The Pennsylvania State University

The Graduate School

College of Agricultural Sciences

SECONDARY SCHOOL AGRICULTURE TEACHERS' PERCEIVED COMPETENCE LEVEL TOWARD EDUCATING STUDENTS WITH EDUCATIONAL CHALLENGES

A Dissertation in

Agricultural and Extension Education

by

Erica M. Bobbitt

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

December 2011

The dissertation of Erica M. Bobbitt was reviewed and approved* by the following:

Connie D. Baggett
Associate Professor Agricultural and Extension Education
Dissertation Advisor and Co-Committee Chair

Robert W. Clark
Associate Professor Workforce Education and Development

John C. Ewing
Assistant Professor Agricultural and Extension Education
Co-Committee Chair

Patreese D. Ingram
Professor Agricultural and Extension Education

Edgar P. Yoder
Professor Agricultural and Extension Education

Thomas H. Bruening
Professor and Chair of Graduate Program

*Signatures are on file in the Graduate School

ABSTRACT

The passage of Public Law 94-142 (the Education of All Handicapped Children Act) in 1975 established the rights of children with disabilities to a public school education in the least restrictive environment. Fifteen years later, it was amended and renamed the Individuals with Disabilities Education Act (IDEA) (PL 101-476, 1990), still intended to ensure that the educational needs of children with disabilities were being met and that students were receiving appropriate services. In 2002, the No Child Left Behind Act (NCLB) challenged state standards in reading and mathematics, requiring teacher re-orientation and focus. This was followed by further modifications of IDEA in 2004 requiring more accountability at the state and local levels, and requiring school districts to provide adequate instruction and intervention for students. These legislations required secondary school agriculture teachers to become competent in regard to educating students with educational challenges.

There were three objectives for this study. The first was to compare the perceived competencies in the professional roles and development, instructional roles, knowledge, and student leadership and organization skills of secondary school agriculture teachers in Pennsylvania and North Carolina. Exploratory factor analysis was conducted to determine if 16 precise competencies clustered mathematically as specific latent constructs. The second objective was to determine if a difference existed in the perceived competency levels of these roles and skills between secondary school agriculture teachers who received coursework in special education and those who did not receive coursework. The third objective was to determine if a difference existed in the perceived competency

levels of these roles and skills between secondary school agriculture teachers who participated in special education workshops and those who did not.

A census of secondary school agriculture teachers from the Directory of Agricultural Education 2010-2011 for each state was used. The design of the study was descriptive. The data collection instrument was divided into the five areas: professional role and development, instructional role, knowledge, leadership and organization, and personal characteristics. Participants were asked to rate their perceived levels of competency in each category using a Likert-type scale.

In all, 597 questionnaires were sent by e-mail to secondary school agriculture teachers in Pennsylvania and in North Carolina. A total of 218 teachers responded to the questionnaire, 112 from Pennsylvania and 106 from North Carolina. An analysis of variance (ANOVA) was used to determine relationships between nominal variables.

Analysis of the data showed that no significant difference existed in the perceived competency levels of teachers who received special education coursework and those who did not. The data do suggest, however, a significant difference in perception among teachers who attended special education workshops and those who did not. Significant differences were also noted in relation to the factors of age and years of teaching; these were significant for factor 5 (self-advocacy) and factor 6 (skills and abilities). There were also significant differences apparent in the familiarity with laws applying to students with disabilities, to economically disadvantaged students, and to academically challenged students. Moreover, there were significant differences in participant responses to completing IEPs for those students.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF FIGURES

Figures

LIST OF TABLES

Tables

DEDICATION

This dissertation is dedicated to my parents, the late John Dorsie and Nellie Mae Terry Battle; my brother, the late Ivan Antoine Battle; my niece, the late Nellie Mae Battle; my great-nephew, the late Shad Malik; and my husband, Bernard Bobbitt.

ACKNOWLEDGEMENTS

I would like to thank Dr. Connie D. Baggett, my academic advisor and chairman of the dissertation committee. His guidance, support, patience, good spirit and encouraging remarks guided me through the completion of my doctoral degree. I would like to thank the members of my dissertation committee: Dr. John Ewing, Dr. Edgar Yoder, Dr. Patreese Ingram, and Dr. Robert Clark. This process would not have been possible without your guidance and support. I would also like to thank my friend, Mr. Simenson, for providing guidance, support and for always making himself available to talk, and also Ms. Fescemyer, Life Sciences Librarian, for always making herself available to answer my questions. Special thanks are extended to Drs. Blannie and Cathy Bowen, and Dr. Tracy Hoover for their support.

Sincere thanks are expressed to my parents, the late John Dorsie and Nellie Mae Terry Battle, for instilling in me the desire to be and do better! In the absence of my parents, I would like to thank my in-laws, Mr. Bernard and Barbara Bobbitt for their love, guidance and support. Thank you to my family for their love and support. Most importantly, I want to thank my husband Bernard who began the educational journey with me August 18, 1989, and stood with me to the completion of my doctoral degree. Lastly, I would like to thank God. My desire to obtain my Ph.D. and live my dream was in the making since 1996 and came to fruition in 2011.

"For as many as are the promises of God, they all find their answer in him."

2 Corinthians 1:20

CHAPTER 1

INTRODUCTION

The passage of Public Law 94-142, the Education of All Handicapped Children Act (EHA), in 1975 established the rights of children with disabilities to a public school education in the least restrictive environment. In the early 1970s, parents and advocates had sought to secure rights to equal education opportunities for students with disabilities. These efforts were eventually successful and led to the passage of federal legislation to secure these rights (Yell, 1998).

The Individuals with Disabilities Education Act (IDEA) (PL 101-476, 1990) was derived from Public Law 94-142 and intended to ensure that the educational needs of children with disabilities were being met and that students were receiving appropriate services. In 1997, IDEA's emphasis shifted from implementing process steps to encouraging educational results and achievement with accountability. There was a greater focus on participation in the general education curriculum and on standards-based curriculums along with state-wide and district-wide proficiency tests. IDEA began to institute functional behavior analysis, manifest and behavior management plans. The shift was toward process and outcome orientation, with greater focus on transition, self-determination, and independence.

In 2002, the No Child Left Behind Act (NCLB) challenged state standards in reading and math, requiring teachers to become more highly qualified, attempting to improve bilingual education, and attempting to create safe and drug free schools. In response, IDEA 2004 demanded more accountability at the state and local levels, and required school districts to provide adequate instruction and intervention for students.

According to IDEA policy, a disability is defined as "having (i) hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance (hereinafter referred to as 'emotional disturbance'), orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and (ii) who, by reason thereof, needs special education and related services" (IDEA 1997, p. 7). An amendment in 2004 guided the perception that special education was to be viewed by educators as *a service*, and not a place (Burns, 2007). Following the passage of IDEA, the total population of students served under this legislation rose from 5% of the country's entire student population in 1976 to 8.6% in 2006; this accounted for an additional three million students requiring special services (U.S. Department of Education, 2007). In addition, the NCLB Act ensured that all children had fair, equal, and significant opportunities to obtain a high-quality education and reach, at a minimum, proficiency levels on challenging state academic achievement standards and state academic assessments.

Burns (2007) indicated that the regular education teacher must, to an appropriate extent, be involved in the determination of positive classroom behavioral interventions. Burns further indicated that support and other strategies for the child, as well as necessary supplementary aids and service, program modifications, and support for school personnel, were important. Menlove, Hudson, and Sutter (2001) indicated that when general education teachers meaningfully contribute to the IEP process, they are usually satisfied with the process. In relevant situations, involving the secondary agriculture teacher in the IEP process also is important to the successful implementation of an IEP.

Statement of the Problem

Not all states provide agricultural education teachers with coursework or workshops in special education, although all teachers are required to provide services to a student with special needs. Burns (2007) stated:

> The regular classroom teacher provides the framework for structuring the curriculum, selecting appropriate materials, reaching curriculum goals, for achieving the sequential benchmarks within the general curriculum and for achieving the high expectation envisioned by IDEA that are often necessitated by statewide assessments (p. 27).

Burns further indicated that having "high expectations and access to the general curriculum will allow children with disabilities to meet developmental goals and, to the maximum extent possible, the challenging expectations that have been established for all children" (p. 5).

The Pennsylvania Department of Education requires that all candidates recommended for a Level I professional certificate by an institution with an approved certification program must demonstrate generic competencies dealing with the education of students with disabilities. Secondary school agriculture teachers in Pennsylvania are prepared by such institutions, and they are required to take an examination to demonstrate successful proficiency in working with special needs students. The Pennsylvania State University provides school personnel with coursework that addresses topics of and issues pertaining to Public Law 94-142 and Public Law 105-17 (Penn State College of Education, 2011). According to those laws, the designated competencies are:

- understands the legal basis for educating students who are handicapped in the least restrictive environment;
- understands the implications which handicapping conditions have for the learning process;

- recognizes students who may be in need of special services;
- makes use of appropriate resources and support services;
- confers with and reports to parents on educational programs for students with handicaps;
- facilitates the social acceptance of persons with handicaps by encouraging positive interpersonal relationship;
- uses individual, group, and classroom management techniques for effective accommodation of students with special needs of students with handicaps;
- assesses the educational needs of students with handicaps;
- modifies instructional strategies to provide for individual needs of students with handicaps; and,
- evaluates classroom progress of students with handicaps.

At present, the North Carolina Department of Public Instruction does not have a listing of such competencies for teacher candidates who are recommended for a professional certificate by an institution with an approved certification program (http://www.ncpublicschools.org/licensure/).

The agriculture classroom environment is conducive to the learning environment required by special needs students. It provides opportunities for students with special needs to be actively engaged in the learning process. Thus, the knowledge possessed by the agriculture teacher to ensure that adequate services are provided to the student is of paramount importance. All agriculture teachers are legally responsible for educating students enrolled in their programs; therefore, it is necessary to determine the education required to adequately provide the necessary service to the student with special needs. Burns (2007) stated,

> The classroom teacher is an important source of data for understanding classroom needs of a child with a disability prior to referral; the classroom teacher provides important information and observational data during the full and individual evaluation; the classroom teacher contributes to the development of the IEP; the classroom teacher is essential for the implementation of the IEP; and the classroom teacher is obviously important for determining the extent a child can be educated with nondisabled students (p.7).

Purpose and Objectives of the Study

The purpose of this study was to determine the perceived competencies of secondary school agriculture teachers in Pennsylvania and North Carolina toward working with students with disabilities, with academically challenged students and with economically disadvantaged students. Specifically, this study asked secondary school agriculture teachers about their own perceived competencies based on their 1) professional role and development competencies, 2) instructional role competencies, 3) knowledge related competencies, and 4) student leadership and organization competencies. In addition, the study identified the involvement of both coursework and workshops as each relates to those perceived competency levels.

The objectives of the study were as follows:

- to determine the dimensions in which the 16 individual competencies were clustered in regard to the professional role and development, instructional role, knowledge, and student leadership and organization competencies;
- to determine if there is a difference in the perceived competency level of each factor between secondary school agriculture teachers who receive coursework in special education and those who do not receive such coursework; and

- to determine if there is a difference in the perceived competency level of each factor between secondary school agriculture teachers who participated in workshops in special education and those who did not participate in such workshops.

Limitations of the Study

This study has the following limitations:

1. it was restricted to secondary school agriculture teachers in Pennsylvania and North Carolina, and the findings should not be generalized to any other states;
2. the researcher depended solely on responses provided by the respondents;
3. the survey itself referenced "students who are handicapped" when the conventional description is "students with disabilities;" and
4. because the online research tool Survey Monkey was used for the survey instrument, follow-up of non-respondents was limited. With the options selected, procedures through the survey instrument did not permit the identification of specific non-respondents.

Assumptions of the Study

The following assumptions were made in conducting the study:

1. the survey questionnaires were completed by secondary school agriculture teachers;
2. the secondary school agriculture teachers were able to identify special needs students appropriately; and

3. the secondary school agriculture teachers provided answers to the questionnaire that were honest and accurate.

Operational Definitions

Special terms used in this study are defined below:

Academically challenged: Individuals who score below the 25th percentile on a standardized achievement or aptitude test and whose secondary school grades are below 2.0 on a 4.0 scale (where the grade "A" equals 4.0) or fail to attain minimum, academic competencies (P. L. 98-524).

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

Agricultural education: The term "agricultural education" will be used interchangeably with the terms "agriscience" and "vocational agriculture."

Career and Technical Education: The term "career and technical education" will be used interchangeably with the terms "vocational education" and "workforce education."

Competencies: The term competencies refers to the level of efficiency, ability or knowledge that one possess in order to work with handicapped, economically disadvantaged students and academically challenged students based on the 16 competencies identified by Kienast and Lovelace in 1981.

Economically Disadvantaged: Individuals who come from a family which the State Board of Education identifies as low income on the basis of uniform methods,

such as annual income from Aid to Families with Dependent Children (AFDC) or other public assistance programs; and eligible for participation in programs assisted under Title II or (JTPA) Job Training and Partnership Act (P. L. 98-524).

General Education: An educational program within a school that caters to the overall student body rather than focusing on special education. This term is generally used to describe teachers within the school who are not trained as a special education teacher (Hallahan & Kauffman, 2005).

Handicapped: Individuals who are mentally retarded, hard-of-hearing, deaf, speech or language impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health impaired persons, or persons with specific learning disabilities, who, therefore require special education and related services, and who, because of their handicapped condition, cannot succeed in the regular vocational education program without special education assistance (P. L. 98-524).

Inclusion: The meaningful participation of students with disabilities and other special needs in general education classrooms and programs (Lewis, 2006).

Individual Education Program (IEP): A specific educational program that has been designed to cater to a student's individual educational needs. The IEP includes a performance evaluation, long term goals, short term goals, development, recommendations, modifications, and resources available to that student. This must be reevaluated once a year and will include educational, social, and career goals (Hallahan & Kauffman, 2005).

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

In- service: The education teachers receive to remain current in educational topics of interest, such as subject-related education, technology, special populations, and classroom behavior and management (Faulkner, 2007).

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, communications, 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, 1977).

Least restrictive environment: To the maximum extent appropriate, children with disabilities are educated with children who are nondisabled (National Dissemination Center for Children with Disabilities, 2010).

Mainstreaming: The concept of serving students with disabilities within the general education program and with the aid of support services and personnel rather than placing them in self-contained special classes (Vergason & Anderegg, 1977).

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 subject to discrimination from any program or activity receiving federal financial assistance (Deltman, 2004).

Special Education: Instruction specifically designed to meet the unique needs of a child with a disability (National Dissemination Center for Children with Disabilities, 2010).

Special Needs: Special needs have generally been identified through the Individuals with Disabilities Education Act. Young children who have been diagnosed as having developmental delays, or any child who has been evaluated as having one of a limited list of disabilities specified in IDEA, are considered to have special needs when they require special education and related services. This term may also be used for students who are considered to be "at-risk" for learning, emotional, behavioral, or physical disorders or, who are educationally gifted (Brennan & Rosenzweig, 2008).

Workshops: A delivery mode that meets the existing needs of the participants, provides expert assistance, is flexible and consequently can be adapted to accommodate diverse groups and situations (Meers, 1980).

CHAPTER 2

REVIEW OF THE LITERATURE

The focus of this chapter is to present literature related to secondary school agriculture teachers, competencies needed by these teachers, and special education services. It reviews previous research relative to special education, the history of disability laws, special education laws, agricultural education, the IEP Process, teacher competencies, and pre-service programs.

Previous Research Relative to Special Education

A study by Elbert (2000) identified the professional needs of secondary school agriculture teachers in Pennsylvania. Elbert found that 20% of the participating teachers rated themselves as *extremely competent* in using illustrations and audiovisual aids, field trips and direct experiences whenever possible while working with students with disabilities; 20% rated themselves as *extremely competent* in those areas while working with economically disadvantaged students, and 28% indicated *extreme competency* with academically challenged students.

Eleven percent of the teachers in Elbert's study rated themselves *not competent* relative to familiarity with the laws that apply to students with disabilities. In a parallel fashion, 11% rated themselves *not competent* relative to familiarity with the laws that apply to economically disadvantaged students (although not required by law) and 11% rated themselves *not competent* relative to familiarity with the laws that apply to academically challenged students (also not required by law).

Elbert also reported that 20% of the teachers rated themselves *extremely competent* when using concrete, tangible demonstrations rather than verbal and abstract demonstrations while working with students with disabilities, 23% rated themselves *extremely competent* in this category while working with economically disadvantaged students, and 22% rated themselves *extremely competent* in this category while working academically challenged students.

