiarize agricultural education pre-service teachers regarding federal legislative acts that govern students with disabilities in secondary settings; 5) demographic data of agricultural education pre-service teachers and pre-service programs; 6) preparation agricultural education pre-service teachers report to receive in pre-service programs to provide instruction for students with learning disabilities in secondary agricultural education programs; 7) preparation agricultural

education pre-service teachers report to receive in pre-service programs to provide accommodations for students with learning disabilities in secondary agricultural education programs; 8) preparation agricultural education pre-service teachers report to receive in pre-service programs regarding federal legislative acts that govern students with disabilities in secondary settings.

### **Agricultural Teacher Educators**

Although 63 useable teacher educator questionnaires were returned, some items were not answered by all respondents. Therefore, the number of responses reported for various items may vary from characteristic to characteristic. In the following sections item means are reported; however Appendix C summarizes the frequency distributions for each of the dependent variables in the study.

#### **Profile of Teacher Educators**

*Question one examined teacher educator gender, professional title, professional role, number of years teaching in a secondary setting, number of years teaching in a postsecondary setting, number of years teaching students with learning disabilities in a secondary and/or postsecondary setting, number of workshops completed in the last five years related to teaching students with learning disabilities and the disclosure of a disability by self, a child and/or family member.*

Gender. The majority, 90.3% (n=56) of the respondents were male and 9.7% (n=6) were female (see Table 4).

Professional Title. Of the agricultural teacher educators that responded, 22.2% (n=14) were professors, 34.9% (n=22) were associate professors, and 33.3% (n=21) were assistant professors. A few (6.3%; n=4) of the respondents reported instructor/lecturer as their professional title (see Table 4).

Professional Role. Respondents were able to report more than one professional role for this item. Most (55.6%; n=35) of the respondents were pre-service coordinators. The remaining 15.9% (n=10) were teacher educators, 11.1% (n=7) were department heads, while 1.6% (n=1) reported being an assistant state FFA supervisor, a pre-service coordinator/department head, a pre-service coordinator/program leader, a program leader, and an undergraduate coordinator (see Table 4).

Table 4  
 Frequency and Percentage for Teacher Educator Gender, Professional Title and Professional Role

<b>Characteristic</b>	<b>f</b>	<b>%</b>
<b>Gender</b>		
Male	56	90.3
Female	<u>6</u>	<u>9.7</u>
<b>Total</b>	61	100.0
<b>Professional title</b>		
Professor	14	22.2
Associate Professor	22	34.9
Assistant Professor	21	33.3
Instructor/Lecturer	4	6.3
Not Reported	<u>2</u>	<u>3.2</u>
<b>Total</b>	63	100.0
<b>Professional role</b>		
Assistant State Supervisor (Ag Ed/FFA)	1	1.6
Department Head	7	11.1
Department Head/Pre-service Coordinator	1	1.6
Pre-service Coordinator	35	55.6
Program Leader/Pre-service Coordinator	1	1.6
Program Leader	1	1.6
Teacher Educator	10	15.9
Undergraduate Coordinator	1	1.6
Not reported	<u>6</u>	<u>9.5</u>
<b>Total</b>	63	100.0

## **Profile of Pre-service Programs**

*Question one also examined the administrative location of pre-service programs, what agency certifies the pre-service program, if the accreditation agency requires pre-service credits in special education, where pre-service teachers receive preparation in special education courses, and the total number of undergraduate and graduate students enrolled in pre-service programs.*

### **Number of Years Teaching in a Secondary Setting**

The number of years teacher educators reported teaching in a secondary school setting was recoded to address the wide range of responses. The variable was recoded into the following four categories: 1=1-4 years, 2=5-8 years, 3=9-12 years, and 4=13 years and higher. About, 72% (n=45) of the respondents reported teaching in a secondary school setting 1-8 years. Almost 13% (n=8) taught 9-12 years and 11% (n=7) taught 13 or more years (Table 5).

### **Number of Years Teaching in a Postsecondary Setting**

The number of years teaching in a postsecondary setting variable was recoded to address the wide range of responses. The item was recoded into the following four categories: 1=1-4 years, 2=5-8 years, 3=9-12 years, and 4=13 years and higher. The majority of respondents (38.1%; n=24) reported teaching 1-8 years in a postsecondary setting. Over half (55.6%; n=35) taught 9 or more years (Table 5).

**Number of Years Teaching Students with Learning Disabilities  
in a Secondary and/or Postsecondary Setting**

The number of years teaching students with learning disabilities in a secondary and/or postsecondary setting was recoded to address the wide range of responses. The variable was recoded into the following four categories: 1=7 years or less, 2=8-14 years, 3=15-26 years, and 4=27 years or more. Seventeen (27%) teacher educators reported teaching 7 years or less and another 17 (27%) reported teaching 8-14 years. Slightly more than one-third, (22; 34.9%) of the respondents reported teaching students with a learning disability 15 or more years in a secondary and/or postsecondary setting (see Table 5).

Table 5  
 Frequency and Percentage of Number of Years Teaching in a Secondary and Postsecondary Setting and Number of Years Teaching Students with Learning Disabilities in a Secondary/Postsecondary Setting by Teacher Educators

<b>Characteristic</b>	<b>f</b>	<b>%</b>
<b>Number of years teaching in a secondary setting</b>		
1-4	24	38.1
5-8	21	33.3
9-12	8	12.7
13 or more	7	11.1
Not reported	<u>3</u>	<u>4.8</u>
<b>Total</b>	63	100.0
<b>Number of years teaching in a postsecondary setting</b>		
1-4	7	11.1
5-8	17	27.0
9-12	9	14.3
13 or more	26	41.3
Not reported	<u>4</u>	<u>3.6</u>
<b>Total</b>	63	100.0
<b>Number of years teaching students with LD in a secondary and/or postsecondary setting</b>		
7 or less	17	27.0
8-14	17	27.0
15-26	7	11.1
27 or more	15	23.8
Not reported	<u>7</u>	<u>11.1</u>
<b>Total</b>	63	100.0



## **Differences in Instructional Techniques, Accommodations and Federal Legislative Acts Summated Values Examined by Teacher Educator Characteristics**

### **Number of Years Teaching in a Secondary Setting**

A numerical analysis showed that when teacher educators taught 13 or more years in a secondary setting, they covered more instructional techniques and accommodations in pre-service programs than the other respondents (see Table 6). Even though numerical differences were found further analysis of variance showed no statistically significant differences were found for years teaching in a secondary setting with each of the dependent variables (instructional techniques, accommodations, and federal legislative acts) in the study.

### **Number of Years Teaching in a Postsecondary Setting**

Table 7 shows there were no significant differences found for the item and the dependent variables (instructional techniques, accommodations and federal legislative acts) in the study.

### **Number of Years Teaching Students with Learning Disabilities in a Secondary and/or Postsecondary Setting**

Table 8 displays the mean comparisons for the item and the dependent variables (instructional techniques, accommodations, federal legislative acts) in the study. A numerical analysis showed that when teacher educators taught 9 or more years they covered more instructional techniques and accommodations in pre-service programs than the other respondents.

Table 6  
Mean Comparisons for Teacher Educator Years Teaching in a Secondary Setting and Dependent Variables

<b>Characteristic</b>	1-4	5-8	9-12	13 or more	Total
Instructional Techniques	32.85	35.62	31.50	37.85	34.17
Accommodations	19.04	19.52	21.00	24.28	20.16
Federal Legislative Acts	11.95	11.95	10.85	13.00	11.94

Note. Theoretical ranges for summated scores for instructional techniques (4-48), accommodations (4-32) and federal legislative acts (4-16).

Table 7  
Mean Comparisons for Teacher Educator Years Teaching in a Postsecondary Setting and Dependent Variables

<b>Characteristic</b>	1-4	5-8	9-12	13 or more	Total
Instructional Techniques	35.33	35.00	31.57	34.09	34.17
Accommodations	17.14	21.37	16.00	21.62	20.24
Federal Legislative Acts	11.42	12.52	8.42	13.04	12.07

Note. Theoretical ranges for summated scores for instructional techniques (4-48), accommodations (4-32) and federal legislative acts (4-16).

Table 8  
Mean Comparisons for Teacher Educator Years Teaching Students with Learning Disabilities in a Secondary/Postsecondary Setting and Dependent Variables

<b>Characteristic</b>	1-4	5-8	9-12	13 or more	Total
Instructional Techniques	32.28	33.93	36.33	35.23	34.10
Accommodations	18.60	20.37	22.16	21.85	20.47
Federal Legislative Acts	12.33	11.47	12.00	12.61	12.07

Note. Theoretical ranges for summated scores for instructional techniques (4-48), accommodations (4-32) and federal legislative acts (4-16).

Even though numerical differences were found, further analysis of variance showed there were no statistically significant differences found for the item when compared with each of the instructional techniques, accommodations, and federal legislative acts in the study.

### **Number of Workshops Completed in the Last Five Years Related to Teaching Students with Learning Disabilities**

Respondents were asked to provide the number of workshops completed in the last five years related to teaching students with learning disabilities. Because of the wide range (1 to 10 workshops) of responses received the variable was recoded as: [1=1-2 workshops, 2=3-4 workshops, and 3=5 or more workshops] (see Table 9). There was a numerical significant difference for the number of workshops completed. The findings show that teacher educators covered more accommodations than the other respondents when five or more workshops were completed. The findings also show that teacher educators covered fewer instructional techniques when they completed 5 or more workshops. Table 10 provides the frequency and percentage of number of workshops completed by teacher educators. Over one-third, (34.9%) of the respondents reported completing 1-2 workshops, five (7.9%) completed five workshops, four (6.3%) completed three workshops and four workshops, while one (1.6%) reported eight workshops were completed and another respondent (1.6%) reported completing ten workshops. Twenty-four (38.1%) of the respondents reported they did not complete a workshop related to teaching students with learning disabilities.

Table 9  
Mean Scores by Number of Workshops Teacher Educators Completed Related to Teaching Students with Learning Disabilities for Dependent Variables

<b>Dependent Variable</b>	<b>Number of Workshops</b>			<b>Total</b>
	1-2	3-4	5 or more	
Instructional Techniques	35.15	34.37	34.57	34.85
Accommodations	19.85	20.37	23.00	20.58
Federal Legislative Acts	12.54	11.57	12.85	12.41

Table 10  
Frequency and Percent of Number of Workshops Completed Related to Teaching Students with Learning Disabilities by Teacher Educators

<b>Number of Workshops completed</b>	<b>f</b>	<b>%</b>
One	12	19.0
Two	10	15.9
Three	4	6.3
Four	4	6.3
Five	5	7.9
Eight	1	1.6
Ten	1	1.6
None	24	38.1
Not Reported	<u>2</u>	<u>3.2</u>
<b>Total</b>	<b>63</b>	<b>100.0</b>

Note. Length or topic of workshops was not indicated.

### **Administrative Location of Pre-service Programs**

There were a wide range of responses received for the item (see Appendix D). The researcher recoded the variable due to the variance of respondent responses. The researcher researched several institutions after they were identified as similar. The item was recoded as: [1=college of applied arts 2=college of agricultural sciences and 3=college of education]. Most of the respondents, thirty-nine (64%) reported the pre-service program was administratively located in the College of Agricultural Sciences, eighteen (28.8%) were located in the College of Education, and five (7.9%) were located in the College of Applied Arts (see Table 11).

### **Pre-service Program Accreditation**

When asked what agency certifies their pre-service program, 28 (44.4%) teacher educators reported certification was received from the respective State Department of Education and the National Council for Accreditation of Teacher Education (NCATE). Twenty-three (36.5%) received certification from the respective State Department of Education, and 12 (19%) pre-service programs received accreditation from the National Council for Accreditation of Teacher Education (NCATE) (see Table 12).

### **Special Education Credits Required by Accreditation Agency**

Of the teacher educators that responded, 46 (73%) reported special education credits were required by the accreditation agency. Fifteen (23.8%) respondents reported special education credits were not required by the accreditation agency. Of those respondents that reported special education credits were required, 41 (65.6%)

Table 11  
Frequency and Percentage of the Administrative Location of Pre-service Programs  
Reported by Teacher Educators

<b>Pre-service Program</b>	f	%
College of Agricultural Sciences	39	64.0
College of Applied Arts	5	7.9
College of Education	18	28.8
Other*	<u>1</u>	<u>1.6</u>
<b>Total</b>	63	100.0

Note. \*General Academic and Student Programs.

Table 12  
Frequency and Percentage of Pre-service Program Accreditation Reported by Teacher  
Educators

<b>Characteristic</b>	f	%
NCATE	12	19.0
State	23	36.5
State and NCATE	28	44.4
Not Reported	<u>1</u>	<u>1.6</u>
<b>Total</b>	63	100.0

Note. NCATE=National Council for Accreditation of Teacher Education.

provided the number of credits required. Twenty-four (38.1%) reported three credits, seven (11.1%) reported six credits, five (7.9%) reported two credits, four (6.3%) reported four credits, and one (1.6%) respondent reported one credit was required (see Table 13).

### **Where Pre-service Students Receive Preparation in Special Education Courses**

Teacher educators were asked where pre-service teachers receive preparation in special education courses. Table 14 provides the respondents' responses to the survey item. Over one-third (34.9%; n=22) of the respondents reported pre-service teachers received preparation in special education courses in the Special Education Department. Fourteen (22.2%) reported students received preparation in the Education Department and 16 (25.5%) reported the respondents received preparation in the Agricultural Education Department and a combination of The Agricultural Education Department and other programs and/or courses. Other respondents (9.6%; n=7) reported pre-service teachers received preparation in a foundation course, human development, a teacher education course, a methods course, and The Curriculum and Instruction Department.

### **Number of Undergraduate and Graduate Students in Pre-service Programs**

Table 15 provides a summary of the enrollment of undergraduate students and graduate students in pre-service programs with 38 (60.3%) responses to the survey item. Several respondents reported high enrollment numbers for undergraduate programs. For instance, one respondent reported that 300 undergraduate students were enrolled in the pre-service program. The researcher established that the actual enrollment numbers provided by a few of the respondents were actually the enrollment numbers for the entire

Table 13  
Frequency and Percentage of Special Education Credits Required By Accreditation Agencies Reported by Teacher Educators

<b>Credits Required</b>	<b>f</b>	<b>%</b>
No	15	23.8
Yes* (# of credits)	46	73.0
One	1	1.6
Two	5	7.9
Three	24	38.1
Four	4	6.3
Six	7	11.1
Not Reported	<u>2</u>	<u>3.2</u>
<b>Total</b>	63	100.0

Note. \*Includes respondents that did not provide the number of credits required. There were no distinctions made for semester or quarter hours.

Table 14  
Frequency and Percentage of Where Pre-service Students Receive Preparation in Special Education Courses Reported by Teacher Educators

<b>Characteristic</b>	<b>f</b>	<b>%</b>
AGED	2	3.2
AGED and Curriculum and Instruction	1	1.6
AGED and Special Education	8	12.7
AGED, Special Education and Education	1	1.6
AGED, Special Education and Guest Speakers	1	1.6
AGED, Special Education and Psychology	2	3.2
AGED, Teacher Education and Psychology	1	1.6
Curriculum and Instruction	2	3.2
Education Department	14	22.2
Foundation course	1	1.6
Human Development	1	1.6
Methods course	2	3.2
Special Education	22	34.9
Teacher Education	1	1.6
Not Reported	<u>4</u>	<u>6.3</u>
<b>Total</b>	63	100.0



Table 15  
Summary of Pre-service Undergraduate and Graduate Program Enrollment

Program	N	Mean	SD	95%		Range	
				CI		Low	High
Undergraduate	38	60.47	58.14	45	75	3	300
Graduate	38	14.21	18.59	8	20	2	75

Note. N=Respondents who responded to the survey item.

pre-service programs. Undergraduate programs (M=60.47) had a range of 3 to 300 and the graduate programs (M=14.21) had a range of 2 to 75.

### Teaching Instructional Techniques

*Question two was to examine the practices agricultural teacher educators reported covered to prepare pre-service teachers to provide instruction for students with learning disabilities in secondary agricultural education programs?*

For qualitative interpretation purposes the original response scale for dependent variables (instructional techniques, accommodations, and federal legislative acts) was recoded. The pre-service teacher's 0=don't know responses were removed before data analysis was conducted. The recoded scale of measurement: 1=not covered, 2=partially covered, 3=mostly covered, 4=completely covered was used throughout the study.

Table 16 provides the qualitative mean interpretation.

Teacher educators reported the extent to which instructional techniques were covered in pre-service programs (see Table 17). Cooperative pairs/groups (M=3.38), differentiated instruction (M=3.26), guided practice (M=3.14), graphic organizers

Table 16  
Qualitative Mean Interpretation

<b>Qualitative Scale</b>	<b>Mean Values</b>
Not Covered	1.49 and less
Partially Covered	1.5-2.49
Mostly Covered	2.5-3.49
Completely Covered	3.5 and higher

Table 17  
Frequency, Mean and Standard Deviation for Teacher Educator Coverage of Instructional Techniques

<b>Instructional Technique</b>	<b>f</b>	<b>Mean</b>	<b>S.D.</b>
Task Analysis	62	2.79	.88
Scaffolding	61	2.81	.82
Differentiated Instruction	61	3.26	.79
Concept Mastery Routine	60	2.53	.94
Peer Tutoring	60	2.53	1.08
Graphic Organizer	60	2.83	.90
Cooperative pairs/groups	62	3.38	.79
Strategy Cues	60	2.46	.99
Mnemonic Device	59	2.38	.92
Guided Practice	61	3.14	.81
Choral Response	61	2.18	.92
Direct/Explicit Instruction	61	3.14	.89

Scale: 1=not covered, 2=partially covered, 3=mostly covered, 4=completely covered.

(M=2.83), scaffolding (M=2.81), task analysis (M=2.79), concept mastery routine (M=2.53), and peer tutoring (M=2.53) were reported as “*Mostly Covered.*” Strategy cues (M=2.46), direct/explicit instruction (M=2.46), mnemonic device (M=2.38), and choral response (M=2.18) were reported as “*Partially Covered.*”

### **Teaching Accommodations**

*Question three examined the practices agricultural teacher educators reported covered to prepare pre-service teachers to provide accommodations for students with learning disabilities in secondary agricultural education programs.*

Teacher educators reported the extent to which accommodations were covered in pre-service programs (see Table 18). Overall, teacher educators reported extra/extended time (M=3.11), preferential seating (M=2.90), photocopies (M=2.88), and alternative assignments (M=2.82) as “*Mostly Covered.*” Basic calculators (M=2.25), scribe/note-taker (M=2.17), graph/ lined paper (M=1.94), and tape-recorded materials/books (M=1.80) were reported as “*Partially Covered.*”

### **Teaching Federal Legislative Acts**

*Question four was to examine the practices agricultural teacher educators reported covered to familiarize pre-service teachers regarding federal legislative acts that govern students with disabilities in secondary settings.*

Teacher educators reported the extent to which federal legislative acts were covered in pre-service programs (see Table 19). The respondents reported each of the

Table 18  
Frequency, Mean and Standard Deviation for Teacher Educator Coverage of Accommodations

<b>Accommodation</b>	<b>f</b>	<b>Mean</b>	<b>S.D.</b>
Extra/Extended time	61	3.11	.87
Tape-recorded materials/Books on Tape	61	1.80	.92
Preferential seating	61	2.90	1.01
Photocopies	59	2.88	1.06
Scribe/Note-taker	57	2.17	.98
Alternative assignments	58	2.82	.93
Basic Calculators	58	2.25	1.14
Graph/Lined Paper	57	1.94	1.02

Scale: 1=not covered, 2=partially covered, 3=mostly covered, 4=completely covered.

Table 19  
Frequency, Mean and Standard Deviation for Teacher Educator Coverage of Federal Legislative Acts

<b>Federal Legislative Act</b>	<b>f</b>	<b>Mean</b>	<b>S.D.</b>
IDEA 1997	57	3.08	.93
IDEIA 2004	57	2.92	.97
Section 504	57	2.89	.95
No Child Left Behind Act	57	3.11	.95

Scale: 1=not covered, 2=partially covered, 3=mostly covered, 4=completely covered.

federal legislative acts, The No Child Left Behind Act (M=3.11), IDEA 1997 (M=3.08), IDEIA 2004 (M=2.92) and Section 504 (M=2.89) as “*Mostly Covered*” in pre-service programs.

### **Exceptionalities Reported by Teacher Educators**

Exceptionalities self-disclosed by teacher educators and pre-service teachers are shown in Table 20. Of the teacher educators that responded, 9.5% self-disclosed for a learning disability. Respondents self-disclosed for seven of the exceptionality categories. The categories include: attention deficit disorder (ADD)/attention deficit hyperactivity disorder (ADHD), blind/visual impaired, communicative disorder, gifted/talented, learning disabled, other health impaired, and deaf/hearing impaired.

The category traumatic brain injury (TBI) was the least reported category for self, child and/or family member by the respondents; the category was followed by mental retardation, and developmental disorder. However, teacher educators reported a child and family member for each of the exceptionality categories. Gifted/Talented was the most reported category for a child, whereas ADD/ADHD was the most reported category for a family member. One respondent self-disclosed for a hearing impairment and another respondent reported a child with deafness.

Table 20  
Percentages of Exceptionalities Reported by Teacher Educators and Pre-service Teachers

Group	AU	ADD/ ADHD	BEH/ EMO	Blind/ VIS	COM	DEV	Gifted	LD	MR	PHY	TBI	OHI
Teacher Educator (N=63)	%	%	%	%	%	%	%	%	%	%	%	%
Self	----	4.8	----	1.6	1.6	----	1.6	6.3	----	1.6	----	1.6
Child	6.3	7.9	6.3	6.3	9.5	3.2	23.8	6.3	1.6	6.3	4.8	3.2
Family member	4.8	15.9	4.8	----	1.6	6.3	7.9	14.3	3.2	9.5	1.6	1.6
Self and Child	----	1.6	----	1.6	----	----	----	1.6	----	----	----	----
Self and family member	----	1.6	----	1.6	----	----	----	----	----	----	----	1.6
Child and family member	----	1.6	----	----	----	----	4.8	1.6	3.2	1.6	----	3.2
Self, child and family member	----	----	----	----	----	----	1.6	1.6	----	----	----	----
No*	88.9	66.7	88.9	88.9	87.3	90.5	60.3	68.3	92.1	81.0	93.7	88.9
Pre-service Teacher (N=69)	%	%	%	%	%	%	%	%	%	%	%	%
Self	1.4	4.3	1.4	1.4	2.9	2.9	14.5	4.3	1.4	2.9	2.9	2.9
Family member	7.2	17.4	11.6	14.5	4.3	2.9	17.4	14.5	4.3	8.7	----	10.1
Friend	18.8	33.3	18.8	7.2	15.9	17.4	18.8	23.2	20.3	30.4	7.2	10.1
Self and family member	----	1.4	----	1.4	----	----	1.4	1.4	----	----	----	----
Self and friend	----	----	----	----	----	----	1.4	----	----	----	----	----
Family member and friend	1.4	4.3	1.4	2.9	----	----	4.3	2.9	----	----	----	2.9
Self, family member and friend	----	----	----	1.4	----	----	8.7	----	----	----	----	1.4
No*	71.0	39.1	66.7	71.0	76.8	76.8	33.3	53.6	73.9	58.0	89.9	72.5

Note: Exceptionalities: AU=Autism, ADD/ADHD=Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder, BEH/EMO=Behavioral/Emotional Disorder, Blind/VIS=Blind/Visual Impairment, COM=Communicative Disorder, DEV=Developmental Disorder, Gifted=Gifted/Talented, LD=Learning Disability, MR=Mental Retardation, PHY=Physical Disability, TBI=Traumatic Brain Injury, OHI=Other Health Impairment. Two teacher educator respondents reported for the Hearing/Deaf exceptionality. One respondent reported a deaf child and one respondent self-disclosed for a hearing impairment. \*Denotes the percentage of respondents that did not provide a response for the exceptionality category.

### **Teacher Educator Additional Comments**

The researcher reviewed the responses and developed themes to represent the written responses. Qualitative data were collected from the teacher educators to examine areas not addressed in the survey instrument. The ability to provide additional comments provided respondents an opportunity to share additional thoughts, comments, and raise concerns and topics. The researcher reviewed the responses and developed themes to represent the primary concepts/thoughts written.

#### **Theme#1 - Pre-service Program Requirements**

Our students take two 3 semester hour courses that deal with students with disabilities. We do not cover that in Ag Ed courses.

Our students take a course on working with students with special needs from another department. Our students report that the class does a good job preparing them, but I don't know the exact topics and strategies taught. On the topic of accreditation, our state requires that students receive instruction on special needs learners as one of the standards, but no longer requires specific courses in any area.

Our College of Education handles all the pre-service training for our students. We are housed in the College of Agricultural Sciences.

Techniques for teaching special needs students are infused into agriculture education courses. However, most of the related content is taught by faculty in the College of Education where the exceptional child course is taken by all teacher education majors.

The special education components have been spread over about 5 courses. The general education program has been revised and there is a new, specific course dealing with learning disabilities and exceptional learning placed in the curriculum for a total of 3 semester hours. I view this as a positive addition to the program.

We cover special needs in class and bring in experts to talk to the students. We stopped integrating SPED instruction for state requirements and instead require our students to complete a 3 credit course within SPED.

During student teaching, student teachers are required to conference with local SPED coordinators and review adaptations and identification policies of schools. They [pre-service students] also complete a paper on that experience and follow with an IEP of a student.