Nineteen percent of the teachers rated themselves *extremely competent* relative to providing leadership roles and opportunities for students with disabilities, 22% rated themselves *extremely competent* in this category with economically disadvantaged students, and 21% rated themselves *extremely competent* in this category with academically challenged students.

In a recent study, Stair (2009) identified the confidence levels of high school agriculture teachers and determined what strategies they used to work with students with special needs. The findings from Stair's research revealed that almost 59% of the teachers reported taking at least one class containing some instruction about teaching students with special needs. Stair's findings also indicated 41% of the teachers reported taking a course related to special education. Additionally, 74% of the teachers in Stair's study reported they had completed in-service training in their schools, within a school system, through professional organizations or at teacher conferences.

History of Disability Laws

The establishment of special education laws dates back to the early 1800s. According to Yell et al. (1998), "Children and youth with disabilities have historically

received unequal treatment in the public education system" (p. 219). Over the course of time, intelligence testing was initiated and legislation led to formation of advocacy groups in support of individuals with disabilities. The American School for the Deaf was established in Hartford, Connecticut in 1817 and the Perkins School for the Blind was established in Boston in 1832. Of relevance to this research, the Smith Hughes Act, promoting vocational agriculture, was passed in 1917.

By the 1920s, services for individuals with disabilities were still very limited and were mostly for veterans and civil service workers who had disabilities. Individuals with severe cases were viewed as charity cases, and still no funding for the mentally retarded or individuals with mental illness existed. The 1920s brought more changes. The American Foundation for the Blind was founded in 1921 and the rich history of Helen Keller, an advocate for people with disabilities, was introduced. In 1927, Franklin Roosevelt co-founded the Warms Springs Foundation for polio survivors. That same year the Supreme Court, in *Buck verses Bell* (1927), ruled that the sterilization of people with disabilities was not a violation of constitutional rights and by 1970, 60,000 individuals were sterilized. In 1929 the first seeing eye dog school was established.

The 1930s brought more legislative changes. The election of President Roosevelt led to the formation of the League of Physically Handicapped in 1935. The League protested against the discrimination of individuals with disabilities. Later that year, Congress passed the Social Security Act, which provided income to workers who faced a loss of income due to a disability. The 1940s witnessed the founding of more organizations in support of individuals with disabilities, including the National Federation of the Blind in Wilkes-Barre, Pennsylvania, which advocated for white cane

laws, and the American Federation for the Physically Handicapped, which was the first cross-disability group. In 1943, Congress passed the Vocational Rehabilitation Amendments which began to provide federal funding for vocational rehabilitation programs. This was followed by the rehabilitation medicine specialty based on Howard Rusk's work at Walter Reed Medical Center in 1944.

In 1945, Boyce R. Williams was hired by the Federal Office of Vocational Rehabilitation as a consultant for the deaf, the hard of hearing, and the speech impaired. Williams worked in this position for almost 40 years. Congress enacted the Hospital Survey and Construction Act in 1946, and the National Mental Health Foundation was formed by conscientious objectors who served as attendants at state mental institutions during World War II (Hospital Survey Act, 1946). The late 1940s brought about the veteran advocacy groups. The focus turned to the newly formed Paralyzed Veterans of America (PVA) and the National Paraplegia Foundation in 1947, and the movement toward VA rights became more evident.

Advocacy rights of individuals, including family-based advocacy, early childhood services, separate schools, sheltered workshops and day activity centers became even more important in the 1950s. Social Security Amendments established the federal-state social security programs which later influenced social security disability insurance. An amendment to the Social Security Act in 1950 established federal and state programs to aid the permanently and totally disabled. This amendment was later followed by federal disability assistance programs such as the Social Security Disability Insurance (SSDI) program. Also in the 1950s, the Association for Retarded Children (ARC) and the Pennsylvania ARC were formed.

In 1952, the President's Committee for the "National Employ the Physically Handicapped Week" became a permanent organization. In *Brown verses Board of Education* (1952), the court ruled schools were separate but not equal. This ruling became the basis for the further development of disability legislation and the civil rights framework. The implications that followed included the amendment of the Social Security Act of 1935, which was later amended by Public Law 83-761. This law provided a provision for workers with disabilities who were forced to leave the workforce; the provision protected the benefits of workers when they retired. In 1955, Harold Wilke becomes the founder and first executive director of the Commission on Religion and Health within the United Church of Christ. Wilke worked to open religious life and ministry to women and those with disabilities. In 1956, Congress passed the Social Security Amendments creating SSDI for disabled workers ages 50-64. In 1958, Congress extended the right for insurance to the dependents of disabled workers.

In 1960, the first Paralympics games were held in Rome, Italy. In 1961 President Kennedy appointed a special President's Panel on Mental Retardation, and the American National Standard Institute (ASI) published a set of specifications for making buildings accessible. In 1962, the President's Committee on Employment of the Physically Handicapped was renamed as the President's Committee on Employment of the Handicapped. In an address to Congress in 1963, President Kennedy called for a reduction in the number of persons confined to residential institutions based on mental illness and mental retardation. In 1968, the Architectural Barriers Act, which was considered to be the first disability rights legislation, was passed. This act was followed by the introduction of the "normalization concept" in 1969.

In 1970, the Developmental Disabilities Services and Facilities Construction amendments were passed, containing the first definition of developmental disabilities. Furthermore, grants were authorized for services and facilities for the rehabilitation of people with developmental disabilities. The Urban Mass Transportation Assistance Act was passed by Congress in 1970. Judgment in the court case of *Wyatt verses Stickney* (1971) ruled that people in residential facilities had the constitutional right to receive treatment that would lead to a cure of mental retardation. That same year, the Fair Labor Standard Act of 1938 was amended to bring people with disabilities other than blindness into the sheltered workshop system. This act led to an employment system for people with cognitive and developmental disabilities. In *Mills verses Board of Education* (1972), the ruling was that the District of Columbia could not exclude disabled children from public schools, and the *PARC verses Pennsylvania* (1972) case resulted in the same ruling.

In 1972, the Center for Independent Living was founded in Berkeley, California, and sparked the national independent living movement. The Supplemental Security Income (SSI) program was created, which provided relief to families burdened with caring for adult children with disabilities. This program consolidated the existing federal programs for people with disabilities who were not eligible for SSI. That same year, the PVA sued the Washington Metropolitan Area Transit Authority for subway handicapped accessibility. This led to the expansion of the theory of "normalization" promoted by Wolf Wolfensberger in his book, The Principle of Normalization in Human Services. Demonstrations by disabled activists in Washington, D.C. protested the veto of the

Rehabilitation Act of 1973 by President Nixon. These activities were followed by the introduction of 'handicapped' parking stickers issued in the District of Columbia.

Soon after, the Rehabilitation Act of 1973 was passed, marking what its promoters claimed as "… the greatest achievement of the disability rights movement" (Rehabilitation Act, 1973). The *Halderman verses Pennhurst* case (1974) addressed the horrific living conditions of people with mental retardation. In 1975, Congress passed the Community Services Act, creating the Head Start Program and the Developmentally Disabled Assistance and Bill of Rights Act to provide federal funds for programs serving people with developmental disabilities. That same year, the Education for All Handicapped Children Act (Public Law 94-142) was also passed, establishing the right of children with disabilities to a public school education in the least restrictive environment. It introduced the individual education plan, due process, nondiscriminatory assessment, and parental participation.

In 1980, Congress passed the Social Security Act-Section 1619, designed to address work disincentives within the Social Security Disability Insurance and Supplemental Security Income programs. Congress also passed the Civil Rights of Institutionalized Persons Act, authorizing the U.S. Justice Department to file civil suits on behalf of residents of institutions whose rights were being violated. From 1981-1983, President Reagan's administration threatened to amend or revoke regulations implementing Section 504 of the Rehabilitation Act of 1973 and the Education for All Handicapped Act of 1975 to dismantle regulations that taxed businesses.

Between 1981 and 1984, President Reagan's administration terminated the social security benefits of hundreds of thousands of disabled recipients. In 1983, the

Telecommunications for the Disabled Act mandated telephone access for the deaf and hard-of-hearing people at important public places such as hospitals and police stations. That same year, the Job Accommodation Network was founded by the President's Committee on Employment of the Handicapped. The following year, the U.S. Supreme Court ruled in the court case of the *Irving Independent School District verses Tatro* (1984) that under the EAHCA, the school districts were required to provide related services to a disabled student and could no longer refuse to educate a disabled child because they might need such a service.

In 1984, Congress passed the Disability Reform Act in response to the hundreds of thousands of complaints from people whose supplemental security income had been terminated. The law required that benefits continue until all appeals had been exhausted and that termination was based only on the evidence and not the disability of the individual. In 1984, Voting Accessibility for the Elderly and Handicapped Act mandated that polling places be made accessible for all people. The U.S. Supreme Court ruled in 1985 that schools pay the expenses of disabled children enrolled in private programs during litigation, if the court ruled that placement was needed.

In 1986, the report "Toward Independence" from the National Council on the Handicapped outlined the legal status of Americans with disabilities and documented the existence of discrimination. The report cited the need for federal civil rights legislation, which eventually led to the Americans with Disabilities Act (ADA) of 1990. The 1985 Employment Opportunities Act for Disabled Americans was passed, which allowed recipients of SSI and Social Security Disability (SSD) to keep their benefits, particularly medical coverage, even after they had obtained work.

As the century drew to a close, 1998 brought much legislation for individuals with disabilities. The Technology Related Assistance Act for Individuals with Disabilities was passed. Also, the Fair Housing Amendments Act added people with disabilities to those groups protected under federal fair housing legislation (Technology-Related Assistance Act for Individuals with Disabilities Act, 1988). Congress overturned President Reagan's veto of the Civil Rights Restoration Act of 1987. Finally, the U.S. Supreme Court ruled in *Honig verses Doe* (1988) that school authorities could not expel or suspend or otherwise move disabled children from the setting agreed upon in the child's IEP without a due process hearing.

In 1990, the ADA was signed into law by President George H. W. Bush, detailing accessibility and employability mandates for businesses with individuals who qualified for employment. The EAHCA was reauthorized and renamed the Individuals with Disabilities Education Act (IDEA). In 1992, the Rehabilitation Act Amendments (1973) linked into the regulations in the IDEA and recognized a disability as a naturally occurring process.

In both 1990 and 1998, the Carl D. Perkins Act was focused on improving the quality of vocational education and providing supplemental services to special populations. In 1990, IDEA introduced the definition of transition services by starting with the needs and preferences of the students and planning for their transition for life after school. The Carl Perkins Act (1998) also made IEPs an outcome-oriented process and included coordinated activities.

In 2004, IDEA emphasis shifted from process steps to educational results and achievement with accountability. There was a greater focus on participation in general

education curriculum. In 2004, IDEA also moved emphasis toward more access and participation in the general curriculum and to standards based, participation in state and district wide proficiency tests, functional behavior analysis, and behavior management plans. The shift was toward process and outcome orientation with more focus on transition, self-determination, and student independence. In 2002, the No Child Left Behind Act challenged state standards in reading and mathematics, focused on highly qualified teachers, improved bilingual education, and improved safe and drug free schools.

Special Education Laws

The importance of addressing the needs of students with disabilities economically disadvantaged and academically challenged students influenced legislators to pass Public Law 94-142, the Education for All Handicapped Children Act (EAHCA) of 1975, and Section 504 of the Vocational Rehabilitation Act of 1973. Public Law 94-142 provided for free and appropriate education for all students while assuring that the rights of the students and their parents are protected. The EAHCA also introduced the IEP, due process, nondiscriminatory assessment, and parental participation, while Section 504 ensured that individuals with disabilities were not excluded from activities or programs that received federal funding.

The Vocational Education Act of 1984, also known as PL 98-524 or the Carl D. Perkins Education Act, allotted federal funds for vocational education. This legislation allotted 32% of state funding specifically to “handicapped” and “disadvantaged” populations. Funding was based on the “number of students with disabilities and the

number of academically and economically disadvantaged students enrolled in vocational education" (Muraskin1989, p. 9).

Public Law 94-142 addressed the transitional plans for students at the age 14 to transition from high school into college, a career, or a technical education program. This amendment also extended the definition of what disabilities were covered under the Act and changed the term "handicapped students" to "students with disabilities." This change reflected a commitment to identifying these individuals as people rather than by their disabilities. The 1997 amendment to Public Law 94-142 made provisions for students with disabilities to be included on state and district-wide assessment. Also, regular education teachers were required to be a member of the IEP team, IEP requirements were expanded, and it was required that parents be informed of the student's progress. The 2001 NCLB Act, sometimes referred to as simply NCLB, primarily focused on accountability standards for education. NCLB included eight main provisions: increased accountability, adequate yearly progress (AYP), school-wide programs, local educational agency plan (LEA) and school improvement, qualification of teachers and professionals, participation of children in private schools, LEA allocations, and fiscal requirements (U.S. Department of Education, 2002).

The NCLB Act ensured that all children had a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging state academic achievement standards and state academic assessments. According to the U.S. Department of Education (2002), this could be accomplished by:

> (1) ensuring that high-quality academic assessments, accountability systems, teacher preparation and training, curriculum, and instructional materials are aligned with challenging [s]tate academic standards so that students, teachers,

parents, and administrators can measure progress against common expectations for student academic achievement;

(2) meeting the educational needs of low-achieving children in our Nation's highest-poverty schools, limited English proficient children, migratory children, children with disabilities, Indian children, neglected or delinquent children, and young children in need of reading assistance;

(3) closing the achievement gap between high- and low-performing children, especially the achievement gaps between minority and nonminority students, and between disadvantaged children and their more advantaged peers;

(4) holding schools, local educational agencies, and [s]tates accountable for improving the academic achievement of all students, and identifying and turning around low-performing schools that have failed to provide a high-quality education to their students, while providing alternatives to students in such schools to enable the students to receive a high-quality education;

(5) distributing and targeting resources sufficiently to make a difference to local educational agencies and schools where needs are greatest;

(6) improving and strengthening accountability, teaching, and learning by using [s]tate assessment systems designed to ensure that students are meeting challenging [s]tate academic achievement and content standards and increasing achievement overall, but especially for the disadvantaged;

(7) providing greater decision making authority and flexibility to schools and teachers in exchange for greater responsibility for student performance;

(8) providing children an enriched and accelerated educational program, including the use of school wide programs or additional services that increase the amount and quality of instructional time;

(9) promoting school wide reform and ensuring the access of children to effective, scientifically based instructional strategies and challenging academic content;

(10) significantly elevating the quality of instruction by providing staff in participating schools with substantial opportunities for professional development;

(11) coordinating services under all parts of this title with each other, with other educational services, and, to the extent feasible, with other agencies providing services to youth, children, and families; and

(12) affording parents substantial and meaningful opportunities to participate in the education of their children (p. 15).

The greatest impact of NCLB on vocational education was the concern by educators that the emphasis on the end-of-course testing requirements would become detrimental to the hands-on nature of vocational courses. Another concern of vocational education advocates was that the emphasis on end-of-course testing woud be detrimental to students with disabilities within these courses (Gaona, 2004). An amendment to the 2004 IDEA aligned with NCLB by adding 10 new regulations that:

- Included new definitions
- Allowed for the use of reserved funds to carry out state-level activities
- Allowed for the use of funds in school-wide programs
- Allowed local educational agencies (LEA) some flexibility in the use of funds to carry out activities under Elementary and Secondary Education Act
- Added requirements for qualifications of special education teachers
- Required performance goals and indicators
- Required reporting on progress of the state
- Required development of alternate assessments
- Required linking records of migratory children among states
- Provided a special rule for eligibility determination

(United States Department of Education, 2007)

The Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 required more accountability at the state and local levels and required school districts to provide adequate instruction and intervention for students. Part A of IDEIA consists of the general provisions and includes the purposes of IDEIA and its definitions. Part B focuses on the education of school-aged and preschool children, funding, evaluations for

services, eligibility determinations, IEPs, and educational placements. IDEIA also outlines detailed procedural safeguards, discipline provisions, as well as the withholding of funds, and judicial review, and it includes the Section 619 program, which provides services to children aged 3 through 5 years old. Accomplishments attributable through IDEIA include:

- The majority of students with disabilities are now being educated in their neighborhood schools in regular classrooms with their non-disabled peers.
- High school graduation rates and employment rates among youth with disabilities have increased by 14 percent from 1984 to 1997 and post-school employment rates for youth served under IDEA are twice those of older adults with similar disabilities who did not have the benefit of IDEA.