## **Theme#2 - Pre-service Program Needs**

Regarding “pre-service programs, “I am NOT fully informed about all learning experiences (i.e., exposure to techniques, strategies, and accommodation approaches) that our students encounter in the required SPED course they take.

Many of these components may be covered through the special education course our students take from the Special Education Department. We cover some of this in our Ag Ed courses but students may not recognize the names or descriptions without explanation.

We are in the process of creating our own (Teaching Diverse Populations in Ag Ed) which will include more special needs instruction.

### **Further Analyses of Teacher Educators and Pre-service Programs**

The researcher conducted further analyses to report findings for the correlations within and between teacher educators’ independent and dependent variables in the study. Table 21 shows there was a moderate relationship between each of the teacher educator dependent variables in the study.

There was a marginal difference ( $p=.062$ ) for pre-service coordinators (see Table 22). The study found there were numerical and statistically significant differences ( $p=.002$ ) for pre-service program accreditation. Table 23 provides the mean and standard deviation of pre-service program accreditation. Table 24 shows there was a numerical



Table 21  
Correlations Among Dependent Variables for Teacher Educators

<b>Characteristic</b>	<b>Instructional Techniques</b>	<b>Accommo- dations</b>	<b>Federal Legislative Acts</b>
<i>Instructional Techniques</i>			
Pearson Correlation	1	.620**	.432**
Sig. (2-tailed)		0.000	.001
Sum of Squares and Cross-products	2066.545	1120.963	463.000
Covariance	38.269	21.150	9.078
N	55	54	52
<i>Accommodations</i>			
Pearson Correlation	.620**	1	.603**
Sig. (2-tailed)	0.000		0.000
Sum of Squares and Cross-products	1120.963	1754.561	602.964
Covariance	21.150	31.331	11.166
N	54	57	55
<i>Federal Legislative Acts</i>			
Pearson Correlation	0.432**	.603**	1
Sig. (2-tailed)	0.001	0.000	
Sum of Squares and Cross-products	463.000	602.964	618.982
Covariance	9.078	11.166	11.254
N	52	55	56

Note. \*\* denotes Correlation is significant at the 0.01 level (2-tailed).

Table 22  
Mean Comparisons for Pre-service Coordinators and Other Respondents

<b>Pre-service Coordinator</b>		Instructional Techniques	Accommodations	Federal Legislative Acts
Pre-service Coordinator	Mean	34.05	21.88	12.94
	N	18	17	17
	S.D.	6.14	5.44	2.58
Other	Mean	33.66	17.00	12.42
	N	6	8	7
	S.D.	6.53	6.59	3.20
<b>Total</b>	Mean	33.95	20.32	12.79
	N	24	25	24
	S.D.	6.10	6.14	2.71

Note. Items were recoded for analysis purposes.

Table 23  
Mean and Standard Deviation of Pre-service Program Accreditation Reported by Teacher Educators

<b>Accreditation Agency</b>		Instructional Techniques	Accommodations	Federal Legislative Acts
NCATE	Mean	34.08	18.80	11.77
	N	34	36	36
	S.D.	6.26	5.36	3.40
State	Mean	34.31	22.45	12.45
	N	19	20	20
	S.D.	5.77	4.89	3.30
<b>Total</b>	Mean	33.90	19.91	12.01
	N	55	57	56
	S.D.	6.186	5.59	3.35

Note. Items were recoded for analysis purposes.

Table 24  
Mean Comparison of Number of Workshops Completed by Teacher Educators

<b>Workshops completed</b>		Instructional Techniques	Accommodations	Federal Legislative Acts
1-2	Mean	35.52	21.28	12.50
	N	25	25	24
	S.D.	5.73	5.20	3.23
3 or more	Mean	33.00	19.00	12.25
	N	9	11	12
	S.D.	4.09	5.36	2.37
<b>Total</b>	Mean	34.85	20.58	12.41
	N	34	36	36
	S.D.	5.40	5.28	2.94

Note. Items were recoded for analysis purposes.

significant difference for number of workshops teacher educators completed related to teaching students with learning disabilities

There were no significant differences ( $p > .05$ ) found for the following independent variables: teacher educator gender (see Table 25); Table 26 displays the where pre-service programs were administratively located item recoded as: [0=sped, 1=others]; teacher educator self-disclosed for a learning disability (see Table 27); special education credits required by an accreditation agency (see Table 28); and where pre-service teachers receive preparation in special education (see Table 29).

Table 25  
Mean and Standard Deviation for Teacher Educator Gender

<b>Gender</b>		Instructional Techniques	Accommo- dations	Federal Legislative Acts
Male	Mean	33.87	19.78	12.01
	N	48	51	51
	S.D.	6.20	5.20	3.40
Female	Mean	37.00	23.40	12.00
	N	5	5	5
	S.D.	3.31	7.40	3.08
<b>Total</b>	Mean	34.16	20.10	12.01
	N	53	56	56
	S.D.	6.03	5.44	3.35

Note. Items were recoded for analysis purposes.

Table 26  
Mean and Standard Deviation for Administrative Location of Pre-service Programs

<b>Pre-service Program</b>		Instructional Techniques	Accommo- dations	Federal Legislative Acts
Special Education Dept	Mean	9.60	18.93	11.86
	N	13	15	15
	S.D.	34.15	5.18	3.68
Others	Mean	34.02	20.50	12.02
	N	39	40	40
	S.D.	5.51	5.60	3.30
Not Reported	Mean	31.33	15.50	14.00
	N	3	2	1
	S.D.	9.60	9.19	
<b>Total</b>	Mean	33.90	19.91	12.01
	N	55	57	56
	S.D.	6.18	5.59	3.35

Table 27  
Mean and Standard Deviation for Teacher Educator Learning Disability Item

<b>Characteristic</b>		<b>Instructional Techniques</b>	<b>Accommo- dations</b>	<b>Federal Legislative Acts</b>
Teacher Educator with LD	Mean	35.20	23.40	14.40
	N	5	5	5
	S.D.	1.92	4.50	1.81
Others	Mean	36.61	20.78	13.00
	N	13	14	14
	S.D.	6.47	4.94	2.66
<b>Total</b>	Mean	36.22	21.47	13.36
	N	18	19	19
	S.D.	5.55	4.85	2.49

Table 28  
Mean and Standard Deviation for Pre-service Program Special Education Credits  
Required by Accreditation Agency

<b>Characteristic</b>		<b>Instructional Techniques</b>	<b>Accommo- dations</b>	<b>Federal Legislative Acts</b>
Credits required	Mean	34.57	19.85	11.90
	N	40	42	41
	S.D.	5.73	5.53	3.59
Credits not required	Mean	32.81	21.58	12.84
	N	11	12	13
	S.D.	7.65	5.38	2.47
<b>Total</b>	Mean	34.19	20.24	12.12
	N	51	54	54
	S.D.	6.15	5.49	3.36

Note. Item was recoded for analysis purposes. There was no distinction made between semester and quarter hours.

Table 29  
Mean and Standard Deviation for Where Pre-service Teachers Receive Preparation in  
Special Education Courses

<b>Characteristic</b>		Instructional Techniques	Accommo- dations	Federal Legislative Acts
Special Education Dept	Mean	34.91	21.76	12.50
	N	12	13	12
	S.D.	6.24	5.35	2.74
Other	Mean	33.89	19.69	11.71
	N	37	39	39
	S.D.	6.32	5.64	3.66
Not Reported	Mean	32.00	16.80	13.20
	N	6	5	5
	S.D.	5.72	5.06	1.78
<b>Total</b>	Mean	33.90	19.91	12.01
	N	55	57	56
	S.D.	6.18	5.59	3.35

Note. Item was recoded for analysis purposes.

### **Agricultural Education Pre-service Teachers**

Although 69 useable pre-service teacher questionnaires were returned, some items were not answered by all respondents. Therefore, the number of respondents may vary from characteristic to characteristic. In the following sections item means are reported; however, Appendix C summarizes the frequency distributions for each of the dependent variables in the study.

*Question five examined agricultural education pre-service teacher gender, classification, where special education courses were completed, number of special*

*education courses completed, where skills were acquired for teaching students with learning disabilities, the administrative location of pre-service programs and the disclosure of a disability by self, a family member and/or friend.*

### **Profile of Pre-service Teachers**

Gender and Classification. Over half (63.8%; n=44) of the respondents were female and 25 (36.2%) were male. The majority (53.6%; n=37) of pre-service teachers were seniors. The remaining pre-service teachers were juniors (n=13), masters students (n=16), and non-degree graduate students (n=3) (see Table 30).

Table 30  
Frequency and Percentage for Pre-service Teacher Gender and Classification

<b>Characteristic</b>	f	%
<b>Gender</b>		
Male	25	36.2
Female	<u>44</u>	<u>63.8</u>
<b>Total</b>	69	100.0
<b>Classification</b>		
Juniors	13	18.8
Seniors	37	53.6
Masters	16	23.1
Non-degree students	<u>3</u>	<u>4.3</u>
<b>Total</b>	69	100.0

### **Profile of Pre-service Programs**

#### **Number of Special Education Courses Completed**

When asked the number of special education courses completed, 53.6% (n=37) of the pre-service teachers reported completing one special education course; ten (14.5%) completed two courses, six (8.7%) completed three courses, while four (5.8%) completed

four or more special education courses. Eleven (15.9%) respondents completed no special education course (Table 31).

Table 31  
Frequency and Percentage of Completed Special Education Courses by Pre-service Teachers

<b>Number of Courses</b>	<b>f</b>	<b>%</b>
One	37	53.6
Two	10	14.5
Three	6	8.7
Four or more	4	5.8
None	11	15.9
Not reported	<u>1</u>	<u>1.4</u>
<b>Total</b>	69	100.0

### **Where Special Education Course Completed**

Of those respondents that completed one or more special education courses, 25 (36.2%) completed courses in the Special Education Department. Thirteen (18.8%) completed courses in the Agricultural Education Department, while ten (14.5%) completed courses in the College of Education. Additionally, five (7.2%) respondents reported completing courses in teacher education, two (2.9%) completed courses in secondary education and one (1.4%) respondent completed a course in the College of Psychology and another (1.4%) respondent completed a course in an Interdisciplinary Program (see Table 32).

### **Where Skills Acquired for Teaching Students with Learning Disabilities**

When respondents were asked where they acquired skills for teaching students with learning disabilities, 36 (52.2%) reported during a field experience. Nineteen



(27.5%) respondents reported acquiring skills for teaching students with learning disabilities during a teacher education course and ten (14.5%) reported the Special Education Department as the location. One respondent (1.4%) reported skills were acquired in the Education Department (see Table 32).

### **Administrative Location of Pre-service Programs**

Pre-service teachers were asked the administrative location of their pre-service program. Because of the range of responses received, the item was recoded as: [1=college of agricultural sciences, 2=college of education, 3=college of business]. Most of the respondents, fifty-seven (82.6%) reported the pre-service program was located in the College of Agricultural Sciences. Nine (13%) were located in the College of Education and two (2.9%) were located in the College of Business (see Table 32).

Table 32  
 Frequency and Percentage of Special Education Courses Completed, Where Skills  
 Acquired for Teaching Students with Learning Disabilities and Administrative Location  
 of Pre-service Programs Reported by Pre-service Teachers

<b>Characteristic</b>	<b>f</b>	<b>%</b>
<b>Where special education course completed?</b>		
Agricultural Education Department	13	18.8
Secondary Education Department	2	2.9
College of Education	10	14.5
College of Psychology	1	1.4
Special Education Department	25	36.2
Interdisciplinary Program	1	1.4
Teacher Education Department	5	7.2
Not reported	<u>12</u>	<u>17.4</u>
<b>Total</b>	69	100.0
<b>Where skills acquired for teaching students with learning disabilities?</b>		
Education Department	1	1.4
Field Experience	36	52.2
Special Education Department	10	14.5
Teacher Education course	19	27.5
Not reported	<u>3</u>	<u>4.3</u>
<b>Total</b>	69	100.0
<b>Administrative location of pre-service programs</b>		
College of Agricultural Sciences	57	82.6
College of Education	9	13.0
College of Business	2	2.9
Not reported	<u>1</u>	<u>1.4</u>
<b>Total</b>	69	100.0

### **Exceptionalities Reported by Pre-service Teachers**

Exceptionalities self-disclosed by pre-service teachers are shown in Table 20. Of the pre-service teachers that responded, almost 6% self-disclosed a learning disability. Respondents self-disclosed for each of the exceptionality categories. Fifteen percent of the pre-service teachers self-disclosed for gifted/talented. The category traumatic brain injury was the least reported category, followed by communicative disorders and developmental disorders.

Pre-service teachers responded to each of the categories for a family member and friend. The gifted/talented category was the most reported category for a family member, and ADD/ADHD was the most reported category for a friend.