Post-secondary enrollments among individuals with disabilities receiving IDEA services sharply increased. The percentage of college freshmen reporting disabilities has more than tripled since 1978 (United States Department of Education, 2007, p. 2)

The Individual Education Plan Process

Implementation of the Individual Education Plan (IEP) provides opportunity for students with a learning disability to participate in the secondary agriculture program. "The IEP is the collaborative effort between school personnel and parents to ensure that students' special education programs will meet their individual needs" (Yell, 1998, p. 167).

Yell (1998) indicated the IEP is the keystone of the Individuals with Disabilities Education Act (IDEA) and special education is embodied in the IEP. Secondary school agriculture teachers' knowledge and understanding of the law governing the IEP process are important to the successful implementation of the IEP. Teachers who work with

students with special needs use a variety of methods to implement the IEP (Yell et al., 1998). Agriculture teachers are no exception. Some of the methods teachers use include: 1) highlight key points to remember; 2) eliminate distractions by using a template to block out other items; 3) have student use a self-monitoring sheet; 4) break task into smaller parts to do at different times; 5) use study partners whenever reading or writing is required; 6) secure papers to work areas with tape or magnets; 7) present information in multiple formats; and 8) use listening devices (Thurlow, 2000, p. 2).

Mainstreaming and inclusionary practices have increased the number of students with disabilities in agricultural education programs (Kessell, 2005). According to Yell (1998), teachers need to become familiar with the general categories of special needs learners and their associated learning problems if they are to be successful in preparing the individuals adequately. The essential components of the IEP are: a statement of the present level of educational performance, annual goals and short-term instructional objectives, specific educational services to be provided, including the anticipated date they will begin and how long they will be needed, the extent to which the student will participate in regular educational programs/activities, and appropriate performance criteria and evaluation at least once a year to determine whether instructional objectives are being achieved (Sarkees & Scott, 1985).

Hock (2000) found that an IEP should ensure that students with disabilities receive an appropriate education. Hock described the IEP in the following ways:

> An IEP is a program for planning specifically designed instruction crafted to meet the unique needs of a student with disabilities. The IEP is a process for planning special educational and related service. The IEP is a legal contract between education agencies and parents that document the outcomes and decisions made through collaborative planning (p.29).

Agricultural Education

Agricultural education has changed and expanded over the years to meet the needs of society and is more inclusive of all students. The Morrill Act of 1862 and the subsequent Morrill Act of 1890 established land grant colleges in every state. This made instruction in the agricultural and mechanical sciences available to all students. The Smith-Lever Act of 1914 established non-formal education for production agriculturalists to gain and receive appropriate agricultural information through the Cooperative Extension Service. The Smith-Hughes Act of 1917 established vocational education in the public school system, and agricultural education was included in this legislation.

Although agriculture was once perceived as strictly for farmers and rural persons, it has developed to be a more diverse, multicultural program (Elbert, 2000). Agricultural education was designed to provide better opportunities for all students (Iverson, 1993). While additional emphasis and research has been placed on helping teachers work with students who have a disability, some research suggests that teachers in agriculture are unprepared to provide students with the modifications that they need and are not provided with adequate resources in their teacher preparation programs to work with this student population (Schumm & Vaughn, 1995). Agriculture teachers must be prepared to work with students with special needs in the classroom as well as be able to involve the students in extracurricular activities and other projects that are associated with agricultural education (Stair, 2009).

Agricultural education programs have evolved also to include students from diverse backgrounds. According to Newcomb, McCracken, Warmbrod, and Whittington (2004), the opportunity for students to enroll in agricultural education at the secondary

level was an evolving process. Elbert (2000) indicated that agricultural and vocational education had expanded from its original focus to one that met the needs of students in the current society. Agricultural education provides students with special needs the opportunity to learn and experience agriculture in a learning environment that is conducive to learning the appropriate subject matter.

The current mission of agricultural education is to prepare and support individuals for careers in agriculture, build awareness of agriculture and develop leadership for the food, fiber and natural resource systems (Case & Whitaker, 1998). Involvement of students with learning disabilities in agriculture programs is important to student development. Student development may be improved by student involvement in student organizations. Student organizations have been a part of agricultural programs since the passage of the Smith-Hughes Act of 1917 (Yell et al., 1998). Involving students with special needs in student organizations may be beneficial to the success of the student in the classroom.

Agricultural education instruction is delivered through three major components: classroom laboratory (contextual learning), supervised agricultural experience programs (work-based learning), and the FFA Organization, providing students leadership experience (National FFA Organization, 2010). According to Stair (2009), "…this total program model suggests that teachers must not only be prepared to provide resources and opportunities within the classroom, but they will also need to work with students with disabilities to make participation in each of the other areas possible" (p. 4).

Gagnon and Keith (1988) indicated the traditional approach to teaching agriculture has been and is problem solving. Students are challenged in agricultural

education programs to use higher-order thinking processes. In agriculture programs, students work to solve problems, find solutions and answer questions that are not simplistic or only require a “yes” or “no” response. Students with learning disabilities benefit from the application approach that is offered in agricultural education.

Competencies Needed by Teachers

According to the U.S. Department of Education (2004), vocational schools have become institutions for special needs students. Competent secondary school agriculture teachers are needed to provide the services necessary to meet the needs of special education students. The number of students with disabilities in general education courses is increasing and many teachers feel that they are unprepared to address these students' needs (Stair, 2009). Crunkilton (1985) suggested that agricultural and vocational education pre-service teachers should be required to teach students with disabilities, work as a teacher's aide for students with disabilities and observe teachers of students with disabilities. The vocational education teacher is expected to know a variety of fields and trades, be aware of new research and technology, and meet the needs of students with different abilities, experiences and career goals. Along with these demands, the vocational agriculture teacher is asked to meet the unique learning needs of students with disabilities within the framework of the regular education program (Toole & Eddowes, 1985). Sarkees and Scott (1985) indicated that competent teachers were a key factor in providing a quality education for special needs students. Elbert and Baggett (2003) expressed the need for agriculture teachers and education faculty to be knowledgeable in the areas of the professional role and development, instructional role, knowledge about the IEP and student leadership and organizations affecting students with special needs.

Secondary school agriculture teachers face varying challenges when working with students with special needs. The challenges are not limited to implementing the IEP but may also include providing the necessary services to the student with special needs. Special education courses and workshops provide the agriculture teacher with knowledge

and information about the IEP. This preparation also provides the secondary agriculture teacher with expertise to successfully engage in the IEP process. Elbert and Baggett (2004) found that Pennsylvania agriculture teachers desired more education in evaluating learners with special needs, IEPs, inclusion practices, and teaching strategies. Roberts and Dyer (2004) identified the in-service needs of Florida agricultural education teachers. The researchers surveyed 151 teachers. Of the 142 who responded, 43% identified a need for in-service on modifying lessons for students with special needs. According to the U.S. Department of Education (2004), secondary trade and industrial vocational teachers have less formal education than academic teachers. However, the majority of the secondary school agriculture teachers are prepared through the traditional academic route.

Curtis and Howell (1980) indicated that it was imperative that agriculture teachers know individual and group instructional techniques to help the special needs students develop to their full potential. In a study conducted by Taylor and Williams (2003), Texas public school superintendents identified skills deemed important for agriculture teachers to possess in the classroom. It was revealed that the superintendents perceived skills in the area of service to special populations as important to agriculture teachers. The researchers surveyed superintendents in 128 school districts in Texas, and 61 superintendents returned the survey. The Cronbach alpha was .92. The study supported the need for competency development in special education.

Pre-service Programs

Preparing agriculture teachers to work with students with learning disabilities is critical to the success of the special needs student. Agriculture teachers in Pennsylvania are provided pre-service coursework in special education; however, agriculture teachers in North Carolina do not receive pre-service education in special education. Taylor and Williams (2003) supported the need for agriculture teacher educators to include instructional techniques that meet the curriculum, instructional and educational needs of students with learning disabilities in agriculture education programs.

Appropriate preparation of agriculture teachers to adequately serve students continues to be significant (Hill, 1988). Teachers may not feel adequately prepared to work with students with special needs. Therefore, special education may be necessary to ensure teachers are competent in providing the necessary services to the students. Agricultural teacher educators who effectively prepare pre-service teachers to work with students with learning disabilities in agricultural education are vital to the profession (Faulkner, 2007).

Scott, Vitale, and Masten (1998) indicated that teachers do not feel knowledgeable and skilled in implementing individualized instruction for students with learning disabilities. In their study, they identified 93 instructional strategies in special education research journals. The strategies they identified included improving alternative materials, using manipulative and hands-on materials, varying materials and adjusting grades, and providing assignments and goals that meet the needs of the student. In a study conducted by Cannon, Idol, and West (1992), the researchers surveyed 200 educators including teachers, school administrators, program supervisors, teacher

educators, and researchers. The Cronbach Alpha for the general education scale was .97 and the special education scale was .96. In all, 128 participants responded to the first round survey and 88% of these responded to the second round survey. The researchers identified 91 different educational strategies, and 80% of them were considered essential for special education and regular education teachers. The preparation of secondary school agriculture teachers to work with students with special needs is very important today.

According to Hill (1988) the failure of teacher education programs to adequately prepare teachers to service special needs students had been an issue for many years. Sarkees and Scott (1985) indicated that competent teachers were a key factor in providing a quality education for special needs students. Elbert and Baggett (2003) expressed the need for agriculture teachers and education faculty to be knowledgeable in the areas of the professional role and development, instructional role, knowledge about the IEP and student leadership and organizations affecting students with special needs.

The Pennsylvania Department of Education requires that all candidates recommended for a Level I professional certificate by an institution with an approved certification program demonstrate generic competencies dealing with the education of students with disabilities. These competencies focus on issues related to Public Law 94-142 and Public Law 105-17. Candidates have the option to complete an approved special education course or take the special education Praxis examination. The candidates must pass the examination within two attempts with a 75% criterion performance to receive the required recommendation which leads to the professional certificate by the Pennsylvania

Department of Education. The North Carolina Department of Public Instruction does not have these requirements.

Summary

Providing services to students with special needs is a very important process. Although agriculture teachers have been involved in all aspects of educating students with special needs, not all teachers have received coursework or workshops in special education. Establishment of special education laws dates back to the early 1800s and included the founding of The American School for the Deaf, the American Foundation for the Blind, the National Federation of the Blind in Wilkes-Barre, Pennsylvania, and the American Federation for the Physically Handicapped. The *Brown versesBoard of Education* (1952) court ruling became the basis for the further development of disability legislation and the 1990, IDEA amendment introduced the definition of transition services for students.

The Carl Perkins Act (1998) focused on the IEP, while the 2004 IDEA amendment emphasized achievement with accountability and shifted more towards access and participation of the student. The 2002, No Child Left Behind Act challenged state standards in reading and math and focused on highly qualified teachers. Burns (2007) stated, "High expectations and access to the general curriculum will allow children with disabilities to meet developmental goals and, to the maximum extent possible, the challenging expectations that have been established for all children" (p. 5).

According to Elbert (2000), agricultural and vocational education expanded from its original focus of farming to one that meets the needs of students representative of the

society; therefore, the agricultural education programs have developed to include students from diverse backgrounds.

The literature cited supports the idea that competent secondary school agriculture teachers are important for delivering services to students with special needs. Teacher educators are also important to helping future teachers develop the skills and knowledge to instruct students with special needs. According to Faulkner (2007), 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.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter outlines the methods and procedures used in the study according to the following sections: purpose and research questions, design of the study, population, instrumentation, data collection, and data analysis.

Purpose and Research Questions

This study examined the perceived competency levels of secondary school agriculture teachers in Pennsylvania and North Carolina and determined if there was a difference in the perceptions of those who had coursework or workshops in special education and those who did not.

The following research questions guided the study:

1. What are the dimensions on which the 16 individual competencies in professional role and development, instructional role, knowledge, and student leadership and organization cluster?

2. Is there a difference in the perceived competency level in the professional role and development, instructional role, knowledge, and student leadership and organization for secondary school agriculture teachers who receive coursework in special education and secondary school agriculture teachers who do not receive coursework in special education?

3. Is there a difference in the perceived competency level in the professional role and development, instructional role, knowledge, and student leadership and organization for secondary school agriculture teachers who participated in workshops in special

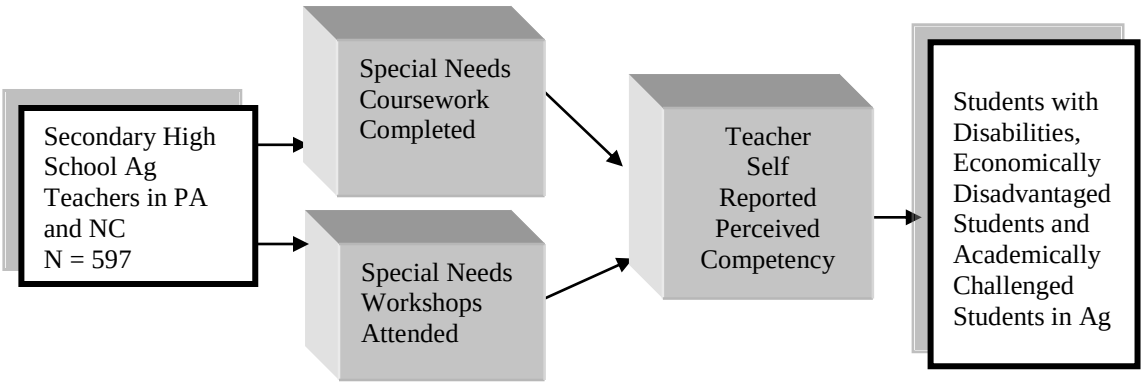
education and secondary school agriculture teachers who did not participate in workshops in special education?

Design of the Study

A descriptive research design was used to address the research questions in this study. The dependent variable in the study was the secondary school agriculture teachers' perceived competency level in the professional role and development, instructional role, knowledge, and student leadership and organization. The variables in this study are summarized in Table 1.

Participants were asked to rate themselves relative to specific competencies for teaching three categories of students: those with a disability, those who were economically disadvantaged, and those who were academically challenged. The schematic diagram in Figure 1 illustrates the process of measuring the perceived competencies of the secondary school agriculture teachers.

Figure 1
Design of the Study



Population

The study's population consisted of 597 agriculture teachers employed during the 2010-2011 academic year in either Pennsylvania or North Carolina. The teachers were selected from the directory for agriculture teachers in each state.

Table 1

Summary of Variables

Variable	Scale of Measurement
Competency Level for 16 Competency Statements 1= not competent 2= slightly competent 3= competent 4= very competent 5= extremely competent	Ordinal
Gender Male Female	Nominal
Ethnicity Caucasian/White African-American (Black) Asian Pacific or Pacific Islander Hispanic/Latino Native American/ American Indian	Nominal
Age (years) 21-30 31-40 41-50 51-60 61 and above	Nominal Ordered Categories

Table 1

Summary of Variables Used in the Study (Continued)

Variable	Scale of Measurement
Educational Activities	Nominal
Courses include time spent working with students with special needs	
Course in last 5 years	
Workshops in last 5 years	
Teaching Experience	Nominal Ordered Categories
Fewer than 2 years	
2 - 5 years	
6 - 9 years	
10 - 13 years	
14 years or more	
Percentage of Students with Special Needs	Nominal Ordered Categories
Less than 10%	
11% - 20%	
21% - 30%	
31% - 40%	
41% - 50%	
More than 50%	
Special Needs Students	Nominal
Students with disabilities	
Economically Disadvantaged Students	
Academically Challenged Students	

Instrumentation

A two-part survey instrument was adopted and modified by the researcher to collect demographic information and assess competency levels in the following areas: professional role and development competence, instructional role competence, knowledge related competence, and student leadership and organization competence. Each of the study's objectives was addressed by sections of the instrument. Section one of the instrument included items pertaining to teachers' levels of competency according to a five-level, Likert scale where 1= not competent, 2=slightly competent, 3=competent, 4=very competent, and 5=extremely competent. The instrument contained 16 competency statements, grouped as follows:

Professional Role and Development

1. Assisting the student in viewing his/her assets and limitations realistically based on the IEP
2. Demonstrating objectivity and sensitivity to cultural differences of special needs students
3. Influencing attitudes of regular school personnel and other students toward acceptance of special needs students

Instructional Role

4. Assisting the student in developing good study habits related to agricultural education
5. Providing methods of inclusion with other students for daily activities
6. Using a variety of teaching methods and techniques to provide instruction for special needs students

7. Using objective and orderly procedures on a daily basis
8. Using concrete, tangible demonstrations rather than verbal and abstract demonstrations
9. Using illustrations, audiovisual aids, field trips, and direct experiences whenever possible with special needs students
10. Using supplemental strategies that produce cognitive skills with students with special needs
11. Challenging the learner's skills and abilities
12. Formatting instructional materials into shorter units when working with special needs students

Knowledge

13. Familiar with the laws that apply to special needs students
14. Completing Individualized Education Plan (IEP) for special needs students

Student Leadership and Organizations

15. Integrating and actively involving special needs students in vocational organizations
16. Providing leadership roles and opportunities for special needs students

Competency statements were obtained from the Personal Training Requirements to Serve Handicapped Populations: Needs Assessment Survey of Vocational Teachers instrument (Kienast & Lovelace, 1981). Previous use of this instrument yielded Cronbach's Alpha's of .95 and .97 (Elbert, 2000).

Section two of the instrument included personal characteristics of the participants: gender, ethnicity, age, degree attained, professional associations, and years of teaching experience.

Review of the Instrument

The Kienast and Lovelace questionnaire (1981) was reviewed for appropriateness to this study by a panel of faculty in the Department of Agricultural and Extension Education at The Pennsylvania State University. One competency was removed for this study because it dealt with the vocational individual education plan, and it was not applicable to this study.

Data Collection

Data collection was conducted in four stages. A cover letter including access to the instrument that was developed in Survey Monkey was emailed on January 18, 2011 to the secondary school agriculture teachers in Pennsylvania and in North Carolina. The first follow-up request was emailed on January 25, 2011. The second follow-up request was emailed February 1, 2011. The final request to complete the survey was emailed on February 15, 2011. With the options selected, procedures through the survey instrument did not permit the identification of specific non-respondents. However, the researcher did compare the responses on 16 competency items between earlier and later responders. There were no significant differences in the responses to the items between the two groups. The data were collected in accordance to the protocol submitted to the Human Subjects Committee, Office for Regulatory Compliance at the Pennsylvania State University.

A total of 597 questionnaires were emailed to the secondary school agriculture teachers in Pennsylvania (244) and North Carolina (353). Of these, 112 surveys were returned by the Pennsylvania teachers and 106 surveys were returned by the North Carolina teachers, yielding a return response rate of 37%. The return rate of the initial email was 13%, with 78 of the 597 educators responding. The return rate of the first follow-up request was 15%, with 140 of the 597 educators responding. The second follow-up request 25%, with 189 of the 597 educators responding. Two-hundred and eighteen educators responded by the final request.

Data Analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS™ version 19.0) available through the Pennsylvania State University. Descriptive statistics include frequency distribution, means, and percentages. Inferential statistics used in the data analysis included factor analysis for objective 1 and analysis of variance (ANOVA) for objectives 2 and 3. In using one-way ANOVA the researcher assessed the two primary statistical assumptions for ANOVA: (1) normality of the dependent variable across all levels of the respective independent variable (using skewness and kurtosis values, boxplots, and histograms), and (2) homogeneity of variance (using Levene's test). The a priori alpha level for all statistical tests was set at .05.

Exploratory factor analysis was used to examine the clustering of individual items onto latent structures or dimensions (factor1, factor 2, etc.). In essence, this reduces the number of individual variables in a study. For example, several (a minimum of three) individual items are summated to represent a latent dimension (Tabachnick & Fidell,

2007, pp. 608, 646). In order for an individual item to be retained on a factor, the researcher used the criterion of ± .4 factor loading. It is important to remember factor loadings must be interpreted in light of theory, not by arbitrary application of arbitrary cutoff levels. Hair, Anderson, Tatham and Black (1998) indicate factor loadings above .6 are "high" and factor loadings below .4 are "low." For the retained summated factor scores, Cronbach's alpha was calculated to assess reliability (internal consistency).

Summary

This study examined the competency levels of secondary school agriculture teachers to determine if there was a difference in the perceived competency level of the teachers in Pennsylvania and North Carolina. The study also determined if there was a difference in the perceived competency level of secondary school agriculture teachers who received coursework or workshops in special education and secondary school agriculture teachers who did not receive coursework or workshops in special education. A descriptive research design was used to address the research questions in this study. The population consisted of 597 agriculture teachers employed during the 2010-2011 academic year in Pennsylvania and the state of North Carolina.

A two-part survey instrument was used by the researcher to measure demographic information, and perceived competency levels in the four factors titled professional role and development, instructional role, knowledge, and student leadership and organization. Data collection was conducted in four stages for the secondary school agriculture teachers and a total of 597 questionnaires were emailed, 244 to the secondary school agriculture teachers in Pennsylvania 355 to teachers in North Carolina.

CHAPTER 4

FINDINGS

This chapter summarizes the analysis of the data collected relative to the perceived competency levels of secondary school agriculture teachers in the categories of professional role and development, instructional role, knowledge and student leadership and organizations. This study examined the perceptions of teachers who had courses and/or workshops in special education. Selected teacher demographics were also examined. A post hoc reliability test was run on the instrument to determine if the Cronbach's alpha was similar to the coefficients obtained by previous researchers. Elbert's (2000) use of this instrument generated a Cronbach's alpha of .97. The Cronbach's alpha coefficient for this study was .92.

The study included secondary school agriculture teachers of Pennsylvania and North Carolina and examined their involvement in coursework and workshops as it relates to their perceived competence level for working with students with disabilities, economically disadvantaged students, and academically challenged students.

Demographic Characteristics of the High School Agricultural Teachers

The total number of secondary agricultural education teacher respondents was 218. Not all respondents provided responses to all items. Therefore, the frequencies vary. A t-test was run on the variables on the early and late respondents, and no significant differences ($p < .05$) were identified. A substantial number of the respondents were male (62.3%). An even larger percentage of the respondents (90.8%) were Caucasian. The age of the agriculture teachers ranged from 21-61+ years of age. More than half (55.4%)

of the respondents were between 41-60 years old. Four were more than 61 years old. The majority (52.7%) of the respondents had received their masters' degree. Almost one-half (48%) had taught 14 or more years (see Table 2).

Slightly less than one-half (47.7%) of the respondents surveyed taught horticulture or agricultural science, followed by agricultural production or animal science (28%). Additional teaching areas included agricultural mechanics (17.6%), and natural resources/environmental science or forestry (6.7%). Other smaller areas included earth science, biology, and biotechnology (see Table 3).

Seventy-five agriculture teachers (37.3%) reported that the percentage of students with special needs in their class was between 11% and 20%. Agriculture teachers (6.3%) also reported that the majority of the students were students with disabilities, 43% of the teachers indicated the majority of the students were economically disadvantaged students, and 50.7% of the teachers indicated the majority of the students were academically challenged students (see Table 4).

Table 2

Frequency and Percentage for Demographics: Gender, Ethnicity, Age, Highest Degree Attained, Number of Years Taught

Variable	PA	NC	f	%
Gender				
Male	62	67	129	65.5
Female	36	32	68	34.5
Total			197	100.0
Ethnicity				
Caucasian	107	91	198	97.0
African American	0	5	5	2.5
Native American	0	1	1	0.5
Total			204	100.0
Age (years)				
21-30	30	18	48	23.3
31-40	14	26	40	19.4
41-50	29	28	57	27.7
51-60	31	26	57	27.7
61 and above	3	1	4	1.9
Total			206	100.0
Highest Degree Attained				
Associate	4	0	4	1.9
Bachelor	57	36	93	44.9
Master	46	63	109	52.7
Doctorate	1	0	1	0.5
Total			207	100.0
Number of Years Taught				
Fewer than 2	7	3	10	4.8
2-5	23	17	40	19.4
6-9	17	20	37	18.0
10-13	8	12	20	9.7
14 or more	53	46	99	48.1
Total			206	100.0

Table 3

Frequency and Percentage for Curriculum Area Taught

Type of Program Curriculum Area Taught	PA	NC	F	%
Agricultural Production	26	1	27	14.0
Agricultural Mechanics	11	23	34	17.6
Agricultural Science	31	8	39	20.2
Natural Resources, Forestry Environmental Science	8	5	13	6.7
Horticulture	18	35	53	27.5
Animal Science	10	17	27	14.0
Total	104	89	193	100.0

Table 4

Frequency and Percentage for Students with Special Needs in the Classroom

Special Needs Students in Your Class	PA	NC	f	%
Percentage of Students				
Less than 10%	13	24	37	18.4
11% -20%	39	36	75	37.3
21% - 30%	22	23	45	22.4
31% - 40%	10	9	19	9.5
41% - 50%	18	7	25	12.4
Total	102	99	201	100.0
Students with Disabilities	7	6	13	6.3
Economically Disadvantaged	35	54	89	43.0
Academically Challenged	66	39	105	50.7
Total	108	99	207	100.0

Professional Organizations

More than one-half of the teachers (63.8%) reported membership in their state Association of Agricultural Educators, 5.5 percent reported membership in the American Association for Agricultural Education, 0.9 percent reported membership in the National Science Teachers Association, and 5.0 percent reported membership in the Agricultural Education Division for Career and Technical Education (see Table 5). Teachers also reported membership in the following organizations: Pacific Service Employee Association, National Association of Attorney Generals, National Education Association, Orthopedic Foundation of Animals, Pennsylvania Landscape and Nursery Foundation, Lehigh Valley Florist Association, Pennsylvania Horticulture Society, American Association for Laboratory Animal Science, and 4H, FFA, Minorities in Agriculture and Natural Resources and Related, Science, local career and technical education, and Delta Kappa Gamma.

Table 5

Frequency and Percentage for Professional Organization Membership

Professional Organization	PA	NC	f	%
State Association of Agricultural Educators	73	66	139	63.8
American Association for Agricultural Education	3	9	12	5.5
National Science Teacher Association	2	0	2	0.9
Agricultural Education Division for Career and Technical Education	1	10	11	5.0
Total	79	85	164	75.2

Participation in Professional Educational Activities

More than two-thirds (66.5%) of the teachers had a courses or courses, that included time spent working with students with special needs. A large percentage of teachers (69.3%) reported not taking courses in the last 5 years specifically related to teaching students with special needs. More than one-half (56.3%) of the teachers reported attending workshops in the last 5 years specifically related to teaching students with special needs (see Table 6).

Table 6

Frequency and Percentage for Participation in Professional Development Activities

Educational Courses & Workshops	PA	NC	f	%
Educational courses include time spent working with special needs students				
Yes	73	62	135	66.5
No	34	34	68	33.5
Total	107	96	203	100.0
Courses (in last 5 years) specifically related to teaching students with special needs				
Yes	34	29	63	30.7
No	73	69	142	69.3
Total	107	98	205	100.0
Workshops (in last 5 years) specifically related to teaching students with special needs				
Yes	49	67	116	56.3
No	58	32	90	43.7
Total	107	99	206	100.0

Findings Relative to the Research Questions

Research Question One: What are the dimensions on which the 16 individual competencies in the professional role and development, instructional role, knowledge, and student leadership and organization, clustered?

Exploratory factor analysis was conducted to determine if the 16 items (competencies) mathematically clustered into specific latent constructs. The 16 competencies clustered on seven latent factors. The naming of the factors required the researcher to look at the content of the items and name the underlying concept. Factor 1 included nine competencies clustered around the concept of instruction. Factor 2 responses included 11 responses clustered around the concept cognitive skills. Factor 3 included four competencies clustered around the concept leadership. Factor 4 consisted of six competencies clustered around the concept IEP. Factor 5 consisted of seven competencies clustered around the concept self-advocacy. Factor 6 consisted of six competencies clustered around student skills and abilities, and factor 7 consisted of three competencies clustered around administration (see Table 7).

The factor "Instruction" Cronbach alpha was .95, the factor "Cognitive Skills" Cronbach alpha was .95, the factor "Leadership" Cronbach alpha was .94, the factor "IEP" Cronbach alpha was .94, the factor "Self-Advocacy" Cronbach alpha was .91, the factor "Skills and Abilities" Cronbach alpha was .91, and the factor "Administration" Cronbach alpha was .93 (see Appendix C).

Table 7

Factor Analysis Rotated Component Matrix

Competency Item	Instruction	Cognitive Skills	Leader-ship	IEP	Self-Advocacy	Skills & Abilities	Admin
Assisting the student in viewing his/her assets and limitations realistically based on the IEP: Students with Disabilities		.488		.279	**.605**		
Assisting the student in viewing his/her assets and limitations realistically based on the IEP: Economically disadvantaged students, no IEP required by law	.357		.318	.328	**.522**		.222
Assisting the student in viewing his/her assets and limitations realistically based on the IEP: Academically Challenged students, no IEP required by law	.331		.267	.323	**.597**		
Demonstrating objectivity and sensitivity to cultural differences of special needs students: Students with Disabilities		.388		.210	**.682**		.276
Demonstrating objectivity and sensitivity to cultural differences of special needs students: Economically disadvantaged students	.356				**.612**		.303

Items in bold represents the assignment to factors using the $\pm$ .4 factor loading criterion

Table 7

Factor Analysis Rotated Component Matrix (Continued)

Competency Item	Instruction	Cognitive Skills	Leadership	IEP	Self-Advocacy	Skills & Abilities	Admin
Demonstrating objectivity and sensitivity to cultural differences of special needs students: Academically Challenged students	.309				**.660**		.369
Influencing attitudes of regular school personnel and other students toward acceptance of Students with Disabilities		.348		.203	.309		**.726**
Influencing attitudes of regular school personnel and other students toward acceptance of: Economically disadvantaged students	.310				.220		**.785**
Influencing attitudes of regular school personnel and other students toward acceptance of: Academically Challenged Students	.272				.258		**.803**
Assisting the student in developing good study habits related to agricultural education: Students with Disabilities		**.584**			.356		
Assisting the student in developing good study habits related to agricultural education: Economically disadvantaged students	.433	.214	.292		.257		

Items in bold represents the assignment to factors using the ± .4 factor loading criterion

Table 7

Factor Analysis Rotated Component Matrix (Continued)

Competency Item	Instruction	Cognitive Skills	Leadership	IEP	Self-Advocacy	Skills & Abilities	Admin
Assisting the student in developing good study habits related to agricultural education: Academically Challenged students	.319		.275		.280		
Providing methods of inclusion with other students for daily activities: Students with Disabilities	.206	**.649**			.400		
Providing methods of inclusion with other students for daily activities: Economically disadvantaged students	**.458**	.239	.415		.425	.207	
Providing methods of inclusion with other students for daily activities: Academically Challenged students	.438		.404		**.469**	.243	
Using a variety of teaching methods and techniques to provide instruction for: Students with Disabilities	.246	**.714**	.202		.297	.232	
Using a variety of teaching methods and techniques to provide instruction for: Economically disadvantaged students	**.523**	.224	.355		.275	.351	.230
Using a variety of teaching methods and techniques to provide instruction for: Academically Challenged students	**.442**	.223	.362		.303	.375	.275

Items in bold represents the assignment to factors using the ± .4 factor loading criterion

Table 7

Factor Analysis Rotated Component Matrix (Continued)

Competency Item	Instruction	Cognitive Skills	Leadership	IEP	Self-Advocacy	Skills & Abilities	Admin
Using objective and orderly procedures on a daily basis: Student with Disabilities	.554	**.566**			.315		
Using objective and orderly procedures on a daily basis: Economically disadvantaged students	**.749**	.259			.273	.257	
Using objective and orderly procedures on a daily basis: Academically Challenged students	**.677**				.346	.219	
Using concrete, tangible demonstrations rather than verbal and abstract: Students with Disabilities	.457	**.653**	.262				.238
Using concrete, tangible demonstrations rather than verbal and abstract: Economically disadvantaged students	**.685**	.289	.303	.208			.231
Using concrete, tangible demonstrations rather than verbal and abstract: Academically Challenged students	**.645**		.336				.278
Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with: Students with Disabilities	.502	**.648**					

Items in bold represents the assignment to factors using the ± .4 factor loading criterion

Table 7

Factor Analysis Rotated Component Matrix (Continued)

Competency Item	Instruction	Cognitive skills	Leadership	IEP	Self-Advocacy	Skill & Abilities	Admin
Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with: Economically disadvantaged students	**.779**	.260	.243				
Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with: Academically Challenged students	**.741**		.296				
Using supplemental strategies that produce cognitive skills with: Students with Disabilities		**.735**	.202	.210		.306	
Using supplemental strategies that produce cognitive skills with: Economically disadvantaged students	.321	.383	.380	.227		**.491**	
Using supplemental strategies that produce cognitive skills with: Academically Challenged students	.272	.283	.403	.206	.247	**.442**	
Challenging the learner's skills and abilities: Students with Disabilities	.238	**.695**		.240	.209	.358	
Challenging the learner's skills and abilities: Economically disadvantaged students	.392	.263	.328	.201	.233	**.598**	

Items in bold represents the assignment to factors using the ± .4 factor loading criterion