### **Preparation to Provide Instructional Techniques**

*Question six was to examine the preparation agricultural education pre-service teachers reported received in pre-service program to provide instruction for students with learning disabilities in secondary education programs.*

Pre-service teachers reported the extent to which instructional techniques were covered in pre-service programs (see Table 33). Cooperative pairs/groups (M=3.24), differentiated instruction (M=3.24), scaffolding (M=2.91), task analysis (M=2.89), graphic organizer (M=2.88), direct/explicit instruction (M=2.78), guided practice (M=2.78), and concept mastery routine (M=2.71) were reported as “Mostly Covered.” Strategy cues (M=2.47), mnemonic device (M=2.36), peer tutoring (M=2.36), and choral response (M=2.21) were reported as “Partially Covered.”

Table 33  
Frequency, Mean and Standard Deviation of the Instructional Techniques Covered in  
Pre-service Programs Reported by Pre-service Teachers

<b>Instructional Technique</b>	<b>f</b>	<b>Mean</b>	<b>S.D.</b>
Task Analysis	68	2.89	.83
Scaffolding	69	2.91	1.12
Differentiated Instruction	69	3.24	.84
Concept Mastery Routine	69	2.71	1.08
Peer Tutoring	69	2.36	1.09
Graphic Organizer	69	2.88	1.06
Cooperative pairs/groups	69	3.24	.92
Strategy Cues	69	2.47	.99
Mnemonic Device	69	2.36	1.05
Guided Practice	69	2.78	.96
Choral Response	69	2.21	1.12
Direct /Explicit Instruction	69	2.78	1.18

Scale: 1=not covered, 2=partially covered, 3=mostly covered, 4=completely covered.

### **Preparation to Provide Accommodations**

*Question seven examined the preparation agricultural education pre-service teachers reported received in pre-service programs to provide accommodations for students with learning disabilities in secondary education programs.*

Pre-service teachers were asked to report the extent to which accommodations were covered in pre-service programs (Table 34). Overall, respondents reported extra/extended time (M=2.97), preferential seating (M=2.88), photocopies (M=2.85), and alternative assignments (M=2.59) as “Mostly Covered.” Scribe/ Note-taker (M=2.11), basic calculators (M=2.05), graph/lined Paper (M=1.71), and tape-recorded materials/books on tape (M=1.65) were reported as “Partially Covered” in pre-service programs.

Table 34  
 Frequency, Mean and Standard Deviation of the Accommodations Covered in Pre-service Programs Reported by Pre-service Teachers

<b>Accommodation</b>	<b>f</b>	<b>Mean</b>	<b>S.D.</b>
Extra/Extended time	69	2.97	1.05
Tape-recorded materials/Books on Tape	69	1.65	.90
Preferential seating	69	2.88	1.10
Photocopies	69	2.85	1.12
Scribe/Note-taker	69	2.11	1.00
Alternative assignments	69	2.59	1.00
Basic Calculators	69	2.05	1.17
Graph/Lined Paper	69	1.71	1.15

Scale: 1=not covered, 2=partially covered, 3=mostly covered, 4=completely covered.

### **Preparation to Provide Federal Legislative Acts**

*Question eight examined the preparation agricultural education pre-service teachers reported received in pre-service programs regarding federal legislative acts that govern students with disabilities in secondary settings.*

Pre-service teachers were asked to report the extent to which federal legislative acts were covered in pre-service programs (Table 35). Overall, respondents reported IDEA 1997 (M=3.26), No Child Left Behind (M=3.24), Section 504 (M=3.00) and IDEIA 2004 (M=2.75) as “*Mostly Covered*” in pre-service programs.

Table 35  
Frequency, Mean and Standard Deviation of the Federal Legislative Acts Covered in Pre-service Programs Reported by Pre-service Teachers

<b>Federal Legislative Act</b>	<b>f</b>	<b>Mean</b>	<b>S.D.</b>
IDEA 1997	69	3.26	.88
IDEIA 2004	69	2.75	1.16
Section 504	69	3.00	1.09
No Child Left Behind	69	3.24	.82

Scale: 1=not covered, 2=partially covered, 3=mostly covered, 4=completely covered.

### **Pre-service Teacher Additional Comments**

The researcher reviewed the responses and developed themes to represent the written responses. Qualitative data were collected from the pre-service teachers to examine areas not addressed in the survey instruments. The ability to provide additional comments provided respondents an opportunity to share additional thoughts, comments, and raise concerns and topics. The researcher reviewed the responses and developed themes to represent the primary concepts/thoughts written.

#### **Theme #1- Pre-service Program Requirements**

The Ag Ed Dept covers content on special education throughout all the classes.

#### **Theme #2- Pre-service Program Needs**

My special education class spent more time on identifying disabilities; symptoms, tendencies, prevalence, etc. The class also dealt with legislation such as IDEA and NCLB, and 504. It was almost as if the class was designed to scare students by only informing them of what must be done to include students with disabilities. Students must be included, with no discrimination, it is against the law. I would have preferred to have seen more teaching techniques. What are some ways to include more

students? It would have been nice to participate in example lessons, some cases where I could have been the student with the disability.

The Ag class teaches a lot about FFA and Ag but not much on how to teach a class or its students or situations that come up. They don't focus on having due dates and a syllabus or outlines.

We are not required to take special education courses; however I think it would be very beneficial if they were required. We do have two or three courses in the course of our pre-service program that deal specifically with teaching to disability students. I just have not had those courses yet at the time of this survey.

At our college it is required to take a special education course through the College of Education but that class has done little to prepare me. My agricultural education classes and field experience have all prepared me for special education. The use of examples and ways to accommodate teaching are of the most help.

Most are not covered in the Ag Ed program, subjects are touched on and discussed in general teaching program. My senior year in high school I was in an accident and had traumatic brain injury. Since then, I have graduated high school and will graduate in May 2007. The doctors said it was impossible to do but I have worked hard and done everything I need to do.

### **Theme #3- Miscellaneous**

The only way I know how to even somewhat deal with special education students is because I myself have learning disabilities and ADD. I realize how difficult it is for me some times to learn which helps me relate to other special education students which gives me the patience and the audacity to want to help those types of students even more.

I am glad to see this issue being addressed! I was told in the class I took that I would not really need to worry about all of this for my area.

### **Further Analyses of Pre-service Teachers and Pre-service Programs**

The researcher performed further analyses to examine correlations within and between each groups' (teacher educators and pre-service teachers) dependent and

independent variables in the study. Table 36 provides the correlations among pre-service teachers' three measures of instructional techniques, accommodations, and federal legislative acts. A moderate relationship between each of the dependent variables in the study was found.

The researcher compared the means and standard deviations for each group (teacher educators and pre-service teachers) with each of the dependent variables (instructional techniques, accommodations, and federal legislative acts) in the study. There were no statistically significant differences ( $p > .05$ ) found between the groups (teacher educators and pre-service teachers) and each of the dependent variables (instructional techniques, accommodations, and federal legislative acts) in the study (see Table 37). Both groups (teacher educators and pre-service teachers) combined reported a moderate relationship ( $r = .593$ ,  $p < .001$ ) between the coverage of instructional techniques



Table 36  
Correlations Among Dependent Variables for Pre-service Teachers

<b>Characteristic</b>	<b>Instructional Techniques</b>	<b>Accommo- dations</b>	<b>Federal Legislative Acts</b>
<i>Instructional Techniques</i>			
Pearson Correlation	1	.407**	.067
Sig. (2-tailed)		.001	.590
Sum of Squares and Cross-products Covariance	5953.809 88.863	1426.485 21.291	132.147 1.972
N	68	68	68
<i>Accommodations</i>			
Pearson Correlation	.407**	1	.324**
Sig. (2-tailed)	.001		.007
Sum of Squares and Cross-products Covariance	1426.485 21.291	2077.246 30548	384.870 5.660
N	68	69	69
<i>Federal Legislative Acts</i>			
Pearson Correlation	.067	.324**	1
Sig. (2-tailed)	.590	.007	
Sum of Squares and Cross-products Covariance	132.147 1.972	384.870 5.660	677.304 9.960
N	68	69	69

\*\*Denotes: Correlation is significant at the 0.01 level (2-tailed).

Table 37  
Mean and Standard Deviation of Dependent Variables between Groups

<b>Group</b>		Instructional Techniques	Accommo- dations	Federal Legislative Acts
Teacher Educator	Mean	33.90	19.91	12.01
	N	55	57	56
	S.D.	6.18	5.59	3.35
Pre-service Teacher	Mean	33.04	18.84	12.26
	N	68	69	69
	S.D.	7.55	5.52	3.15
<b>Total</b>	Mean	33.43	19.32	12.15
	N	123	126	125
	S.D.	6.96	5.56	3.23

and accommodations in the pre-service programs. However, there were somewhat lower relationships ( $r=.339$  and  $r=.444$ ) with the coverage of federal legislative acts and instructional techniques and coverage of accommodations information respectively (see Table 38).

The researcher compared the mean and standard deviation for pre-service teacher gender (see Table 39); number of special education courses completed (see Table 40), where skills were acquired for teaching students with learning disabilities (see Table 41), and pre-service teachers with a learning disability (see Table 42). There were no significant differences ( $p>.05$ ) found for each of the independent variables when compared with each of the dependent variables (instructional techniques, accommodations, and federal legislative acts) in the study.

Table 38  
Correlations Among Dependent Variables for Teacher Educators and Pre-service Teachers Combined

<b>Characteristic</b>	<b>Instructional Techniques</b>	<b>Accommodations</b>	<b>Federal Legislative Acts</b>
<i>Instructional Techniques</i>			
Pearson Correlation	1.000		
<i>Accommodations</i>			
Pearson Correlation	.593	1.000	
Sig. (2-tailed)	<.001	----	
N	122	126	
<i>Federal Legislative Acts</i>			
Pearson Correlation	.339	.444	1.000
Sig. (2-tailed)	<.001	<.001	----
N	120	124	125

Table 39  
Mean and Standard Deviation of Gender with Dependent Variables Reported by Teacher Educators and Pre-service Teachers

<b>Gender</b>		<b>Instructional Techniques</b>	<b>Accommodations</b>	<b>Federal Legislative Acts</b>
Male	Mean	33.23	19.22	12.21
	N	72	76	76
	S.D.	7.02	5.35	3.32
Female	Mean	33.97	19.69	12.06
	N	49	49	49
	S.D.	6.82	5.77	3.12
<b>Total</b>	Mean	33.53	19.40	12.15
	N	121	125	125
	S.D.	6.92	5.50	3.23

Table 40  
 Mean and Standard Deviation for Where Special Education Courses Completed Reported  
 by Pre-service Teachers

<b>Where SPLED Courses were Completed</b>		<b>Instructional Techniques</b>	<b>Accommo- dations</b>	<b>Federal Legislative Acts</b>
AGED	Mean	34.30	19.00	12.69
	N	13	13	13
	S.D.	7.65	5.98	3.32
Education Dept	Mean	33.66	19.00	12.60
	N	9	10	10
	S.D.	6.48	4.66	3.97
Interdisciplinary Dept	Mean	43.00	24.00	15.00
	N	1	1	1
	S.D.	--	--	--
Psychology Dept	Mean	32.00	21.00	8.00
	N	1	1	1
	S.D.	--	--	--
Secondary Dept	Mean	35.50	19.00	14.00
	N	2	2	2
	S.D.	4.94	1.41	1.41
Special Education Dept	Mean	32.32	19.24	12.04
	N	25	25	25
	S.D.	7.28	5.47	2.37
Teacher Education	Mean	35.60	21.80	14.60
	N	5	5	5
	S.D.	3.36	4.20	2.19
Not reported	Mean	30.50	15.83	10.83
	N	12	12	12
	S.D.	10.34	6.54	3.78
<b>Total</b>	Mean	33.04	18.84	12.26
	N	68	69	69
	S.D.	7.55	5.52	3.156

Table 41  
 Mean and Standard Deviation for Where Skills Acquired For Teaching Students with Learning Disabilities by Pre-service Teachers

<b>Characteristic</b>		Instructional Techniques	Accommo- dations	Federal Legislative Acts
Education Dept	Mean	39.00	14.00	16.00
	N	1	1	1
	S.D.	--	--	--
Field experience	Mean	34.61	20.11	12.97
	N	36	36	36
	S.D.	7.65	5.153	2.55
Special Education Dept	Mean	28.22	20.00	12.50
	N	9	10	10
	S.D.	7.36	4.87	3.10
Teacher Education Course	Mean	31.68	16.57	11.31
	N	19	19	19
	S.D.	7.21	6.05	3.65
Not Reported	Mean	35.33	15.66	7.66
	N	3	3	3
	S.D.	2.88	5.03	2.08
<b>Total</b>	Mean	33.04	18.84	12.26
	N	68	69	69
	S.D.	7.55	5.52	3.15

Table 42  
Mean and Standard Deviation for Pre-service Teacher Learning Disability Item

<b>Characteristic</b>		<b>Instructional Techniques</b>	<b>Accommo- dations</b>	<b>Federal Legislative Acts</b>
Pre-service Teacher with LD	Mean	35.25	16.25	13.00
	N	4	4	4
	S.D.	7.50	8.42	2.16
Other	Mean	35.44	20.21	11.71
	N	27	28	28
	S.D.	5.75	4.07	3.46
<b>Total</b>	Mean	35.41	19.71	11.87
	N	31	32	32
	S.D.	5.85	4.80	3.32

## **Chapter 5**

### **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

This chapter presents a summary of the procedures, conclusions, and recommendations for the study. The chapter is organized as follows: Purpose and Objectives of the Study, Procedures, Summary of Findings, Conclusions and Discussion, Implications, Recommendations, Recommendations for Future Research, and Reflections by the Researcher.

#### **Purpose and Objectives of the Study**

The purpose of the study was to examine the practices agricultural teacher educators reported covered for preparing pre-service teachers to work with students with learning disabilities in secondary agricultural education programs. A secondary purpose was to examine the preparation agricultural education pre-service teachers reported received in pre-service programs to work with students with learning disabilities in secondary agricultural education programs.

#### **Research Questions of the Study**

1. Does higher education agricultural teacher educator gender, professional title, professional role, years of teaching in a secondary setting, years of teaching in a postsecondary setting, years teaching students with learning disabilities in a secondary and/or postsecondary setting, number of workshops completed in last five years related

to teaching students with learning disabilities or disclosure of a disability by self, child and/or family member influence the reported capability to prepare pre-service teachers to work with students with learning disabilities in secondary agricultural education programs?

2. What practices do higher education agricultural teacher educators report to cover to prepare agricultural education pre-service teachers to provide instruction for students with learning disabilities in secondary agricultural education programs?
3. What practices do higher education agricultural teacher educators report to cover to prepare agricultural education pre-service teachers to provide accommodations for students with learning disabilities in secondary agricultural education programs?
4. What practices do higher education agricultural teacher educators report to cover to familiarize pre-service teachers regarding federal legislative acts that govern students with disabilities in secondary settings?
5. Does agricultural education pre-service teacher gender, classification, special education courses completed, where special education courses were completed, where skills were acquired for teaching students with learning disabilities, administrative location of pre-service programs or disclosure of a disability by self, family member and/or a friend influence the reported capability to work with students with learning disabilities in secondary agricultural education programs?
6. What preparation do agricultural education pre-service teachers report to receive in pre-service programs to provide instruction for students with learning disabilities in secondary agricultural education programs?



7. What preparation do agricultural education pre-service teachers report to receive in pre-service programs to provide accommodations for students with learning disabilities in secondary agricultural education programs?
8. What preparation do agricultural education pre-service teachers report to receive in pre-service programs regarding federal legislative acts that govern students with disabilities in secondary settings?

### **Procedures**

The population for the study included agricultural teacher educators with primary responsibility in an active agricultural teacher education program representing a land grant or non land grant institution. The study also included agricultural education pre-service teachers identified by each agricultural teacher educator selected for the study. Two, four-part survey instruments were developed to collect the data. The teacher educator survey included four-point Likert-type response scale items ranging from 0=not covered to 3=completely covered. Items were intended to assess the extent to which instructional techniques, accommodations, and federal legislative acts were covered in pre-service programs. Open-ended and multiple-response items were included regarding teacher educator demographic and pre-service program data.

The pre-service teacher survey included five-point Likert-type response scale items ranging from 0=don't know to 4=completely covered. Items were intended to assess the extent to which instructional techniques, accommodations, and federal legislative acts were covered in pre-service programs. Open-ended and multiple-

response items were included regarding pre-service teacher demographic and pre-service program data.

The teacher educator questionnaire was reviewed by a panel of experts for content validity and revised according to the panels' comments and suggestions. A postcard informing teacher educators regarding the study was developed and mailed one week before cover letters, coded questionnaires, and the return by specified date and prepaid return addressed envelopes. Participating teacher educators were asked to identify and distribute pre-service teacher questionnaires, cover letters, and the return by specified date and prepaid return addressed envelopes. Usable responses were returned by 63 (75%) agricultural teacher educators and 69 (27.3%) agricultural education pre-service teachers after three contacts. Early and late teacher educator respondents were found to be similar based on each item of the three dependent variables (instructional techniques, accommodations, and federal legislative acts) in the study. Mail survey and web survey respondents were found to be similar based on each item of the three dependent variables (instructional techniques, accommodations, and federal legislative acts) in the study. The data were coded and analyzed using the Statistical Package for the Social Sciences (SPSS, v 15.0). Descriptive statistics included frequency distributions, percentages, means, and standard deviations. Inferential statistics included independent t-test, correlations, and the chi square analysis test.

## **Summary of Findings**

### **Teacher Educators**

Question one gathered information regarding agricultural teacher educator gender, professional title, professional role, number of years teaching in a secondary setting, number of years teaching in a postsecondary setting, number of years teaching students with learning disabilities in a secondary and/or postsecondary setting, number of workshops completed in the last five years related to teaching students with learning disabilities and the disclosure of a disability by self, a child and/or family member. The question also examined the administrative location of pre-service programs, what agency certifies the pre-service program, whether accreditation agencies required pre-service credits in special education, where pre-service teachers received preparation in special education courses, and the total number of undergraduate and graduate students enrolled in pre-service programs.

### **Profile of Teacher Educators**

#### **Gender, Professional Title and Role**

Over half (90.3%) of the teacher educators were male. Most of the respondents (68.2%) were associate or assistant professors. Over half (54%) of the teacher educators were pre-service coordinators.

The study found that males and females equally covered instructional techniques, accommodations, and federal legislative acts in pre-service programs. However, the

study revealed pre-service coordinators covered more about accommodations in pre-service programs than other teacher educators.

### **Profile of Teacher Educators' Pre-service Programs**

#### **Number of Years Teaching in a Secondary Setting and/or Postsecondary Setting**

Teacher educators taught 1 to 35 years ( $M=7.07$ ) in a secondary school setting. Respondents taught 2 to 42 years ( $M=14.81$ ) in a postsecondary setting. The study found that the number of years teaching in a secondary and/or postsecondary setting did not influence the extent to which instructional techniques, accommodations, and federal legislative acts were covered in pre-service programs by teacher educators.

#### **Number of Years Teaching Students with Learning Disabilities in a Secondary and/or Postsecondary Setting**

Teacher educators reported teaching students with a learning disability 1 to 45 years ( $M=16.09$ ) in a secondary and/or postsecondary setting. The study found that the number of years teaching students with a learning disability in a secondary and/or postsecondary setting did not influence the extent to which instructional techniques, accommodations, and federal legislative acts were covered in pre-service programs by teacher educators.

#### **Number of Workshops Completed in Last Five Years Related to Teaching Students with Learning Disabilities**

One-third ( $n=22$ ) of the teacher educators reported completing 1-2 workshops related to teaching students with learning disabilities. One respondent reported

completing eight workshops and another respondent reported completing 10 workshops. Twenty-four (38.1%) of the respondents reported no workshops were completed. The number of workshops completed by teacher educators did not influence the extent to which instructional techniques, accommodations, and federal legislative acts were covered in pre-service programs.

### **Administrative Location of Pre-service Programs**

Thirty-nine (64%) respondents reported pre-service programs were administratively located in the College of Agricultural Sciences. The location of pre-service programs did not influence the extent to which teacher educators covered instructional techniques, accommodations, and federal legislative acts in pre-service programs.

### **Pre-service Program Accreditation**

Twenty-eight (44.4%) pre-service programs received accreditation from the respective State Department of Education and the National Council for Accreditation of Teacher Education (NCATE). Twenty-three (36.5%) reported accreditation was received from the respective State Department of Education, and twelve (19%) received accreditation from NCATE. The study revealed that respondents' whose pre-service programs received accreditation from the respective State Department of Education and NCATE covered more accommodations in pre-service programs than those pre-service programs that received accreditation from NCATE, only. Forty-six (73%) pre-service programs required special education credits, while fifteen (23.8%) pre-service programs

did not require special education credits for pre-service teachers. The study found that pre-service programs that required special education credits were not different from those pre-service programs that did not require special education credits regarding the extent to which each of the dependent variables (instructional techniques, accommodations, and federal legislative acts) were covered in pre-service programs.

### **Where Pre-service Teachers Receive Preparation in Special Education Courses**

Twenty-two (34.9%) of the respondents reported pre-service teachers received preparation in special education courses in the Special Education Department. Fourteen (22.2%) respondents reported preparation was received in the Department of Education. Two (3.2%) received preparation in the Agricultural Education Department, only while fourteen (22.3%) received preparation in the Agricultural Education Department when offered with other programs and/or courses. The study revealed that where pre-service teachers received preparation in special education courses did not affect the extent to which teacher educators covered instructional techniques, accommodations, and federal legislative acts in pre-service programs.

### **Number of Undergraduate and Graduate Students in Pre-service Programs**

Thirty-eight (60%) respondents provided responses to the survey item. The respondents provided a wide range of student enrollment numbers. Undergraduate programs (M=60.4) had an enrollment range of 3 to 300 and the graduate programs (M=14.2) had an enrollment range of 2 to 75.

### **Exceptionalities Reported by Teacher Educators**

Teacher educators self-disclosed for seven of the exceptionality categories. Attention Deficit Disorder (ADD)/Hyperactivity Disorder (ADHD), blind/visual impairment, communicative disorder, gifted/talented, learning disabled, other health impaired and deaf/hearing impaired. Almost 10% of the respondents self-disclosed a learning disability. It was found that teacher educators with a learning disability were no different than other respondents when covering instructional techniques, accommodations, and federal legislative acts in pre-service programs.

*Question two examined the practices agricultural teacher educators reported covered to prepare pre-service teachers to provide instruction for students with learning disabilities in secondary agricultural education programs.*

Overall, teacher educators reported cooperative pairs/groups (M=3.38) the most covered instructional technique in pre-service programs. Differentiated instruction (M=3.26) and direct/explicit instruction (M=3.14) were two other instructional techniques respondents reported as “*Mostly Covered*.” Strategy cues (M=2.46), mnemonic device (M=2.38) and choral responses (M=2.18) were a few of the instructional techniques reported as “*Partially Covered*” in pre-service programs.

*Question three examined the practices agricultural teacher educators reported covered to prepare pre-service teachers to provide accommodations for students with learning disabilities in secondary agricultural education programs.*

When asked to what extent accommodations were covered in pre-service programs, respondents reported extra/extended time (M=3.11), preferential seating

(M=2.90), photocopies (M=2.88), and alternative assignments (M=2.82) as “*Mostly Covered*” in pre-service programs. Teacher educators reported the use of basic calculators (M=2.25), scribe/note-taker (M=2.17), graph/lined paper (M=1.94), and tape-recorded materials/books on tape (M=1.80) as “*Partially Covered.*”

*Question four examined the practices agricultural teacher educators reported to cover to familiarize pre-service teachers regarding federal legislative acts that govern students with disabilities in secondary settings.*

Respondents reported each of the federal legislative acts, NCLB (M=3.11), IDEA 1997 (M=3.08), IDEIA (M=2.92), and Section 504 (M=2.89) as “*Mostly Covered*” in pre-service programs.

### **Pre-service Teachers**

*Question five examined agricultural education pre-service teacher gender, classification, where special education courses were completed, number of special education courses completed, where skills were acquired for teaching students with learning disabilities, administrative location of pre-service programs, and the disclosure of a disability by self, a family member and/or friend.*

#### **Profile of Pre-service Teachers**

**Gender and Classification.** About sixty-four percent of the respondents were female and thirty-seven (53.6%) were seniors. The remaining pre-service teachers reported being master’s students (23.1%), juniors (18.8%), and non-degree students



(4.3%). The study found there were no differences between male and female respondents' preparation in pre-service programs to teach instructional techniques, accommodations, and federal legislative acts.

### **Profile of Pre-service Teachers' Pre-service Programs**

**Special Education Courses.** Almost 54% of the respondents completed one special education course in pre-service programs. Eleven (15.9%) respondents did not complete a special education course in pre-service programs. The study revealed that the completion of a special education course did not influence the preparation pre-service teachers' received for teaching of instructional techniques, accommodations, and federal legislative acts in pre-service programs. About 37% of the respondents completed a special education course in the Special Education Department and almost nineteen percent completed a special education course in the Department of Agricultural Education. The remaining respondents (27.4%) completed a special education course in the Education Department, the Teacher Education Department, the Secondary Education Department, the College of Psychology, or an Interdisciplinary Program. The study revealed that respondents felt equally prepared to teach instructional techniques, accommodations, and federal legislative acts in pre-service programs regardless of where a special education course was completed.

**Where Skills Acquired for Teaching Students with Learning Disabilities.** Thirty-six (52.2%) pre-service teachers acquired skills for teaching students with learning disabilities during a field experience. Nineteen (27.5%) acquired the skills during a teacher education course, and ten (14.5%) reported a special education course as the

location where skills were acquired for teaching students with learning disabilities. One respondent acquired skills in the Education Department. The study found that regardless of where skills were acquired for teaching students with learning disabilities respondents felt equally prepared to teach instructional techniques, accommodations, and federal legislative acts.