Table 7

Factor Analysis Rotated Component Matrix (Continued)

Competency Item	Instruction	Cognitive Skills	Leadership	IEP	Self-Advocacy	Skills & Abilities	Admin
Challenging the learner's skills and abilities: Academically Challenged students	.337		.348		.281	**.651**	
Formatting instructional materials into shorter units of working with: Students with Disabilities	.207	**.677**				.335	
Formatting instructional materials into shorter units of working with: Economically disadvantaged students	.298	.399		.264		**.507**	.235
Formatting instructional materials into shorter units of working with: Academically Challenged students	.255	.308		.213		**.524**	.286
Integrating and actively involving special needs students in vocation organizations: Students with Disabilities		**.607**	.601	.251			
Integrating and actively involving special needs students in vocation organizations: Economically disadvantaged students	.264	.228	**.789**	.255			
Integrating and actively involving special needs students in vocation organizations: Academically Challenged students	.241		**.809**	.206			

Items in bold represents the assignment to factors using the ± .4 factor loading criterion

Table 7

Factor Analysis Rotated Component Matrix (Continued)

Competency Item	Instruction	Cognitive Skills	Leadership	IEP	Self-Advocacy	Skills & Abilities	Admin
Providing leadership roles and opportunities for: Students with Disabilities		**.635**	.610				
Providing leadership roles and opportunities for: Economically disadvantaged students	.277	.221	**.787**			.231	
Providing leadership roles and opportunities for: Academically Challenged students	.243		**.789**			.247	
Familiar with the laws that apply to special needs students: Students with Disabilities		.329		**.634**	.263		
Familiar with the laws that apply to special needs students: Academically Challenged students, no IEP required by law				**.634**	.250		
Completing Individualized Education Plan (IEP) for: Students with Disabilities			.336		**.851**		
Completing Individualized Education Plan (IEP) for: Economically disadvantaged students, no IEP required by law				.228	**.866**		
Completing Individualized Education Plan (IEP) for: Academically Challenged students, no IEP required by law				.249	**.845**		

Items in bold represents the assignment to factors using the ± .4 factor loading criterion

Descriptive Statistics for the Factors

The mean response for the seven factors ranged from 2.57 – 3.62 (Pennsylvania Teachers) and 2.79-3.62 (North Carolina Teachers). The mean for Instruction was 3.62 for Pennsylvania and 3.62 for North Carolina. The mean for Cognitive Skills was 3.27 for Pennsylvania and 3.25 for North Carolina. The mean for Leadership was 3.58 for Pennsylvania and 3.48 for North Carolina. The mean for IEP was 2.57 for Pennsylvania and 2.79 for North Carolina. The mean for Self-Advocacy was 2.82 for Pennsylvania and 2.84 for North Carolina. The mean for Skills and Abilities was 3.35 for Pennsylvania and 3.34 for North Carolina. The mean for Administration was 3.34 for Pennsylvania and 3.37 for North Carolina (see Table 8).

Table 8

Frequency, Mean and Standard Deviation for Factors

	Factor	Pennsylvania (N)	M	SD	North Carolina (N)	M	SD
1.	Instruction	104	3.62	.713	98	3.62	.776
2.	Cognitive Skills	102	3.27	.801	95	3.25	.785
3.	Leadership	104	3.58	.886	94	3.48	.831
4.	IEP	103	2.57	.914	96	2.79	.990
5.	Self-Advocacy	108	2.82	.544	103	2.84	.636
6.	Skills & Abilities	104	3.35	.760	100	3.34	.731
7.	Administration	111	3.34	.871	102	3.37	.871

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Research Question Two: Is there a difference in the perceived competency level of each factor between secondary school agriculture teachers who receive coursework in special education and those who do not receive such coursework.

Differences in Perceived Competency Level by Educational Courses Completed

Research question two examined self-reported differences in the secondary school agricultural teachers perceived competency level in the five factor scores for professional role and development, instructional role, knowledge, and student leadership and organization for teachers who receive or do not receive coursework in special education.

The analysis for research question two has several components. First the factor scores were examined by whether the teachers ever had formal courses where the educational course(s) included a section of time spent working with students with special needs (item 21 on the survey). The second part of the analysis examines whether the competency level for the five factor scores differed by whether they had or had not received coursework within the past five years which specifically related to teaching students with special needs (item 22 on the survey).

Competency Level by Ever Having Completed Courses

The differences in the factor scores when examined by the number of educational courses completed involving educational courses taught that included time spent working with students with special needs were examined. Statistically significant differences in perceived competency level were found for the cognitive skills and IEP factor scores: $p = .02$ and $p = .013$, respectively (see Table 9). Specifically, the mean competency level for cognitive skills was 3.35 and IEP was 2.79

Table 9

ANOVA Results for Perceived Competency Level by Having Completed Educational Courses which Included Time Spent Working with Students with Special Needs

Factor by Courses	N	M	SD	F	P
Instruction					
Yes	129	3.66	.676	.432	.512
No	64	3.58	.797		
Cognitive Skills					
Yes	129	3.35	.725	5.49	.020
No	60	3.07	.849		
Leadership					
Yes	129	3.62	.796	3.02	.084
No	60	3.39	.930		
IEP					
Yes	126	2.79	.899	6.34	.013
No	66	2.43	.984		
Self-Advocacy					
Yes	132	2.87	.563	2.40	.123
No	65	2.74	.597		
Skill & Abilities					
Yes	129	3.40	.671	1.70	.194
No	66	3.26	.802		
Administration					
Yes	131	3.40	.699	.797	.373
No	67	3.30	.845		

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent
*Yes indicates teachers have completed educational courses which included a section of time spent working with students with special needs
*No indicates teachers have not completed educational courses which included a section of time spent working with students with special needs

Examination of IEP Factor Score by Teacher Age and Years of Teaching

Since the IEP factor score differed by whether the teacher had or had not ever completed a course that included working with students with special needs, the researcher was interested in whether more recent graduates from teacher preparation programs were more likely to have completed such courses. The researcher's personal knowledge led her to believe that more experienced and older teachers would not have been required to complete such courses in their teacher education program. The researcher did not have a variable that directly assessed when the teacher had completed a teacher preparation or certification program. The researcher used age of the teacher and also the years of teaching experience as proxy measures for determining more recent graduates from teacher preparation programs. The analysis of the IEP factor competency score revealed significant differences ($F=3.51$. $p = .016$) by teacher age (see Table 10).

Follow-up analysis using the Scheffe` post hoc test indicated significant differences in the IEP factor scores were found for the age categories 21-30 years old ($M = 2.31$) and 31-40 years old ($M = 2.89$); 21-30 years old ($M =2.31$), and 41-50 years old ($M = 2.84$); and 21-30 years old ($M = 2.31$), and 51 and above ($M = 2.69$) . The analysis of the IEP factor score by years of teaching experience (Table 11) also revealed significant differences ($F = 3.03$, $p = .031$). Follow-up analysis using the Scheffe` post hoc test indicated significant differences in the IEP factor score were found between teachers with 5 years or less of teaching ($M = 2.32$) experience and 6-9 years of teaching experience ($M = 2.75$), teachers with 5 years or less teaching experience ($M = 2.32$) were significantly different from teachers with 10-13 years of teaching experience ($M = 2.73$)

and teachers with 5 years or less teaching (M = 2.32) experience were significantly different from teachers with 14 or more years of teaching experience (M = 2.83) (see Table 11).

Table 10

ANOVA Results for IEP Factor Score by Teacher Age.

Age (years)	M	SD	N	F	p
21 - 30	2.31	.67	44	3.51	.016
31 - 40	2.89	1.05	39		
41 - 50	2.84	1.07	53		
51 & Above	2.69	.91	57		
Total			193		

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Table 11

ANOVA Results for IEP Factor Scores by Teacher Years of Teaching.

Years Teaching	M	SD	N	F	p
5 or less	2.32	.75	46	3.03	.031
6 – 9	2.75	.88	35		
10 – 13	2.73	.10	19		
14 or more	2.83	1.03	93		
Total			193		

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Competency Level by Courses Completed in Last Five Years

Teacher responses to item 22 (courses taken in the last 5 years which specifically related to teaching students with special needs) were used in this analysis. The differences in the factor scores when examined by the number of courses taken the last 5 years were examined. No significant differences were found. The ANOVA data results are summarized in Table 12. In all, 63 teachers reported taking one or more courses

during the last five years. Of those 63 teachers, 55 specified how many courses they had taken. Twenty-two participants reported taking one course, 20 reported taking two courses, 11 reported taking three courses, one reported taking four courses, and one reported taking five courses (see Table 13).

Table 12

ANOVA Results for Perceived Competency Level by Courses specifically related to teaching students with special needs Completed in the Last Five Years

Factor by Courses	N	M	SD	F	P
Instruction					
Completed 1 or more	61	3.63	.643	.026	.871
No courses completed	135	3.65	.744		
Cognitive Skills					
Completed 1 or more	59	3.80	.673	1.71	.193
No courses completed	133	3.22	.815		
Leadership					
Completed 1 or more	59	3.50	.785	.416	.520
No courses completed	134	3.58	.868		
IEP					
Completed 1 or more	57	2.71	.967	.040	.841
No courses completed	135	2.67	.962		
Self-Advocacy					
Completed 1 or more	62	2.87	.545	.308	.580
No courses completed	138	2.82	.588		

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Table 12

ANOVA Results for Perceived Competency Level by Courses Completed in the Last Five Years (Continued)

Factor	N	M	SD	F	P
Skills & Abilities					
Completed 1 or more	61	3.33	.716	.211	.647
No courses completed	136	3.38	.725		
Administration					
Completed 1 or more	61	3.33	.782	.166	.684
No courses completed	139	3.38			

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Table 13

Frequency for Number of Courses Related to Teaching Students with Special Needs

Number of Courses in last 5 years	f PA Teachers	f NC Teachers	Total
1 Course	14	8	22
2 Courses	9	11	20
3 Courses	5	6	11
4 Courses	0	1	1
5 Courses	0	1	1
Total	28	27	55

*A course was defined as being any number of credit hours taken at any institution of higher education.

Research Question Three: Is there a difference in the perceived competency level of each factor between secondary school agriculture teachers who attended workshops in special education and those who do not attend workshops.

Competency Level by Number of Workshops Completed in the Last Five Years

Research question three examined self-reported differences in the secondary school agricultural teachers perceived competency level in the five factor scores for professional role and development, instructional role, knowledge, and student leadership and organization for teachers who participate or do not participate in workshops in special education. The differences in the factor scores when examined by the number of workshops attended in special education were examined (item 22 on the survey).
The teachers that attended workshops perceived competency levels were higher than the teachers who did not attend workshops. For the Instruction factor, teachers who attended workshops (M = 3.71) rated themselves higher in competence than teachers who had not attended workshops (M = 3.55). This pattern was similar for all factors (see Table 14).

Statistically significant differences in perceived competency level were found for the cognitive skills, IEP, and self-advocacy factor scores: $p = .045$, $p = .000$, and $p = .035$ respectively (Table 14). Specifically, the mean competency level for cognitive skills was 3.37, IEP was 2.91, and self-advocacy was 2.91.

Table 14

ANOVA Results for Perceived Competency Level by Workshops Attended in the Last Five Years

Factor by Workshop Participation	N	M	SD	F	P
Instruction					
Completed 1 or more	112	3.71	.679	2.23	.137
No Workshops completed	84	3.55	.761		
Cognitive Skills					
Completed 1 or more	110	3.37	.700	4.09	.045
No Workshops completed	82	3.14	.860		
Leadership					
Completed 1 or more	110	3.63	.766	1.71	.192
No Workshops completed	83	3.46	.943		
IEP					
Completed 1 or more	109	2.91	.938	13.99	.000
No Workshops completed	84	2.40	.915		
Self-Advocacy					
Completed 1 or more	114	2.91	.583	4.49	.035
No Workshops completed	86	2.74	.622		

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Table 14

ANOVA Results for Perceived Competency Level by Workshops Attended in the Last Five Years (Continued)

Factor by Workshop Participation	N	M	SD	F	P
Skill & Abilities					
Completed 1 or more	113	3.45	.681	3.45	.065
No Workshops completed	85	3.26	.777		
Administration					
Completed 1 or more	114	3.42	.701	.847	.359
No Workshops completed	87	3.32	.841		

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Examination of IEP Factor Score by Teacher Age and Years of Teaching

Since the IEP factor score differed by whether the teacher had or had not participated in workshops, the researcher was interested in whether more recent graduates from teacher preparation programs were more likely to have participated in such workshops. The researcher's personal knowledge led her to believe that more experienced and older teachers would not have been required to participate in such workshops. The researcher used age of the teacher and also the years of teaching experience as proxy measures for determining more recent graduates from teacher preparation programs.

The analysis of the IEP factor competency score revealed significant differences ($F=3.51$. $p = .016$) by teacher age (see Table 15). Follow-up analysis using the Games Howell post hoc test indicated significant differences in the IEP factor scores were found between the age categories 21-30 years old ($M = 2.31$) and 31-40 years old ($M = 2.89$); 21-30 years old ($M =2.31$), and 41-50 years old ($M = 2.84$); and 21-30 years old ($M = 2.31$), and 51 and above ($M = 2.69$).

The analysis of the IEP factor score by years of teaching experience (Table 16) also revealed significant differences ($F = 2.69$, $p = .048$). Follow-up analysis using the Games Howell post hoc test indicated significant differences in the IEP factor score were found between teachers with 5 or less years of teaching ($M = 2.70$) experience and 6-9 years of teaching experience ($M = 2.72$). Significant differences in the IEP factor score were found between teachers with 5 or less years teaching experience ($M = 2.70$) and teachers with 10-13 years of teaching experience ($M = 2.88$). Significant differences in the IEP factor score were found between teachers with 5 or less years teaching experience

(M = 2.70) and teachers with 14 or more years teaching experience (M = 2.95) (see Table 16).

Table 15

Differences in IEP Factor by Teacher Age

Age (years)	M	SD	N	F	p
21 – 30	2.31	.67	44	3.51	.016
31 – 40	2.89	1.05	39		
41 – 50	2.84	1.07	53		
51 & Above	2.69	.91	57		
Total			193		

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Table 16

Difference in IEP Factor Scores for Years of Teaching

Years	Mean	SD	N	F	p
5 or less	2.70	.48	49	2.69	.048
6 – 9	2.72	.52	37		
10 – 13	2.88	.56	19		
14 or more	2.95	.64	95		
Total			200		

1= Not Competent, 2=Slightly Competent, 3=Competent, 4=Very Competent, 5=Extremely Competent

Competency Level by Number of Workshops Completed in Last Five years

Teacher responses to item 22 (workshops attended in the last 5 years which specifically related to teaching students with special needs) were used in this analysis. Table 17 summarizes the teachers' responses to item 22. In all, 116 teachers reported attending one or more workshops during the last five years. Of those 116 teachers, 94 specified how many workshops they had attended. Twenty-three participants reported attending one workshop, 32 reported attending two workshops, 14 reported attending three workshops, 6 participants reported attending four workshops, 13 participants

reported attending five workshops, 4 participants reported attending six workshops, 1 participant reported attending nine workshops and 1 participant reported attending 25 workshops (see Table 17).

Table 17

Number of Workshops Related to Teaching Students with Special Needs

Number of Workshops Attended in last 5 years	PA Teachers	NC Teachers	Total
1 Workshop	8	15	23
2 Workshops	10	22	32
3 Workshops	6	8	14
4 Workshops	4	2	6
5 Workshops	6	7	13
6 Workshops	2	2	4
9 Workshops	0	1	1
25 Workshops	1	0	1
Total	37	57	94

Comparison of Previous Study

In Elbert's 2000 study titled "Current and Desired Competency Levels of Secondary Agricultural Teachers in Pennsylvania," the professional needs of secondary agricultural education teachers in Pennsylvania were identified. Study data indicated 20% of the teachers rated themselves as *extremely competent* in using illustrations and audiovisual aids, field trips and direct experiences whenever possible while working with students with disabilities, 20% with economically disadvantaged students, and 28% with academically challenged students. In this study, 16% of the teachers rated themselves as

extremely competent in using illustrations and audiovisual aids, field trips and direct experiences whenever possible while working with students with disabilities, 19% rated themselves *extremely competent* while working with economically disadvantaged students and 19% rated themselves extremely competent while working with academically challenged students (see Table 18).