**Administrative Location of Pre-service Programs.** Fifty-seven (82.6%) respondents stated pre-service programs were administratively located in the College of Agricultural Sciences. Nine (13%) pre-service programs were located in the College of Education and two (2.9%) were located in the College of Business.

**Exceptionalities Reported by Pre-service Teachers.** Pre-service teachers self-disclosed for each of the exceptionality categories. Almost 6% of the respondents self-disclosed for a learning disability and 15% self-disclosed as gifted/talented. The study revealed there were no differences for pre-service teachers with learning disabilities and other respondents regarding the reported preparation to teach instructional techniques, accommodations, and federal legislative acts in pre-service programs.

*Question six examined the preparation agricultural education pre-service teachers reported received in pre-service programs to provide instruction for students with learning disabilities in secondary agricultural education programs.*

Pre-service teachers reported cooperative pairs/groups (M=3.24) and differentiated instruction (M=3.24) as the most covered instructional techniques in pre-service programs. Graphic organizers (M=2.88) and direct/explicit instruction (M=2.78) were also reported as "Mostly Covered". Mnemonic devices (M=2.36) and choral

response (M=2.21) were reported as “Partially Covered”. Pre-service teachers did not report an instructional technique as “Not Covered” in pre-service programs.

*Question seven examined the preparation agricultural education pre-service teachers reported received in pre-service programs to provide accommodations for students with learning disabilities in secondary agricultural education programs.*

Pre-service teachers reported extra/extended time (M=2.97), preferential seating (M=2.88), photocopies (M=2.85), and alternative assignments (M=2.59) as “Mostly Covered” in pre-service programs. Basic calculators (M=2.05) and tape-recorded materials/books on tape (M=1.65) were reported as “Partially Covered.” Pre-service teachers did not report any of the accommodation as “Not Covered” in pre-service programs.

*Question eight examined the preparation agricultural education pre-service teachers reported received in pre-service programs regarding federal legislative acts that govern students with disabilities in secondary settings.*

Respondents reported the extent to which each of the federal legislative acts, IDEA 1997 (M=3.26), NCLB (M=3.24), Section 504 (M=3.00), and IDEIA 2004 (M=2.75) were “Most Covered” in pre-service programs.

## Conclusions and Discussion

The following conclusions and discussion are based on the findings of the study. Findings from the study revealed that pre-service coordinators and those teacher educators whose pre-service programs received accreditation from the respective State Department of Education and the National Council for Accreditation Teacher Education (NCATE) covered more accommodations than other teacher educators in the study.

The study's findings revealed that 73% of the pre-service programs required special education courses. The study's findings support the findings of a similar study conducted by Wakefield and Talbert (1999). In the Wakefield and Talbert study, the degree to which agricultural education programs prepared faculty and students to work with diverse populations was conducted. The study revealed that 64% of the agricultural education programs surveyed required their undergraduates take a special education course. The study also revealed that only 28% of the agricultural education programs offered special education courses. In this study, it was revealed that 3.2% of the agricultural education programs where the location pre-service teachers completed a special education course. However, fourteen (21.3%) teacher educators reported special pre-service teachers completed education courses in agricultural education programs when combined with outside courses, departments and/or programs.

Teacher educators reported covering each of the instructional techniques in pre-service programs. Cooperative pairs/groups was reported the most covered instructional technique in pre-service programs. This study's finding supports other study findings that state cooperative learning and grouping methods as two of the most beneficial

instructional techniques used for teaching students with learning disabilities (Elbaum et al., 2000; Ellis & Fouts, 1993; Sileo & Prater, 2000; The Access Center, 2005; Wang & Haertel, 1995).

Thus, it can be concluded that pre-service programs mostly teach each of the instructional techniques that are beneficial for teaching students with learning disabilities in secondary agricultural education programs.

Teacher educators reported covering each of the accommodations in pre-service programs. Extra/Extended time was reported as the accommodation most covered in pre-service programs. This finding supports the findings of Koretz and Barton (2003), Newcomb et al. (2004), Thompson (2005), and Thurlow and Ysseldyke (1995) who found extra/extended time as a beneficial accommodation for students with learning disabilities.

When asked to report the extent to which the federal legislative acts were covered in pre-service programs, teacher educators reported each federal legislative act was partially covered in pre-service programs. Respondents reported The No Child Left Behind (NCLB) Act of 2001 was the most covered federal legislative act. This finding regarding the act is significant especially since NCLB is covered extensively in the media concerning its numerous requirements for public schools, teachers, and school administrators. For example, the legislation [NCLB] requires states to set standards for what every child should learn and holds schools accountable for student progress by requiring annual testing (Chadd & Drage, 2006).

The findings in this study support those reported by Martin, Fritzsche, and Ball (2006). They conducted a study that identified the perceptions of secondary agriculture teachers and education professionals (Illinois) regarding the potential impacts of the No Child Left Behind legislation on secondary programs. They found that agriculture teachers are in fact concerned about the impact of No Child Left Behind on secondary agricultural education programs in Illinois. Thus, the findings of this study revealed that agricultural teacher educators are somewhat familiar with the federal legislative acts that govern students with disabilities and the need for pre-service teachers to become familiar as well. This study also revealed that teacher educators that self-disclosed for a learning disability were similar to other respondents in the study when teaching instructional techniques, accommodations, and federal legislative acts in pre-service programs.

As it relates to pre-service teachers in the study, it was revealed that respondents, when based on gender and classification, reported being equally prepared in pre-service programs to teach instructional techniques, accommodations, and federal legislative acts. The findings from the study also revealed pre-service program independent variables did not influence pre-service teachers' preparation to cover each of the dependent variables in the study.

Pre-service teachers reported that each of the instructional techniques was covered in pre-service programs. Cooperative pairs/groups was reported the instructional technique most covered in pre-service programs. Pre-service teachers reported that each of the accommodations and federal legislative acts were covered in pre-service programs. Extra/extended time and preferential seating and alternative assignments were reported as

the most covered accommodations in pre-service programs. They reported IDEA 1997 as the federal legislative act they were most familiar with in pre-service programs.

### **Comparison of Teacher Educators and Pre-service Teachers' Responses**

The following conclusions were based on both groups (teacher educators and pre-service teachers) in the study. Collectively, both groups reported that cooperative pairs/groups was the most covered instructional technique in pre-service programs. They also agreed that extra/extended time was the accommodations most covered in pre-service programs. Even though both groups reported that each of the federal legislative acts (IDEA 1997, IDEIA 2004, Sec 504 and NCLB) were covered in pre-service programs, pre-service teachers reported that the acts were mostly covered; unlike teacher educators who reported that each of the federal legislative acts were partially covered. This finding provides evidence of the need for better understanding of federal legislative acts that govern students with disabilities in secondary settings.

Overall, several independent variables influenced the extent to which teacher educators covered instructional techniques, accommodations, and federal legislative acts in pre-service programs.

### **Implications**

The findings of this study identified several factors that influenced the extent to which instructional techniques, accommodations, and federal legislative acts were covered in pre-service programs.

If agricultural teacher educators are concerned about the preparation of agricultural education pre-service teachers for working with students with learning disabilities in secondary agricultural education programs, it is essential that pre-service teachers' needs concerning working with students with learning disabilities be addressed. Because pre-service coordinators covered more accommodations than other respondents in this study, the possibility of designating at least one faculty member in the department with the responsibility for acquiring additional special education knowledge should be examined. The following comments provided by several respondents in the study supports this conclusion. Case in point, one teacher educator stated,

Regarding pre-service programs, I am NOT fully informed about all the learning experiences (i.e. exposure to techniques, strategies, and accommodation approaches) that our students encounter in the required SPED course they take.

Another teacher educator added,

We are in the process of creating our own course (Teaching Diverse Populations in Ag Ed) which will include more special needs instruction.

These comments imply a need to modify teacher education programs related to teaching students with learning disabilities.

Comments provided by pre-service teachers also support the need to modify teacher education programs related to teaching students with learning disabilities in secondary agricultural education programs. For example, one pre-service teacher said,

My special education class spent more time on identifying disabilities; symptoms, tendencies, prevalence, etc. The class also dealt with legislation such as IDEA and NCLB, and 504. It was almost as if the class was designed to scare students by only informing them of what must be done to include students with disabilities. Students must be included, no discrimination, it is against the law. I would have preferred to have seen



more teaching techniques. What are some ways to include more students? It would have been nice to participate in example lessons, some cases where I could have been the student with the disability.

Another pre-service teacher added,

I am glad to see this issue being addressed! I was told in the class I took that I would not really need to worry about all of this [teaching techniques and accommodations] for my area.

The preceding pre-service teachers' comments further support the need for agricultural education programs to better prepare pre-service teachers to work with students with learning disabilities. One respondent in the Wakefield and Talbert study provided, "Some emphasis [in special needs] is needed in the preparation program..." (p. 468).

This study's findings reveal teacher educators should be encouraged to continue to follow respective accreditation agency guidelines concerning teaching students with disabilities and also complete workshops regarding working with students with learning disabilities. Pre-service teachers should be encouraged to complete special education type courses; pre-service and/or in-service training; and/or workshops related to students with learning disabilities; especially if it's not required by the respective teacher education program.

## **Recommendations**

Based on the study's findings and conclusions, the following recommendations are made:

1. Agricultural teacher education programs should designate one faculty member as the special education contact for the teacher education program. This person should work closely with the university's special education department personnel and with the school districts with special needs students. This designated faculty member should ensure that students preparing to be teachers possess the skills, knowledge, and attitudes appropriate for teaching in the public school system.
2. Agricultural teacher education programs should provide pre-service and in-service training for pre-service teachers during and upon graduation from the teacher education program.
3. Agricultural teacher educators should examine the needs of pre-service teachers regarding special education topics.
4. Agricultural teacher education programs should provide special education type courses within the academic department, especially if not required by accreditation agencies or available from other courses/departments.
5. If the mission and goals of agricultural education programs are to prepare pre-service teachers for entry into secondary school settings, teacher educators should become knowledgeable about the local school's operations. This could be accomplished by contacting the local school district's agriculture teacher(s) and inviting them to visit the university to respond to questions posed by pre-service teachers regarding teaching students with learning disabilities.

### **Recommendations for Future Research**

1. Future research should utilize a longitudinal study of pre-service teachers in this study once placed in the secondary agricultural education programs. Self-reports from pre-service teachers concerning the application of practices should be collected. The study could compare self-reported preparation received in pre-service programs versus the application of the actual instructional techniques, accommodations, and federal legislative acts for students with learning disabilities in the secondary school setting.
2. Future research should utilize an in-depth qualitative approach to identify other factors that may influence the practices teacher educators cover in pre-service programs.

### **Reflections by the Researcher**

After the study was concluded, the researcher addressed the measurement of several of the study's independent variables.

### **Special Education Credit**

The questionnaire item that asked teacher educators if their accreditation agency requires any pre-service credits in special education was not refined enough to distinguish between those pre-service programs following a semester or quarter term system. The questionnaire did not differentiate or account for number of semester or quarter hours of standardized courses versus those courses with infused special education topics.

Consequently, the researcher was unable to determine the true impact of this information in the data analysis.

### **Number of Years Teaching Students with Learning Disabilities in a Secondary and/or Postsecondary Setting**

When teacher educators were asked to provide the number of years teaching students with learning disabilities in a secondary and/or postsecondary setting, the responses were a self-disclosed indicator of teacher educators' prior experience. There may have been instances when a person was teaching a student with learning disabilities and did not know it because the school failed to inform them of the students' learning abilities. There was no attempt by the researcher to collect more specific information.

### **Number of Workshops Completed in Last Five Years Related to Teaching Students with Learning Disabilities**

When teacher educators were asked to provide the number of workshops completed in the last five years related to teaching students with learning disabilities, there was no attempt by the researcher to determine the length of such workshops or topics addressed during the completion of the workshops. The scope and depth of workshop topics may be varied across the spectrum of involvement. Teacher educators were provided the opportunity to self-disclose for this item in the study.

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**Appendix A**  
**INSTRUMENTATION**

**TEACHER EDUCATOR  
VERSION**

**PREPARATION OF PRE-SERVICE AGRICULTURAL EDUCATORS TO  
WORK WITH STUDENTS WITH LEARNING DISABILITIES:  
REPORTS FROM PRE-SERVICE TEACHERS AND THOSE THAT PREPARE THEM**



The Pennsylvania State University  
Department of Agricultural and Extension Education  
323 Agricultural Administration Building  
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<b>I.</b>	<b>INSTRUCTION</b>
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**Instructions:**

Darken the circle next to the response that best applies to you.

If you change your response, please be sure that you completely erase your previous response.

For each **Instructional Technique** listed below, indicate the extent to which your pre-service program **covers** the content.

*0=Not Covered 1=Partially Covered 2=Mostly Covered 3=Completely Covered*

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Use of Task Analysis</b> (Use of breaking down tasks into component parts so students can perform the task)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Scaffolding</b> (Use of models, cues, and/or prompts to simplify tasks for students)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Differentiated Instruction</b> (Use of specific strategies that meet the needs of students and are based on the curriculum presented)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of the Concept Mastery Routine with examples and non-examples</b> (Use of diagrams to help students define, summarize, and explain a major concept)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Peer Tutoring</b> (Use of a non-disabled student paired with a student with a learning disability to help with tasks that require additional practice)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Graphic Organizers</b> (Use of webs, maps, and/or concept diagrams to help students organize and remember information)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Cooperative Pairs and/or Groups</b> (Use of small, cooperative-learning situations to help students complete a task that calls on talent, skill, and/or learning style while contributing to the success of the group)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Strategy Cues</b> (Use of strategies to help students with problem-solving assignments such as think aloud models)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Mnemonic Devices or Memory Tools</b> (Use of rhymes, formulas, and/or acronyms to help students transform difficult to remember facts into a more memorable form)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Guided Practice</b> (Use of cues to note key points to help students understand basic information in a lesson)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Choral Response</b> (Use of student oral responses in unison to help students learn lessons. Students respond to questions with short answers that have only one correct response)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Direct Instruction/Explicit Instruction</b> (Use of fast-paced, well-sequenced, highly focused lessons to help students master new knowledge and skills)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<b>II.</b>	<b>ACCOMMODATIONS</b>
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**Instructions:**

Darken the circle next to the response that best applies to you.

If you change your response, please be sure that you completely erase your previous response. For each **Accommodation** listed below, indicate the extent to which your pre-service program **covers** the content.

*0=Not Covered 1=Partially Covered 2=Mostly Covered 3= Completely Covered*

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Use of Extra or Extended time</b> (Helps students complete assignments, exams and homework by providing extra time)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Tape-recorded assignments/Books on Tape</b> (Helps students complete assignments with the use of audio-taped materials)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Preferential seating</b> (Helps students stay on-task by allowing them to sit near the board, close to the exit or away from other distractions in the classroom)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Photocopies</b> (Helps students who experience difficulty copying problems from a textbook or notes during lecture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of a Scribe or Note-taker</b> (Helps students complete assignments rather than writing their own responses)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Alternative Assignments</b> (Helps students complete assignments by providing ability level assignments)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Basic Calculators</b> (Helps students engage in mathematical and problem-solving assignments)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Graph/Lined paper</b> (Helps students read, write, and organize information in a textbook due to experiencing problems with differentiating information)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**III.****FEDERAL LEGISLATION****Instructions:**

Darken the circle next to the response that best applies to you.

If you change your response, please be sure that you completely erase your previous response. For each **Federal Legislative Act** listed below, indicate the extent to which your pre-service program **covers** the content.

*0=Not Covered 1=Partially Covered 2=Mostly Covered 3=Completely Covered*

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Individuals with Disabilities Education Act (IDEA) of 1997</b> (Law that assures that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Individuals with Disabilities Education Improvement Act (IDEIA) of 2004</b> (Law that preserves the basic structure and civil rights guarantees of IDEA but also makes significant changes in the law. It includes new provisions regarding how schools can determine whether a child has a specific learning disability and may receive special education services)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Section 504, of the Rehabilitation Act of 1973</b> (Law that requires school districts to provide a free appropriate education to students with disabilities based on their individualized educational needs, such as modifications and physical therapy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>The No Child Left Behind (NCLB) Act of 2001</b> (Law that holds states accountable for continuous improvement toward the goal of having all students read and perform math at grade level and closing the achievement gap by 2014)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**IV. DEMOGRAPHIC CHARACTERISTICS OF TEACHER EDUCATOR RESPONDENTS**

Please choose the appropriate response.

Gender:

*Male*  *Female*

Please indicate your professional title:

*Professor*  *Associate Professor*  *Assistant Professor*  *Instructor/Lecturer*

Please indicate your professional role:

*Pre-service Coordinator*  *Department Head*  *Other, please specify* \_\_\_\_\_

Total number of years teaching in a secondary setting: (please indicate below)

\_\_\_\_\_

Total number of years teaching in a postsecondary setting: (please indicate below)

\_\_\_\_\_

Total number of years teaching students with learning disabilities in a secondary and/or postsecondary setting: (please indicate below)

\_\_\_\_\_

Total number of workshops completed in the *last 5 years* related to teaching students with learning disabilities: (please indicate below)

\_\_\_\_\_

<b>V. DEMOGRAPHIC CHARACTERISTICS OF TEACHER EDUCATOR RESPONDENTS (cont)</b>
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**Instructions:**

Darken the circle next to each response that best applies to you.

If you change your response, please be sure that you completely erase your previous response. For each **Exceptionality** listed below, choose all that apply to you, a child, and/or family member.

	Self	Child	Family member
Autism/Asperger's Syndrome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attention Deficit/Hyperactivity Disorder (ADD/ADHD)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Behavior Disorders/Emotional Disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blindness/Visual Impairment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicative Disorder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developmental Disorder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gifted/Talented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning Disability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental Retardation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Health Impairment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical Disability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traumatic Brain Impairment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please choose the appropriate response.

Where is your pre-service program housed?

- College of Agricultural Sciences*  
 *College of Education*  
 *College of Natural and Environmental Sciences*  
 *Other, please specify \_\_\_\_\_*

What agency certifies your pre-service program? (check all that apply)

- State*  
 *National Council for Accreditation of Teacher Education (NCATE)*  
 *Other, please specify \_\_\_\_\_*

**VI. DEMOGRAPHIC CHARACTERISTICS OF PRE-SERVICE PROGRAMS**

Does your accreditation agency require any pre-service credits in special education?

No  Yes *If yes, how many?* \_\_\_\_\_

Where do pre-service students receive preparation in special education courses?

(check all that apply)

- Agricultural Education Department*
- Special Education Department*
- Other, please specify* \_\_\_\_\_

What is the total number of students in your pre-service program?

- Undergraduate level*
- Graduate level*

**Additional Comments**  
**If you would like to provide additional comments, please use the space provided below.**

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**Thank you for taking the time to complete this questionnaire.**

**Code #** \_\_\_\_\_

**PRE-SERVICE TEACHER  
VERSION**

**PREPARATION OF PRE-SERVICE AGRICULTURAL EDUCATORS TO  
WORK WITH STUDENTS WITH LEARNING DISABILITIES:  
REPORTS FROM PRE-SERVICE TEACHERS AND THOSE THAT PREPARE THEM**



The Pennsylvania State University  
Department of Agricultural and Extension Education  
323 Agricultural Administration Building  
University Park, PA 16802

<b>I.</b>	<b>INSTRUCTION</b>
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**Instructions:**

Darken the circle next to the response that best applies to you.

If you change your response, please be sure that you completely erase your previous response. For each **Instructional Technique** listed below, indicate the extent to which your pre-service program **covers** the content.

*0=Don't Know 1=Not Covered 2=Partially Covered 3=Mostly Covered 4=Completely Covered*

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Use of Task Analysis</b> (Use of breaking down tasks into component parts so students can perform the task)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Scaffolding</b> (Use of models, cues, and/or prompts to simplify tasks for students)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Differentiated Instruction</b> (Use of specific strategies that meet the needs of students and are based on the curriculum presented)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of the Concept Mastery Routine with examples and non-examples</b> (Use of diagrams to help students define, summarize, and explain a major concept)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Peer Tutoring</b> (Use of a non-disabled student paired with a student with a learning disability to help with tasks that require additional practice)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Graphic Organizers</b> (Use of webs, maps, and/or concept diagrams to help students organize and remember information)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Cooperative Pairs and/or Groups</b> (Use of small, cooperative-learning situations to help students complete a task that calls on talent, skill, and/or learning style while contributing to the success of the group)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Strategy Cues</b> (Use of strategies to help students with problem-solving assignments such as think aloud models)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Mnemonic Devices or Memory Tools</b> (Use of rhymes, formulas, and/or acronyms to help students transform difficult to remember facts into a more memorable form)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Guided Practice</b> (Use of cues to note key points to help students understand basic information in a lesson)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Choral Response</b> (Use of student oral responses in unison to help students learn lessons. Students respond to questions with short answers that have only one correct response)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Direct Instruction/Explicit Instruction</b> (Use of fast-paced, well-sequenced, highly focused lessons to help students master new knowledge and skills)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**II.****ACCOMMODATIONS****Instructions:**

Darken the circle next to the response that best applies to you.

If you change your response, please be sure that you completely erase your previous response. For each **Accommodation** listed below, indicate the extent to which your pre-service program **covers** the content.

*0=Don't Know 1=Not Covered 2=Partially Covered 3=Mostly Covered 4=Completely Covered*

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Use of Extra or Extended time</b> (Helps students complete assignments, exams and homework by providing extra time)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Tape-recorded assignments/Books on Tape</b> (Helps students complete assignments with the use of audio-taped materials)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Preferential seating</b> (Helps students stay on-task by allowing them to sit near the board, close to the exit or away from other distractions in the classroom)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Photocopies</b> (Helps students who experience difficulty copying problems from a textbook or notes during lecture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of a Scribe or Note-taker</b> (Helps students complete assignments rather than writing their own responses)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Alternative Assignments</b> (Helps students complete assignments by providing ability level assignments)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Basic Calculators</b> (Helps students engage in mathematical and problem-solving assignments)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Use of Graph/Lined paper</b> (Helps students read, write, and organize information in a textbook due to experiencing problems with differentiating information)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<b>III.</b>	<b>FEDERAL LEGISLATION</b>
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**Instructions:**

Darken the circle next to the response that best applies to you.

If you change your response, please be sure that you completely erase your previous response.

For each **Federal Legislative Act** listed below, indicate the extent to which your pre-service program **covers** the content.

*0=Don't Know 1=Not Covered 2=Partially Covered 3=Mostly Covered 4=Completely Covered*

	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Individuals with Disabilities Education Act (IDEA) of 1997</b> (Law that assures that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Individuals with Disabilities Education Improvement Act (IDEIA) of 2004</b> (Law that preserves the basic structure and civil rights guarantees of IDEA but also makes significant changes in the law. It includes new provisions regarding how schools can determine whether a child has a specific learning disability and may receive special education services)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Section 504, of the Rehabilitation Act of 1973</b> (Law that requires school districts to provide a free appropriate education to students with disabilities based on their individualized educational needs, such as modifications and physical therapy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>The No Child Left Behind Act (NCLB) of 2001</b> (Law that holds states accountable for continuous improvement toward the goal of having all students read and perform math at grade level and closing the achievement gap by 2014)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### IV. DEMOGRAPHIC CHARACTERISTICS OF TEACHER EDUCATOR RESPONDENTS

**Instructions:**

Darken the circle next to each response that best applies to you.

If you change your response, please be sure that you completely erase your previous response.

For each **Exceptionality** listed below, choose all that apply to you, a family member and/or friend.

	Self	Child	Family member
Autism/Asperger's Syndrome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attention Deficit/Hyperactivity Disorder (ADD/ADHD)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Behavior Disorders/Emotional Disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blindness/Visual Impairment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicative Disorder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developmental Disorder	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gifted/Talented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning Disability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mental Retardation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Health Impairment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical Disability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traumatic Brain Impairment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**ADDITIONAL COMMENTS**

**If you would like to provide additional comments, please use the space provided below.**

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**Thank you for taking the time to complete this questionnaire.**

**Code # \_\_\_\_\_**

**Appendix B**

**CORRESPONDENCE**



## LETTER OF INTRODUCTION (Teacher Educator version)

Date

<<First\_Name>> <<Last\_Name>>  
 <<Address\_Line\_1>>  
 <<City>>, <<State>> <<ZIP\_Code>>

Dear <<Salutation\_Last\_Name>>:

I am writing to ask your help in a study of agricultural education pre-service programs. This study, "**Preparation of Pre-service Agricultural Educators To Work With Students With Learning Disabilities: Reports From Pre-service Teachers and Those That Prepare Them,**" seeks to examine the practices teacher educators employ for preparing pre-service teachers to work with students with learning disabilities in secondary agricultural education programs.

I recognize that your time is valuable. For this reason, I designed a survey instrument that will take 30 minutes to complete. I would also like to ask if you would identify three pre-service teachers enrolled in your pre-service teacher program to complete a survey instrument (student version). If you and/or your students agree to participate, the strictest confidentiality will be upheld. Your completion and return of the survey instrument will imply your informed consent to participate in this study. Participation in this study is voluntary. You can choose to not answer certain questions and withdraw at any time without penalty. All participants must be 18 years of age or older.

Please return the coded survey instrument in the pre-paid return addressed envelope by November 15, 2006. Please know that the coded survey instrument will only be used to identify and contact nonrespondents.