Almost 17% of the teachers in Elbert's study rated themselves as *not competent* relative to completing individualized education plans for students with disabilities, 12 % rated themselves as *not competent* relative to completing individualized education plans for economically disadvantaged students (although not required by law) and 12% rated themselves as *not competent* relative to completing individualized education plans for academically challenged students (although not required by law). In this study 17% of the teachers rated themselves as *not competent* relative to completing individualized education plans for students with disabilities, 18% rated themselves as *not competent* relative to completing individualized education plans for economically challenged students (although not required by law) and 18% rated themselves as *not competent* relative to completing individualized education plans for academically challenged students (although not required by law).

Eleven percent of the teachers in Elbert's study rated themselves *not competent* relative to familiarity with the laws that apply to students with disabilities, 11% rated themselves *not competent* relative to familiarity with the laws that apply to economically disadvantaged students (although not required by law) and 11% rated themselves *not competent* relative to familiarity with the laws that apply to academically challenged students (although not required by law). In this study, 11% of the teachers rated

themselves *not competent* relative to familiarity with the laws that apply to students with disabilities, 11% rated themselves *not competent* relative to familiarity with the laws that apply to economically disadvantaged students (although not required by law) and 9% rated themselves *not competent* relative to familiarity with the laws that apply to academically challenged students (although not required by law) (see Table 19).

Table 18

Comparison of Perceived Teacher Competency While Working with Students with Special Needs -Extremely Competent

Perceived Competency	Elbert (2000)	Bobbitt (2011)
Using illustrations and audiovisual aids, field trips and direct experiences whenever possible with students with disabilities	20%	16%
Using illustrations and audiovisual aids, field trips and direct experiences whenever possible with economically disadvantaged students	20%	19%
Using illustrations and audiovisual aids, field trips and direct experiences whenever possible with academically challenged students	28%	19%

Table 19

Comparison of Perceived Teacher Competency While Working with Students with Special Needs -Not Competent Rating

Perceived Competency	Elbert (2000)	Bobbitt (2011)
Completing individualized education plan for students with disabilities	17%	17%
Completing individualized education plan for economically disadvantaged students	12%	18%
Completing individualized education plan for academically challenged students	12%	18%
Familiarity with the laws that apply to students with disabilities	11%	11%
Familiarity with the laws that apply to economically disadvantaged students (although not required by law)	11%	11%
Familiarity with the laws that apply to academically challenged students (although not required by law)	11%	9%

Summary

The 16 competencies based on education courses that included time spent working with students with special needs, courses taken, workshops attended and selected demographics were examined. Analysis of the 16 competencies clustered around seven factors. These factors were: instruction, cognitive skills, leadership, IEP, self-advocacy, student skills and abilities, and, administration. A post-hoc reliability test generated a Cronbach alpha coefficient of .92. There were no significant differences in

the perceived competency level in the professional role and development, instructional role, knowledge statements, and student leadership and organization of secondary school agriculture teachers who received coursework in special education and secondary school agriculture teachers who did not receive coursework in special education.

There was a significant difference in factor 4 (IEP by Age) and years of teaching for educational courses that included time spent working with students with special needs. There was a significant difference in the perceived competency level in the professional role and development, instructional role, knowledge statements, and student leadership and organization of secondary school agriculture teachers who attended workshops in special education and secondary school agriculture teachers who did not attend workshops in special education. Results also revealed that for the IEP factor, age was significantly different and for the self-advocacy factor, years of teaching were significantly different.

The total number of secondary agriculture teacher respondents was 218. A substantial number of the respondents were male, Caucasian, and between the ages of 41-60 years. Overall, the majority of the teachers had obtained a masters degree and had taught more than 14 years. Horticulture and agricultural science were the primary areas of teaching for the secondary school agriculture teachers.

Slightly more than 37 percent of the teachers reported that the percentage of students with special needs in their classes were between 11 - 20 percent, about 6.3 percent of the teachers indicated the majority of the students were students with disabilities, 43.0 of the teachers indicated the majority of the students were economically

disadvantaged students and slightly more than 50 of the teachers indicated the students were academically challenged students.

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 of the Study, Research Questions, Procedures, Summary of Findings, Discussion, Conclusion, and Recommendations.

Purpose of the Study

The purpose of this study was to determine the perceived competence level of secondary school agriculture teachers in Pennsylvania and North Carolina toward working with students with disabilities, academically challenged and economically disadvantaged students. Specifically, this study asked secondary school agriculture teachers about their perceived competencies based on their professional role and development competencies, instructional role competencies, knowledge related competencies and student leadership and organization competencies. In addition, the study identified the involvement of coursework and workshops as it related to perceived competence levels of agriculture teachers who worked with students with special needs.

Research Questions

This study examined the perceived competency levels of secondary school agriculture teachers in Pennsylvania and North Carolina, and determined if there was a difference in perceived competency level of secondary school agriculture teachers who

received coursework or workshops in special education and secondary school agriculture teachers who did not receive coursework or workshops in special education.

The following research questions guided this study.

1) What are the dimensions on which the 16 individual competencies in the professional role and development, instructional role, knowledge, and student leadership and organization, clustered?

2) Is there a difference in the perceived competency level in the professional role and development, instructional role, knowledge, and student leadership and organization of secondary school agriculture teachers who receive coursework in special education and secondary school agriculture teachers who do not receive coursework in special education?

3) Is there a difference in the perceived competency level in the professional role and development, instructional role, knowledge, and student leadership and organization of secondary school agriculture teachers who participated in workshops in special education and secondary school agriculture teachers' who did not participate in workshops in special education?

Procedures

The population for the study consisted of 597 agriculture teachers employed during the 2010-2011 academic year in Pennsylvania and the state of North Carolina. The teachers were selected from the directories for agriculture teachers in Pennsylvania and in North Carolina.

The survey instrument gathered demographic information and perceived competence level in the following areas: professional role and development

competencies, instructional role competencies, knowledge related competencies and student leadership and organization competencies. Section one of the instrument included items pertaining to teachers level of perceived competency on the following scale: 1= not competent; 2=slightly competent; 3=competent; 4=very competent, 5=extremely competent. The instrument contained 16 competency statements with three student categories (students with disabilities, economically disadvantaged and academically challenged). The Kienast and Lovelace questionnaire (1981) was reviewed for appropriateness for this study by several faculty members in the Department of Agricultural and Extension Education at The Pennsylvania State University, and the instrument was deemed appropriate.

Data collection was conducted in four iterations for the secondary school agriculture teachers. A cover letter, including access to the instrument, was emailed on January 18, 2011. The first follow-up email request for survey completion was emailed on January 25, 2011, and second email request was sent on February 1, 2011, and the final email request for survey completion was emailed on February 15, 2011.

A total of 597 questionnaires were emailed to the secondary school agriculture teachers in Pennsylvania and North Carolina. A total of 218 surveys were returned by the secondary school agriculture teachers in Pennsylvania and North Carolina. Descriptive statistics included frequency distribution, means and percentages. Inferential statistics include analysis of variance (ANOVA) and factor analysis. The Cronbach alpha coefficient for this study was .92 which was similar to earlier researchers using the instrument.

Summary of the Findings

The following summary, discussion and conclusion are summarized around the three research questions and are based on the study results. The results from the study included information for seven factors that were identified through exploratory factor analyses. The seven factors collectively assessed North Carolina and Pennsylvania secondary school agriculture teachers' perceived competence based on the 16 individual competencies that evaluated the (1) professional role and development, (2) instructional role, (3) knowledge, and (4) student leadership and organization of secondary school agriculture teachers.

OBJECTIVE 1: To determine the dimensions in which the 16 individual competencies were clustered in regard to the professional role and development, instructional role, knowledge, and student leadership and organization competencies.

Findings for the differences in the perceived competency level for the seven factors on formal educational courses in which teachers were enrolled included time or content related to working with students indicated statistically significant differences for cognitive skills ($p = .02$) and IEP ($p = .013$). The mean for cognitive skills was 3.35 and IEP was 2.79. Significant differences were found for the IEP among ages 21-30 ($M = 2.31$) and 31-40 ($M = 2.89$), 21-30 ($M = 2.31$), and 41-50 ($M = 2.84$), and 21-30 ($M = 2.31$), and 51 and above ($M = 2.69$). More mature teachers perceived themselves to be more competent to work with students with disabilities and economically disabled and academically challenged students than younger teachers. Additionally, significant

differences were found among the years of teaching. Significant differences were found among teachers with 5 or less years of teaching (M = 2.32) experience and 6-9 years of teaching experience (M = 2.75), teachers with 5 or less years teaching experience (M = 2.32) were significantly different from teachers with 10-13 years of teaching experience (M = 2.73), and teachers with 5 years or less teaching (M = 2.32) experience were significantly different from teachers with 14 or more years of teaching experience (M = 2.83).

The teachers with more teaching experience perceived themselves to be more competent to work with students with disabilities, and economically disabled and academically challenged students than teachers with less teaching experience. More experienced teachers' perception may not be based upon the coursework taken but more so on the years of teaching experience. Teachers who have more experience perceived themselves to be more competent but teacher preparation programs must prepare new teachers with the competencies to work with students with special needs. Students with special needs cannot wait until beginning teachers gain the experience to help them with their special learning problems**.**

Teacher preparation programs must consider what happens to the students who have IEP's and disabilities as the teacher gains experience. The IEP should ensure that students with disabilities receive an appropriate education (Sarkees & Scott, 1985, Hock 2000). If experience is one of the criteria that teachers need to feel more competent to work with students with special needs, then a mechanism must be provided to help the teachers gain confidence faster and sooner. This mechanism may include workshops,

internships, mentorships, and supervised teaching of special needs students in agriculture classrooms.

Discussion: Teachers' perceived competency levels ranged from a low of "*slightly competent"* to "*competent."* However, more specifically, the researcher concluded that on average for both North Carolina and Pennsylvania teachers, the constructs related to the IEP and self-advocacy factors (advocating for the needs of the student) the teachers viewed themselves as being "slightly competent" which was the lowest level of competence reported among the seven factors. Teachers perceived themselves to be more competent (M = 3.62 for PA and M = 3.62 for NC) in the instruction oriented factor and less competent in IEP related factor (M = 2.57 for PA and M = 2.79 for NC). These findings were similar to the conclusion reached by Elbert and Baggett (2003, p.113) where they reported secondary school agriculture teachers perceived themselves to be least competent relative to the IVEP (individualized vocational educational plan). The IVEP was a way of incorporating vocational skills learning into the IEP process. Current literature does not make reference to the IVEP today. Andresen, Seevers, Dormody, and Van Leeuwen (2007) did find slightly different results with New Mexico teachers in that teachers perceived themselves to be moderately competent in the IEP process.

This researcher expected that Pennsylvania teachers would have perceived themselves more competent regarding the constructs and factors related to the IEP process since they are required to take nine credits of coursework related to teaching students with special needs. However, both Pennsylvania and North Carolina secondary school agriculture teachers perceived their competence levels similarly. It was expected that teachers would rate themselves lower in perceived competency levels for the IEP

factor than the cognitive skills and self-advocacy factors because the IEP process is not taught in every teacher preparation program but is normally taught in the departments of special education. Meaningful involvement in the IEP process usually provide satisfaction with the IEP process (Menlove, Hudson, and Sutter, 2001, Roberts and Dyer 2003).

The IEP permits less flexibility and teachers are required by law to follow the IEP process. "The IEP is a legally constituted mechanism that commits the school to provide the students with an appropriate special education program" (Yell, 1998, p. 168). The current certification requirements in Pennsylvania require teachers to have formal educational preparation in special education including the IEP's. Currently, North Carolina does not have such requirements for teacher certification. The instructional role is the traditional educational role related to the teaching learning process for which secondary school agriculture teachers are formally prepared.

To this researcher, it is not surprising that the instructional role is where teachers perceived themselves as having the highest level of competence. Secondary school education teacher preparation programs provide all teachers with methods on educating students; however, prospective teachers may or may not receive specific instructions relative to IEP's. Teacher preparation programs should consider what student teachers do as part of their student teaching experience to learn and address the needs of students with special needs. Sarkees and Scott (1985) indicated that competent teachers were a key factor in providing a quality education for special needs students.

OBJECTIVE 2: To determine if there is a difference in the perceived competency level of each factor between secondary school agriculture teachers who receive coursework in special education and those who do not receive such coursework (as defined in the data gathering instrument for this study, courses would be any number of credit hours taken at any institution of higher education).

No significant differences were found in the perceived competency level of secondary school agriculture teachers who received and did not receive coursework in special education. The number of teachers who reported taking courses relative to special education in Pennsylvania was 28 out of 112. This researcher suspects that these 28 teachers may be the most recently certified teachers under the 2009 Pennsylvania state requirement that nine or more course credits be taken to address students with special needs. Twenty-seven North Carolina teachers out of 106 reported taking courses, although courses relative to special education are not required in North Carolina.

Discussion: There were no significant differences in terms of the self-perceived competence whether teachers had or had not completed a course related to teaching students with special needs. There were 14 teachers from Pennsylvania and eight teachers from North Carolina who had completed one course in the last five years that related to teaching students with special needs. The total number of Pennsylvania (n = 28) teachers who reported taking courses were similar to the number of North Carolina teachers (n = 27) who reported taking courses in special education. Even though both groups of teachers had taken courses, data was not collected to determine the content of the courses, how the courses were developed, or the delivery method used. This raises

the question, should the increased number of courses be required for certification? Darling-Hammond (2009) indicated that almost 40% of the differences of student achievement were related to teacher behaviors and the preparation of the teacher. Darling-Hammond found that the preparation of the teacher and course completed in their teaching area specifically influenced student achievement.

It was expected that Pennsylvania teachers would have taken more courses than North Carolina teachers since Pennsylvania requires that all teachers, including agriculture teachers, take courses that prepare them to work with students with special needs. However, the state of North Carolina does not have this requirement and the number of course that North Carolina teachers reported taking were almost identical. From the data collected in this study, it appears to be that increasing the number of courses taken does not make any difference in the teachers' perceived level of competence (see Table 13).

OBJECTIVE 3: To determine if there is a difference in the perceived competency level of each factor between secondary school agriculture teachers who participated in workshops in special education and those who did not participate in such workshops.

Findings for the differences in the perceived competency level for the seven factors for workshops attend by teachers indicated statistically significant differences for cognitive skills ($p = .045$), IEP ($p = .000$), and self-advocacy ($p = .035$). The mean for cognitive skills was 3.37, IEP was 2.91, and self-advocacy was 2.91. Significant differences were found for the IEP among ages 21-30 ($M = 2.31$) and 31-40 ($M = 2.89$),

21-30 (M =2.31), and 41-50 (M = 2.84), and 21-30 (M = 2.31), and 51 and above (M = 2.69). Additionally, significant differences were found among the years of teaching. Significant differences were found among teachers with 5 or less years of teaching (M = 2.70) experience and 6-9 years of teaching experience (M = 2.72), and teachers with 5 or less years teaching experience (M = 2.70) were significantly different from teachers with 10-13 years of teaching experience and (M = 2.88), and significant differences in the IEP factor score were found between teachers with 5 or less years teaching experience (M = 2.70) and teachers with 14 or more years teaching experience (M = 2.95).

Discussion: Workshops made a difference in the perceived competence of the teacher based on the IEP and self-advocacy for educating students with special needs. The number of teachers who attended workshops in North Carolina was 57 and this was much higher than the number of teachers in Pennsylvania (n = 37) who attended workshops. Providing summer workshops in special education may increase the perceived competence of agriculture teachers to work with students with special needs. Data from this study showed that secondary school agriculture teachers who attended workshops had a higher perceived competence than teachers who did not attend workshops (see Table 14). The most useful professional development activity emphasizes active teaching, assessment, observation, and reflection rather than abstract discussions (Darling-Hammond & McLaughlin, 1995). Agriculture teachers must be prepared to work with students with special needs in the classroom as well as be able to involve the students in extracurricular activities and other projects that are associated with agricultural education (Stair, 2009). These workshops may be directed by agriculture teachers and other experienced educators who have successful experience teaching

students with special needs. Professional development is more effective when schools approach it not in isolation (as in the traditional one-shot workshop) but rather as a coherent part of a school reform effort (Darling-Hammond, 2009). Additionally, beginning teachers could be paired with a mentor who has successful experiences teaching students with special needs.

Conclusion

The IEP, self-advocacy and cognitive skills factors were the areas where the teachers in both North Carolina and Pennsylvania perceived themselves to be least competent. Not only did the teachers perceive themselves to be least competent among the seven factors, but qualitatively the descriptors would indicate that, at best, the teachers perceived themselves to be slightly competent (see Table 14). These findings were similar to those found by Elbert (2000). Specifically, teachers in Elbert's study rated themselves not competent relative to familiarity with the laws that apply to students with disabilities, economically disadvantaged students and academically challenged students (although not required by law).