If you have further questions or concerns concerning this study, please contact me.

Thank you in advance for your time and assistance with this important study.

Sincerely,

Paula E. Faulkner, Graduate Assistant &  
 Ph.D. Candidate  
 434 Ag Admin Bldg  
 The Pennsylvania State University  
 University Park, PA 16801  
 814-865-6551 office  
[pef117@psu.edu](mailto:pef117@psu.edu) email

Connie D. Baggett, Associate Professor &  
 Thesis Advisor  
 319 Ag Admin Bldg  
 The Pennsylvania State University  
 University Park, PA 16801  
 814-863-7415 office  
[bbc@psu.edu](mailto:bbc@psu.edu) email

**LETTER OF INTRODUCTON (Pre-service Teacher version)**

Date

Dear Pre-service Teacher:

I am writing to ask your help in a study of agricultural education pre-service programs. This study, "**Preparation of Pre-service Agricultural Educators To Work With Students With Learning Disabilities: Reports From Pre-service Teachers and Those That Prepare Them,**" seeks to examine the practices teacher educators employ for preparing pre-service teachers to work with students with learning disabilities in secondary agricultural education programs.

Your teacher educator has identified you as a participant for this study. I am interested in examining the preparation you receive in the pre-service teacher program for working with students with learning disabilities.

I recognize that your time is valuable. For this reason, I designed a survey instrument that will take 30 minutes to complete. If you agree to participate, the strictest confidentiality will be upheld. Your completion and return of the survey instrument will imply your informed consent to participate in this study. Participation in this study is voluntary. You can choose to not answer certain questions and withdraw at any time without penalty. All participants must be 18 years of age or older.

Please return the coded survey instrument in the pre-paid return addressed envelope by November 15, 2006.

If you have further questions or concerns concerning this study, please contact me.

Thank you in advance for your time and assistance with this important study.

Sincerely,

Paula E. Faulkner, Graduate Assistant &  
Ph.D. Candidate  
434 Ag Admin Bldg  
The Pennsylvania State University  
University Park, PA 16802  
814-865-6551 office  
[pef117@psu.edu](mailto:pef117@psu.edu) email

Connie D. Baggett, Associate Professor &  
Thesis Advisor  
319 Ag Admin Bldg  
The Pennsylvania State University  
University Park, PA 16801  
814-863-7415 office  
[bbc@psu.edu](mailto:bbc@psu.edu) email



## TWO WEEK REMINDER LETTER (Teacher Educator)

Date

<<First\_Name>> <<Last\_Name>>  
 <<Address\_Line\_1>>  
 <<City>>, <<State>> <<ZIP\_Code>>

Dear <<Salutation\_Last\_Name>>:

Two weeks ago I mailed you a survey instrument asking for your participation in a study of agricultural education pre-service programs titled, "**Preparation of Pre-service Agricultural Educators To Work With Students With Learning Disabilities: Reports From Pre-service Teachers and Those That Prepare Them**". As of today, I have not received your completed survey. This important study seeks to examine the practices agricultural teacher educators employ for preparing pre-service teachers to work with students with learning disabilities in secondary agricultural education programs.

In case you misplaced or did not receive the original letter of introduction and survey instrument, I have enclosed another for your completion.

I recognize that your time is valuable. For this reason, I designed a survey instrument that will take 30 minutes to complete. If you agree to participate, the strictest confidentiality will be upheld. Your decision to be in this research is voluntary. You can choose not to answer certain questions and withdraw at any time. Your completed and returned survey instrument will indicate your informed consent. All participants must be 18 years of age or older.

If you have further questions or concerns, please contact me.

Thank you in advance for your time and assistance with this important study.

Sincerely,

Paula E. Faulkner, Graduate Assistant &  
 Ph.D. Candidate  
 434 Ag Admin Bldg  
 The Pennsylvania State University  
 University Park, PA 16801  
 814-865-6551 office  
[pef117@psu.edu](mailto:pef117@psu.edu) email

Connie D. Baggett, Associate Professor &  
 Thesis Advisor  
 319 Ag Admin Bldg  
 The Pennsylvania State University  
 University Park, PA 16801  
 814-863-7415 office  
[bbc@psu.edu](mailto:bbc@psu.edu) email





## POSTCARD BACK

Dear Agricultural Teacher Educators:

I am writing to seek your participation in a study involving agricultural teacher education programs. This study seeks to identify the source(s) of information and knowledge from which pre-service agricultural teachers learn about, teach, and how to work with students with learning disabilities at the secondary school level. In one week, you will receive a letter of introduction and a survey instrument. Your completion and return of the survey instrument will imply your informed consent to participate in this study. This study is being conducted for research.

To get the best information that is useful to all, your participation is invaluable for the completion of this important study.

If you have any questions before the arrival of the survey, please contact me.

Sincerely,

Paula E. Faulkner ([pef117@psu.edu](mailto:pef117@psu.edu))

**POSTCARD FRONT**

Paula E. Faulkner  
434 Ag Admin Building  
The Pennsylvania State University  
University Park, PA 16802

**Appendix C**

**FREQUENCY DISTRIBUTION OF RESPONSES TABLES**

Table 43  
Frequency Distribution of Responses for Instructional Technique Items

	Don't Know		Not Covered		Partially Covered		Mostly Covered		Completely Covered	
	Count	%	Count	%	Count	%	Count	%	Count	%
Teacher Educator										
Task analysis			5	8.1	17	27.4%	26	41.9%	14	22.6%
Scaffolding			3	4.9%	18	29.5%	27	44.3%	13	21.3%
Differentiated instruction			1	1.6%	10	16.4%	22	36.1%	28	45.9%
Concept mastery routine			9	15.0%	20	33.3%	21	35.0%	10	16.7%
Peer tutoring			12	20.0%	19	31.7%	14	23.3%	15	25.0%
Graphic organizers			2	3.3%	24	40.0%	16	26.7%	18	30.0%
Cooperative pairs and groups			2	3.3%	12	19.4%	14	22.6%	36	58.1%
Strategy cues			9	15.0%	27	45.0%	11	18.3%	13	21.7%
Mnemonic devices			9	15.3%	27	45.8%	14	23.7%	9	15.3%
Guided practice			1	1.6%	13	21.3%	23	37.7%	24	39.3%
Choral response			15	24.6%	26	42.6%	14	23.0%	6	9.8%
Direct instruction/explicit instruction			2	3.3%	14	23.0%	18	29.5%	27	44.3%
Pre-service Teacher										
Task analysis	1	1.5%	1	1.5%	18	26.5%	32	47.1%	16	23.5%
Scaffolding	4	5.8%	3	4.3%	13	18.8%	24	34.8%	25	36.2%
Differentiated instruction	1	1.4%			12	17.4%	24	34.8%	32	46.4%
Concept mastery routine	4	5.8%	5	7.2%	14	20.3%	30	43.5%	16	23.2%
Peer tutoring			19	27.5%	20	29.0%	16	23.2%	14	20.3%
Graphic organizers	3	4.3%	4	5.8%	13	18.8%	27	39.1%	22	31.9%
Cooperative pairs and groups	1	1.4%	2	2.9%	11	15.9%	20	29.0%	35	50.7%
Strategy cues	3	4.3%	6	8.7%	25	36.2%	25	36.2%	10	14.5%
Mnemonic devices	2	2.9%	12	17.4%	26	37.7%	17	24.6%	12	17.4%
Guided practice	2	2.9%	5	7.2%	14	20.3%	33	47.8%	15	21.7%
Choral response	3	4.3%	18	26.1%	19	27.5%	19	27.5%	10	14.5%
Direct instruction/explicit instruction	4	5.8%	7	10.1%	12	17.4%	23	33.3%	23	33.3%

Table 44  
Frequency Distribution of Responses for Accommodation Items

	Don't Know		Not Covered		Partially Covered		Mostly Covered		Completely Covered	
	Count	%	Count	%	Count	%	Count	%	Count	%
Teacher Educator										
Extra/extended time			3	4.9%	11	18.0%	23	37.7%	24	39.3%
Tape recorded/books on tape			29	47.5	19	31.1%	9	14.8%	4	6.6%
Preferential seating			6	9.8%	16	26.2%	17	27.9%	22	36.1%
Photocopies			8	13.6%	13	22.0%	16	27.1%	22	37.3%
Scribe/Note-taker			17	29.8%	19	33.3%	15	26.3%	6	10.5%
Alternative Assignments			5	8.6%	16	27.6%	21	36.2%	16	27.6%
Basic calculators			20	34.5%	15	25.9%	11	19.0%	12	20.7%
Graph/Lined paper			24	42.1%	19	33.3%	7	12.3%	7	12.3%
Pre-service Teacher										
Extra/extended time	1	1.4%	6	8.7%	15	21.7%	19	27.5%	28	40.6%
Tape recorded/books on tape	3	4.3%	32	46.4%	23	33.3%	8	11.6%	3	4.3%
Preferential seating	3	4.3%	4	5.8%	16	23.2%	21	30.4%	25	36.2%
Photocopies	1	1.4%	9	13.0%	16	23.2%	16	23.2%	27	39.1%
Scribe/Note-taker	2	2.9%	19	27.5%	23	33.3%	19	27.5%	6	8.7%
Alternative Assignments	2	2.9%	6	8.7%	24	34.8%	23	33.3%	14	20.3%
Basic calculators	6	8.7%	17	24.6%	23	33.3%	13	18.8%	10	14.5%
Graph/Lined paper	9	13.0%	26	37.7%	15	21.7%	14	20.3%	5	7.2%

Table 45  
Frequency Distribution of Responses for Federal Legislative Act Items

		Don't Know		Not Covered		Partially Covered		Mostly Covered		Completely Covered	
		Count	%	Count	%	Count	%	Count	%	Count	%
Teacher Educator											
	IDEA 1997			3	5.3%	13	22.8%	17	29.8%	24	42.1%
	IDEIA 2004			5	8.8%	14	24.6%	18	31.6%	20	35.1%
	Sec 504			4	7.0%	17	29.8%	17	29.8%	19	33.3%
	NCLB			5	8.3%	9	15.0%	20	33.3%	26	43.3%
Pre-service Teacher											
	IDEA 1997			4	5.8%	8	11.6%	23	33.3%	34	49.3%
	IDEIA 2004	3	4.3%	6	8.7%	21	30.4%	14	20.3%	25	36.2%
	Sec 504	2	2.9%	6	8.7%	11	15.9%	21	30.4%	29	42.0%
	NCLB			1	1.4%	14	20.3%	21	30.4%	33	47.8%

**Appendix D**

**ADMINISTRATIVE LOCATION OF PRE-SERVICE PROGRAMS**

Table 46  
Administrative Location of Pre-service Programs Reported By Teacher Educators

<b>Pre-service Program</b>	f	%
College of Agricultural Sciences	38	60.3
College of Agricultural Sciences and College of Education	7	11.1
College of Agriculture, Food, and Environmental Sciences	1	1.6
College of Applied Arts	1	1.6
College of Applied Sciences and Technology	1	1.6
College of Arts and Sciences	1	1.6
College of Business and Technology	1	1.6
College of Education	10	15.9
College of Education and College of Natural and Environmental Sciences	1	1.6
College of Science and Technology	1	1.6
General Academic and Student Programs	<u>1</u>	<u>1.6</u>
<b>Total</b>	63	100.0



Curriculum Vita  
**Paula E. Faulkner**

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**Education**

May 2007                      Ph.D., The Pennsylvania State University  
   Major: Agricultural Education

May 1991                      M.S., North Carolina A&T State University  
   Major: Agricultural Education and Extension

December 1989              B.S., North Carolina A&T State University  
   Major: Agricultural Technology With a Minor in Animal  
   Husbandry

**Professional Experience**

August 2003 – May 2007      Graduate Research Assistant

March 1995 – June 2003      Secondary Teacher

**Publications**

Faulkner, P., Steward, A., & Baggett, C. (2006). Middle school career exploration. *The Agricultural Education Magazine*, 78(5), 22-24.

Faulkner, P., & Baggett, C. (2005). Actively teaching: Strategies for use in the agriculture classroom. *The Agricultural Education Magazine*, 78(2), 24-26.

**Presentations**

Faulkner, P., & Baggett, C.D. (2007, January). *Agricultural extension administrators' perceptions of underserved populations in agriculture*. Poster presentation at the 5th Annual Hawaii International Conference on Education, Honolulu, HI.

Faulkner, P., Baggett, C.D., & Ingram, P. (2006, January). *Students with learning disabilities transition to higher education institutions*. Poster presentation at the 4th Annual Hawaii International Conference on Education, Honolulu, HI.

Faulkner, P., & Baggett, C.D. (2005, August). *Agricultural extension administrators' perceptions of people in their service area: An examination of the factors that give rise to under-served populations*. Paper presentation at the National Summit on Diversity in the Environmental Field, Ann Arbor, MI.

**Professional Affiliations**

American Association for Agricultural Education  
Phi Delta Kappa Association