In Pennsylvania, there has been some discussion regarding how to better prepare teachers in the areas of the IEP, self-advocacy and cognitive skills (see Table 8) and teacher preparation personnel are aware of these factors and are trying to make improvements in these areas (T. S. Hoover, Director for the Center, personal communication, March 19, 2009). Hill (1988) stated that appropriate preparation of agriculture teachers to adequately serve students continues to be significant. Agricultural teacher educators who effectively prepare pre-service teachers to work with students with

learning disabilities in agricultural education are vital to the profession (Faulkner, 2007). Also, Taylor and Williams (2003) supported the need for agriculture teacher educators to include instructional techniques that meet the curriculum, instructional and educational needs of students with learning disabilities in agriculture education programs.

For the other four factors (instruction, knowledge, skills & abilities and administration), the perceived competence was in a range that would be described as moderate to high competence (see Table 8), and these factors are typically where preparation programs focus. Similar to the studies by Cannon, Idol, and West (1992), Taylor and Williams (2003), and Stair (2009), strategies that were used to work with students with special needs were identified.

Research by Schumm and Vaughn, 1995, suggests that teachers in agriculture are unprepared to provide students with the modifications that they need and are not provided with adequate resources in their teacher preparation programs to work with this student population. If teacher preparation programs are going to help teachers to address the needs of students with special needs, then workshops may be a good method. Workshops appear to improve teachers' perceived competence levels. Also, workshops may be directed by experienced agriculture teachers or co-taught with special education experts who have a background in providing instruction in special education. The experienced agriculture teachers could also serve as a mentor to beginning agriculture teachers.

Recommendations and Implications for Practice

Based on the objectives and findings of this study, the following recommendations are made:

1. Institutions of higher education in Pennsylvania and North Carolina should work with school districts to provide summer workshops to all secondary school agriculture teachers on completing IEPs and familiarization with the laws that apply to students with special needs. This recommendation is supported by the data collected in this study that teachers who attended workshops had a higher perceived competence level.
2. Educational courses that include time spent working with students with special needs should be offered by institutions of higher education and mandated by the Pennsylvania Department of Education. This may be accomplished by providing student teachers courses that incorporate the learning experiences of working with students with special needs and offering coursework to in-service agriculture teachers that includes a special education component. Perhaps, all teacher preparation programs should require that prospective teachers teach students with special needs.
3. Recommend the number of courses related to special education be reduced because data from this study indicates that the number of courses taken did not make a difference in the teachers' perceived competence. This supporting data may be viewed in Table 13.

Recommendations for Future Research

1. Future research should include assessing the perceptions of high school principals in terms of how they perceive the competency levels of secondary school agriculture teachers who work with students with special needs. Principals evaluate teachers annually for tenure, teacher effectiveness and delivery of the educational process as teachers work with all students including students with special needs**.**
2. Future research should include assessing the perceptions of intermediate units' personnel in terms of how they perceive the competency levels of secondary school agriculture teachers who work with students with special needs. Intermediate units' personnel assist secondary school agriculture teachers by providing expertise and assistance to work with students with special needs.
3. Future research should study the correlation between the confidence and competence of secondary school agriculture teachers to work with students with special needs.
4. This researcher agrees with Stair (2009) that "experimental research should be conducted to determine what practices are most beneficial to increase achievement for students with special needs in agricultural education" (p. 12).
5. Further study is needed to determine the content of workshops involving aspects of special needs education. Data collected from this study did not include the subject matter covered in workshops taken by Pennsylvania or North Carolina secondary school agriculture teachers.
6. This researcher agrees with Faulkner (2007) that "Agricultural teacher education programs should designate one faculty member as the special education contact for the teacher education program. This designated faculty member should ensure that

students preparing to be teachers possess the skills, knowledge, and attitudes [relative to teaching students with special needs] appropriate for teaching in the public school system" (p. 115).

REFERENCES

Andresen, R., Seevers, B., Dormody, T., & Van Leeuwen, D. (2007) Training needs of New Mexico agricultural education teachers related to inclusion of students with special needs. *Journal of Agricultural Education*, *48* (4), 117-129.

Architectural Barriers Act of 1968, P. L. No 90-480, § 2, 82 Stat. 718 (1968). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal082&div=240&collection=statute&set_as_cursor=0&men_tab=srchresults

Brennan, E., M., & Rosenzweig, J.M. (2008, May). Parents of children with disabilities and work-life challenges: Presentation summary. Presented at the Alfred P. Sloan Work and Family Research Network Panel Meeting, Chestnut Hill, MA.

Brown v. Board of Education, 344 U.S. 1 (1952). http://www.lexisnexis.com.ezaccess.libraries.psu.edu/hottopics/lnacademic/

Burns, E. (2007). The essential special education guide for the regular education teacher. Charles C. Thomas Publisher, LTD, Springfield, Illinois.

Cannon, G.S., Idol, L., & West, J. F (1992). Educating students with mild handicaps in general classrooms: essential teaching practices for general and special educators. *Journal of Learning Disabilities*. *25* (5) 300 – 317.

Carl D. Perkins Vocational Education Act of 1984, P. L. No 98-524, § 2, 98 Stat. 2435 (1984). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal098&div=318&collection=statute&set_as_cursor=0&men_tab=srchresults

Carl D. Perkins Vocational and Applied Technology Education Act of 1990, P. L. No 101-392, § 2, 104 Stat. 753 (1990). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal104&div=161&collection=statute&set_as_cursor=0&men_tab=srchresults

Carl D. Perkins Vocational and Applied Technology Education Amendment Act of 1998, P. L. No 105-332, § 2, 112 Stat. 3076 (1998). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal112&div=188&collection=statute&set_as_cursor=0&men_tab=srchresults

Carl D. Perkins Vocational Education Act of 1984: P. L. 98-524 (1984). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal098&div=318&collection=statute&set_as_cursor=0&men_tab=srchresults

Case, L., & Whitaker, K. (1998). What are the goals and purpose of agricultural education? *The Agricultural Education Magazine*, *71*(3), 1-4.

Cotton, S. (2000). The training needs of vocational teachers for working with learners with special needs. Dissertation Abstracts International, *62* (6), 2087. (UMI No.3017791.

Crunkilton, J. (1985). Preparing agriculture teachers of the handicapped. *The Agricultural Education Magazine*, 5, 19-21.

Curtis, M., & Howell, D. (1980). The Penn State story: Vocational teacher education for special needs students. *The Agricultural Education Magazine, 53* (5), 8-9.

Darling-Hammond, L. (2009)). Teacher learning: What matters? *Research Review* (66) 5, 46-53.

Darling-Hammond, L., & McLaughlin, M. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan, 76* (8), 597–604.

Deltman, K. (2004). Legislation past & present: The intersection of vocational education and special education legislation. Pennsylvania Training and Technical Assistance Network, Pennsylvania Department of Education.

Deshler, D., Schumaker, J., Lenz, B., Bulgren, J., Hock, M., Knight, J., & Ehren, B. (2001). Ensuring content-area learning by secondary students with learning disabilities. *Learning Disabilities Research and Practice, 16* (2), 96-108

Department of Agricultural and Extension Education. *Directory for agricultural education in Pennsylvania 2010-2011*. (2011). The Pennsylvania State University.

Education of the Handicapped Act of 1970, P. L. No 91-230, § 2, 84 Stat. 175 (1970). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal084&div=50&collection=statute&set_as_cursor=0&men_tab=srchresults

Education of the Handicapped Act of 1975, P. L. No 93-380, § 2, 88 Stat. 576 (1975). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal088&div=144&collection=statute&set_as_cursor=0&men_tab=srchresults

Education of the Handicapped Act Amendments of 1990, P. L. No. 101-476. http://www.unm.edu/~dolguin1/Legislation%20Laws.htm

Elbert, C. (2000). *Current and desired competency levels of secondary agriculture teachers in Pennsylvania*. Unpublished doctoral dissertation, The Pennsylvania State University.

Elbert, C., & Baggett, C. D. (2003). Teacher competencies for working with disabled students as perceived by secondary level agricultural instructors in Pennsylvania. Journal *of Agricultural Education, 44* (1), 106-115.

Fair Housing Amendments Act of 1988, P. L. No 100-430, § 2, 100 Stat. 430 (1988). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal102&div=197&collection=statute&set_as_cursor=0&men_tab=srchresults

Faulkner, P. (2007). *Preparing future secondary agriculture teachers to work with students with learning disabilities*. Unpublished doctoral dissertation, The Pennsylvania State University.

Gagnon, D., & Keith, K. (1988). A guide to curriculum planning in agriculture education. Madison, WI: Wisconsin Department of Public Instruction.

Gaona, J. (2004). The effects of the no child left behind act on career and technical education: Implications for students with special needs. *Journal of Industrial Teacher Education, 41*(2), 1-6.

Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis with readings*, 5th Ed. Englewood Cliffs, NJ: Prentice-Hall.

Halderman v. Pennhurst, 451 U.S. 1 (1981). http://www.lexisnexis.com.ezaccess.libraries.psu.edu/hottopics/lnacademic/

Hallahan, P. & Kauffman, M.(2005). *Exceptional learners: Introduction to special education,* 10th Ed. Boston, Allyn & Bacon.

Henson, K. T. (1987). Strategies for overcoming barriers to educational change. *N-ASS-P Bulletin 2* (479), 125-127.

Hill, P. (1988). Essential special needs competencies for Texas vocational education teachers. Dissertation Abstracts International, *49* (10), 3008 (UNI No.8827263).

Hock, M. (2000). Standards, assessments, and individualized education programs: planning for success in the general education curriculum. In R. Villa & J Thousand (Eds.), *Restricting for caring and effective education: Piecing the puzzle together* (p. 208-241). Baltimore, MD: Paul Brooks Publishing.

Honing v. DOE 484, U.S. 305 (1988). http://www.lexisnexis.com.ezaccess.libraries.psu.edu/hottopics/lnacademic/

Horst, L., & Des Jarlais, D. C. (1984). Naturally occurring attitude and behavior changes: Content and duration of the change process. *Psychology: A Quarterly Journal of Human Behavior 21* (2), 3642.

Hospital Survey Act of 1946, P. L. No 79-725, § 2, 60 Stat. 1040 (1946). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal060&div=441&collection=statute&set_as_cursor=0&men_tab=srchresults

Individuals with Disabilities Education Act, 20 U.S.C. §1401, et seq. (1990).

Individuals with Disabilities Education Act of 1991, P. L. No 102-119, § 1, 105 Stat. 587 (1991). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/LuceneSearch?termsa=102-119&terms=statute&collection=statute&searchtype=field&termtype=word&termtypea=word&typea=public_law_number&submit=Search

Individuals with Disabilities Education Act of 1997, P. L. No 105-17, § 1, 111 Stat. 37 (1997). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal111&div=26&collection=statute&set_as_cursor=0&men_tab=srchresults

Individuals with Disabilities Education Act of 1997, P. L. 94-142. Federal http://www2.ed.gov/legislation/FedRegister/proprule/1997-4/102297d.pdf

Individuals with Disabilities Education Improvement Act of 2004, P. L. 108-446. http://www2.ed.gov/legislation/FedRegister/other/2007-3/071707b.pdf

Irving v. Tatro 468, U.S. 883 (1984). http://www.lexisnexis.com.ezaccess.libraries.psu.edu/hottopics/lnacademic/

Iverson, M. J. (1993). Will we serve the academically disadvantaged? *The Agricultural Education Magazine*, *66* (6), 4-6.

Kauffman, J. M. (2005). Exceptional learners*: Introduction to special education* (10th edition). Boston: Allyn & Bacon.

Kessell, J. (2005). *Agricultural education student teachers' confidence and knowledge: Teaching special needs students.* Unpublished doctoral dissertation, Texas Tech University.

Kienast, K., & Lovelace, B. (1981). Vocational education personnel development needs for working with the handicapped. *Educational Innovators, Inc*, Richardson, Texas.

Lewis, R. (2006). Teaching *special students in general education classrooms* (7th ed.). New Jersey: Prentice-Hall.

Lobosco, A., & Newman D. (1992). Teaching special needs populations and teacher job satisfaction. *Urban Education, 27*, 21-31.

Meers, G. (1980). *Handbook of special vocational needs education*. Aspen Publication, Rockville, Maryland.

Menlove, R., Hudson, P., & Sutter, D. (2001). A field of IEP dreams: Increasing general education teacher participation in the IEP development process. *Teaching Exceptional Children*, *33* (5), 28-33

Mills v. Board of Education, 348 U.S. 866 (1972). http://www.lexisnexis.com.ezaccess.libraries.psu.edu/hottopics/lnacademic/

Muraskin, L. D. (1989). The implementation of the Carl D. Perkins Act. National assessment of vocational education final report. United States Department of Education. (ERIC Document Reproduction Service No. ED317660)

National Dissemination Center for Children with Disabilities (2010). Special education. http://nichcy.org/schoolage/iep/iepcontents/specialeducation

National FFA Organization. (2010). The Three Circle Model. Retrieved November 2010 from: https://www.ffa.org/About/WhoWeAre/Pages/AgriculturalEducation.aspx

Newcomb, L., McCracken, J., Warmbrod, J., & Whittington, S. (2004). *Methods of teaching agriculture.* Upper Saddle River, NJ: Pearson Education.

No Child Left Behind Act of 2011, P. L. No 107-110, § 1, 115 Stat. 1425 (2001). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal115&div=119&collection=statute&set_as_cursor=0&men_tab=srchresults

North Carolina Department of Public Instruction (2010). *North Carolina Agriculture Teacher Directory*.

North Carolina Department of Public Instruction. http://www.ncpublicschools.org/licensure/

The Pennsylvania State University College of Education. Precertification competency examination on educating students with disabilities. http://www.ed.psu.edu/educ/current-students/undergraduate/teacher-testing/precert-exam

President Protection Assistance Act of 1976, P. L. No. 94-524, 90 Stat. 2475 http://www.cq.com/graphics/sal/94/sal94-524.pdf

Pretti-Fontczak, K., & Bricker, D. (2000). Enhancing the quality of individualized education plan (IEP) goals and objectives. *Journal of Early Intervention*, *23* (20), 92-105.

Rehabilitation Act of 1973, P. L. No 93-112, § 1, 87 Stat. 355 (1973). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal087&div=121&collection=statute&set_as_cursor=0&men_tab=srchresults

Roberts, T., & Dyer, J (2004). In-service needs of traditionally and alternatively certified agriculture teachers. *Journal of Agricultural Education, 45* (4), 57-69

Russell G., Sharon V., Donald D., & Ellen S. (1997). What we know about using research findings: Implications for improving special education practice. *Journal of Learning Disabilities*, *30* (5), 466.

San Francisco State University (2009). The disability programs and resource center. http://www.sfsu.edu/~dprc/chronology/index.html.

Sarkees, M., & Scott, J. L. (1985). *Vocational special needs*. (2nd ed.). Alsip, Illinois, American Technical Publishers.

Scanlon, D., & Baggett, C. D. (1985). Are they being served? *The Agricultural Education Magazine, 57* (8), 4-5.

Schumm, J. S., & Vaughn, S. (1995). Getting ready for inclusion: is the stage set? *Learning Disabilities Research and Practice, 10*, 169-179.

Scott, B., Vitale, M., & Masten, W. (1998). Implementing instructional adaptations for students with disabilities in inclusive classrooms. *Remedial and Special Education*, *19* (2), 106-119.

Smith Hughes Act of 1917, P. L. No 64-347, § 2, 39 Stat. 929 (1917). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal039&div=405&collection=statute&set_as_cursor=0&men_tab=srchresults

The Smith-Hughes Act of 1917. http://www2.ed.ov/offices/OVAE/98vetes2.html.

Social Security Act of 1935, P. L. No 83-761, § 2, 68 Stat. 1052 (1935). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal068&div=482&collection=statute&set_as_cursor=0&men_tab=srchresults

Social Security Amendment Act 1956, P. L. No 84-880, § 2, 70 Stat. 807 (1956). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/LuceneSearch?termsa=84-880&terms=statute&collection=statute&searchtype=field&termtype=word&termtypea=word&typea=public_law_number&submit=Search

Social Security Amendment Act of 1980, P. L. No 96-265, § 2, 94 Stat. 441 (1980). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal094&div=87&collection=statute&set_as_cursor=0&men_tab=srchresults

Social Security Disability Reform Act of 1984, P. L. No 98-1794, § 2, 98 Stat. 460 (1984).

http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal098&page=1794&collection=statute

Stair, K. (2009). *Identifying confidence levels and instructional strategies of high school agriculture education teachers when working with students with special needs.* Unpublished doctoral dissertation, North Carolina State University.

Tabachnick, B. C., & Fidell, L. S. (2007). *Using multivariate statistics*. (5th ed.). Boston: Allyn and Bacon.

Taylor, A., & Williams, R. (2003). Skills for agricultural science teachers: School administrators perspectives. *The Texas Journal of Agriculture and Natural Resources, 16,* 93-101.

Technology-Related Assistance Act for Individuals with Disabilities Act of 1988, P. L. No 100-407, § 2, 102 Stat. 1044 (1988). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal102&div=174&collection=statute&set_as_cursor=0&men_tab=srchresults

Thurlow, M. (2000). Accommodations for students with disabilities in high school. *National Center on Secondary Education and Transition Issue Brief, 1* (1), 1-6.

Thurlow, M., Lazarus, S., Thompson, S., & Morse, A. (2005) A longitudinal analysis of state accommodations policies: Twelve years of change, 1993--2005, *Journal of Special Education, (38)* 4, 232-240.

Thurlow, M., & Ysseldyke, J. (1995). Testing accommodations for students with disabilities. *Remedial and Special Education, 16* (5), 4-14.

Toole, P. F., & Eddowes, J. (1985). Support services for handicapped students. *The Agricultural Education Magazine, 57* (8), 10-13.

United States Department of Education, (2011). Promoting educational excellence for all Americans. http://idea.ed.gov/explore/home.

United States Department of Education, (2002). The No Child Left Behind Act Title 1: Improving the academic achievement of the disadvantages–summary of final regulations. Washington, DC: U.S. Department of Education. http://www2.ed.gov/policy/elsec/leg/esea02/pg1.html

United States Department of Education, (2007). The condition of education. Washington, DC: U.S. Department of Education. http://nces.ed.gov/programs/coe/

United States Department of Education, Office of Special Education Programs. (2007) http://idea.ed.gov

United States Department of Education, Office of Special Education and Rehabilitative Services Administration. (2000). http://www2.ed.gov/about/offices/list/osers/news-2006.html

United States Department of Education, Office of Special Education and Rehabilitative Services Administration. (2004). http://www2.ed.gov/about/offices/list/osers/news-2004.html

United States Department of Education, Office of Special Education and Rehabilitative Services Administration. (2011). http://www2.ed.gov/policy/speced/leg/idea/history.html

Vergason, G., & Anderegg, M. L. (1997). *Dictionary of special education ad rehabilitation*. Denver, CO: Love Publishing.

Vocational Education Act of 1984, P. L. No. 101-476. http://www.unm.edu/~dolguin1/Legislation%20Laws.htm

Vocational Rehabilitation Act of 1920, P. L. No 78-113, § 1, 57 Stat. 374 (1920). http://heinonline.org.ezaccess.libraries.psu.edu/HOL/Page?handle=hein.statute/sal057&div=122&collection=statute&set_as_cursor=0&men_tab=srchresults

Walker, E. (1970). *Beliefs, attitudes, and human affairs*. Belmont, CA: Brooks/Cole.

Wyatt v. Stickney, 325 U.S. 781 (1971). http://www.lexisnexis.com.ezaccess.libraries.psu.edu/hottopics/lnacademic/

Yell, M. (1998). *The law and special education*. Upper Saddle River, NJ: Princeton Hall, Inc.

Yell, M., Rogers, D., & Rogers, E. (1998). The legal history of special education: What a long, strange trip it's been. *Remedial and Special Education, 19* (4), 219-228.

Appendix A

Correspondence

Commonwealth of Pennsylvania **(Initial Email)**

Dear Secondary Agricultural Education Teacher,

I need your help! Please complete the survey I have attached. I am a doctoral candidate in the Agricultural and Extension Education Department at The Pennsylvania State University and I am conducting dissertation research. Please assist me by completing a brief survey by **January 27, 2011**. It takes approximately 14 minutes to complete. My research involves Secondary agriculture teachers Level of Competency of the IEP Process. The study will identify if there is a difference in the competency level of secondary agriculture teachers who have and have not taken special education coursework or participated in special education workshops.

Your participation is confidential and any information gathered will be kept confidential and in a safe and secure location. Your identity and institution will not be revealed. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the internet by any third parties. Participants must be 18 years of age or older. Data will be summarized in group format. Completing the survey is completely voluntary and indicates your consent to participate in this study. You may stop participating in this study at any time or decide not to answer any question you are not comfortable answering.

I am happy to answer any questions you may have about the study. You may contact me at 814-863-7877 or eub143@psu.edu or my faculty advisor Professor Connie Baggett at 814-863-7415 or bbc@psu.edu, if you have study related questions or problems. Please print off this form to keep for your records.

To participate, please click on the link below to begin the survey

http://www.surveymonkey.com/s/Secondary_Agricultural_Education_Teacher_Survey_in_Pennsylvania

With kind regards,

Erica Bobbitt
Graduate Assistant
12 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7877
eub143@psu.edu

Dr. Connie Baggett
Associate Professor
207 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7415
bbc@psu.edu

Dear Secondary Agricultural Education Teacher, (**First Follow-up)**

Please complete the survey below if you have not already done so! I need your help! I sent my original survey request on January 18, 2011. Thanks to all who have responded, unfortunately there are still some who have not responded.

Please complete the survey I have attached. I am a doctoral candidate in the Agricultural and Extension Education Department at The Pennsylvania State University and I am conducting dissertation research. Please assist me by completing a brief survey by **February 3, 2011**. It takes approximately 14 minutes to complete. My research involves Secondary agriculture teachers Level of Competency of the IEP Process. The study will identify if there is a difference in the competency level of secondary agriculture teachers who have and have not taken special education coursework or participated in special education workshops.

Your participation is confidential and any information gathered will be kept confidential and in a safe and secure location. Your identity and institution will not be revealed. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the internet by any third parties. Participants must be 18 years of age or older.

Data will be summarized in group format. Completing the survey is completely voluntary and indicates your consent to participate in this study. You may stop participating in this study at any time or decide not to answer any question you are not comfortable answering.

I am happy to answer any questions you may have about the study. You may contact me at 814-863-7877 or eub143@psu.edu or my faculty advisor Professor Connie Baggett at 814-863-7415 or bbc@psu.edu, if you have study related questions or problems. Please print off this form to keep for your records. To participate, please click on the link below to begin the survey

http://www.surveymonkey.com/s/Secondary_Agricultural_Education_Teacher_Survey_in_Pennsylvania

With kind regards,

Erica Bobbitt
Graduate Assistant
12 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7877
eub143@psu.edu

Dr. Connie Baggett
Associate Professor
207 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7415
bbc@psu.edu

Dear Secondary Agricultural Education Teacher, (**Second Follow-up)**

"Thank you", if you have already completed the survey. If you have not done so, please click on the Survey Monkey™ link below.

I need your help! I sent my original survey request on January 18, 2011. Thanks again to all who have responded, unfortunately there are still some who have not responded.

Please complete the survey I have attached. I am a doctoral candidate in the Agricultural and Extension Education Department at The Pennsylvania State University and I am conducting dissertation research. Please assist me by completing a brief survey by **February 10, 2011**. It takes approximately 14 minutes to complete. My research involves Secondary agriculture teachers Level of Competency of the IEP Process. The study will identify if there is a difference in the competency level of secondary agriculture teachers who have and have not taken special education coursework or participated in special education workshops. Your participation is confidential and any information gathered will be kept confidential and in a safe and secure location. Your identity and institution will not be revealed. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the internet by any third parties. Participants must be 18 years of age or older.

Data will be summarized in group format. Completing the survey is completely voluntary and indicates your consent to participate in this study. You may stop participating in this study at any time or decide not to answer any question you are not comfortable answering. I am happy to answer any questions you may have about the study. You may contact me at 814-863-7877 or eub143@psu.edu or my faculty advisor Professor Connie Baggett at 814-863-7415 or bbc@psu.edu, if you have study related questions or problems. Please print off this form to keep for your records.

To participate, please click on the link below to begin the survey
http://www.surveymonkey.com/s/Secondary_Agricultural_Education_Teacher_Survey_in_Pennsylvania

With kind regards,

Erica Bobbitt
Graduate Assistant
12 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7877
eub143@psu.edu

Dr. Connie Baggett
Associate Professor
207 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7415
bbc@psu.edu

(Final Request)

"Thank you", to all who have completed the survey. Your input is critical to this study. This is the final request to complete the survey if you have not done so, please click on the Survey Monkey™ link below.

I need your help! I sent my original survey request on January 18, 2011. Thanks again to all who have responded, unfortunately there are still some who have not responded. Please complete the survey I have attached. I am a doctoral candidate in the Agricultural and Extension Education Department at The Pennsylvania State University and I am conducting dissertation research. Please assist me by completing a brief survey by **February 25, 2011**. It takes approximately 14 minutes to complete. My research involves Secondary agriculture teachers Level of Competency of the IEP Process. The study will identify if there is a difference in the competency level of secondary agriculture teachers who have and have not taken special education coursework or participated in special education workshops.

Your participation is confidential and any information gathered will be kept confidential and in a safe and secure location. Your identity and institution will not be revealed. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the internet by any third parties. Participants must be 18 years of age or older. Data will be summarized in group format. Completing the survey is completely voluntary and indicates your consent to participate in this study. You may stop participating in this study at any time or decide not to answer any question you are not comfortable answering. I am happy to answer any questions you may have about the study. You may contact me at 814-863-7877 or eub143@psu.edu or my faculty advisor Professor Connie Baggett at 814-863-7415 or bbc@psu.edu, if you have study related questions or problems. Please print off this form to keep for your records.

To participate, please click on the link below to begin the survey

http://www.surveymonkey.com/s/Secondary_Agricultural_Education_Teacher_Survey_in_Pennsylvania

With kind regards,

Erica Bobbitt
Graduate Assistant
12 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7877
eub143@psu.edu

Dr. Connie Baggett
Associate Professor
207 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7415
bbc@psu.edu

North Carolina **(Initial Email)**

Dear Secondary Agricultural Education Teacher,

I need your help! Please complete the survey I have attached. I am a doctoral candidate in the Agricultural and Extension Education Department at The Pennsylvania State University and I am conducting dissertation research. Please assist me by completing a brief survey by **January 27, 2011**. It takes approximately 14 minutes to complete. My research involves Secondary agriculture teachers Level of Competency of the IEP Process. The study will identify if there is a difference in the competency level of secondary agriculture teachers who have and have not taken special education coursework or participated in special education workshops.

Your participation is confidential and any information gathered will be kept confidential and in a safe and secure location. Your identity and institution will not be revealed. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the internet by any third parties. Participants must be 18 years of age or older. Data will be summarized in group format. Completing the survey is completely voluntary and indicates your consent to participate in this study. You may stop participating in this study at any time or decide not to answer any question you are not comfortable answering.

I am happy to answer any questions you may have about the study. You may contact me at 814-863-7877 or eub143@psu.edu or my faculty advisor Professor Connie Baggett at 814-863-7415 or bbc@psu.edu, if you have study related questions or problems. Please print off this form to keep for your records.

To participate, please click on the link below to begin the survey

http://www.surveymonkey.com/s/Secondary_Agricultural_Education_Teacher_Survey_in_North_Carolina

With kind regards,

Erica Bobbitt
Graduate Assistant
12 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7877
eub143@psu.edu

Dr. Connie Baggett
Associate Professor
207 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7415
bbc@psu.edu

Dear Secondary Agricultural Education Teacher, (**First Follow-up)**

Please complete the survey below if you have not already done so!

I need your help! I sent my original survey request on January 18, 2011. Thanks to all who have responded, unfortunately there are still some who have not responded.

Please complete the survey I have attached. I am a doctoral candidate in the Agricultural and Extension Education Department at The Pennsylvania State University and I am conducting dissertation research. Please assist me by completing a brief survey by **February 3, 2011**. It takes approximately 14 minutes to complete. My research involves Secondary agriculture teachers Level of Competency of the IEP Process. The study will identify if there is a difference in the competency level of secondary agriculture teachers who have and have not taken special education coursework or participated in special education workshops.

Your participation is confidential and any information gathered will be kept confidential and in a safe and secure location. Your identity and institution will not be revealed. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the internet by any third parties. Participants must be 18 years of age or older.

Data will be summarized in group format. Completing the survey is completely voluntary and indicates your consent to participate in this study. You may stop participating in this study at any time or decide not to answer any question you are not comfortable answering. I am happy to answer any questions you may have about the study. You may contact me at 814-863-7877 or eub143@psu.edu or my faculty advisor Professor Connie Baggett at 814-863-7415 or bbc@psu.edu, if you have study related questions or problems. Please print off this form to keep for your records.

To participate, please click on the link below to begin the survey

http://www.surveymonkey.com/s/Secondary_Agricultural_Education_Teacher_Survey_in_North_Carolina

With kind regards,

Erica Bobbitt
Graduate Assistant
12 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7877
Eub143@psu.edu

Dr. Connie Baggett
Associate Professor
207 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7415
bbc@psu.edu

Dear Secondary Agricultural Education Teacher, (**Second Follow-up)**

"Thank you", if you have already completed the survey. If you have not done so, please click on the Survey Monkey™ link below.

I need your help! I sent my original survey request on January 18, 2011. Thanks again to all who have responded, unfortunately there are still some who have not responded.

Please complete the survey I have attached. I am a doctoral candidate in the Agricultural and Extension Education Department at The Pennsylvania State University and I am conducting dissertation research. Please assist me by completing a brief survey by **February 10, 2011**. It takes approximately 14 minutes to complete.

My research involves Secondary agriculture teachers Level of Competency of the IEP Process. The study will identify if there is a difference in the competency level of secondary agriculture teachers who have and have not taken special education coursework or participated in special education workshops. Your participation is confidential and any information gathered will be kept confidential and in a safe and secure location. Your identity and institution will not be revealed. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the internet by any third parties. Participants must be 18 years of age or older. Data will be summarized in group format. Completing the survey is completely voluntary and indicates your consent to participate in this study. You may stop participating in this study at any time or decide not to answer any question you are not comfortable answering. I am happy to answer any questions you may have about the study.

You may contact me at 814-863-7877 or eub143@psu.edu or my faculty advisor Professor Connie Baggett at 814-863-7415 or bbc@psu.edu, if you have study related questions or problems. Please print off this form to keep for your records. To participate, please click on the link below to begin the survey

http://www.surveymonkey.com/s/Secondary_Agricultural_Education_Teacher_Survey_in_North_Carolina

With kind regards,

Erica Bobbitt
Graduate Assistant
12 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7877
eub143@psu.edu

Dr. Connie Baggett
Associate Professor
207 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7415
bbc@psu.edu

(Final Request)

"Thank you", to all who have completed the survey. Your input is critical to this study. This is the final request to complete the survey if you have not done so, please click on the Survey Monkey™ link below. I need your help! I sent my original survey request on January 18, 2011. Thanks again to all who have responded, unfortunately there are still some who have not responded.

Please complete the survey I have attached. I am a doctoral candidate in the Agricultural and Extension Education Department at The Pennsylvania State University and I am conducting dissertation research. Please assist me by completing a brief survey by **February 25, 2011**. It takes approximately 14 minutes to complete.

My research involves Secondary agriculture teachers Level of Competency of the IEP Process. The study will identify if there is a difference in the competency level of secondary agriculture teachers who have and have not taken special education coursework or participated in special education workshops. Your participation is confidential and any information gathered will be kept confidential and in a safe and secure location. Your identity and institution will not be revealed. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the internet by any third parties. Participants must be 18 years of age or older.

Data will be summarized in group format. Completing the survey is completely voluntary and indicates your consent to participate in this study. You may stop participating in this study at any time or decide not to answer any question you are not comfortable answering. I am happy to answer any questions you may have about the study. You may contact me at 814-863-7877 or eub143@psu.edu or my faculty advisor Professor Connie Baggett at 814-863-7415 or bbc@psu.edu, if you have study related questions or problems. Please print off this form to keep for your records.

To participate, please click on the link below to begin the survey

http://www.surveymonkey.com/s/Secondary_Agricultural_Education_Teacher_Survey_in_North_Carolina

With kind regards,

Erica Bobbitt
Graduate Assistant
12 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7877
eub143@psu.edu

Dr. Connie Baggett
Associate Professor
207 Ferguson Bldg
The Pennsylvania State University
University Park, PA 16802
814 863-7415
bbc@psu.edu

Appendix B

Questionnaire

PENNSTATE

Survey of Agricultural Education Teachers

IRB #

Respondent Number_____

Directions: The questionnaire is divided into two sections. The first section contains statements concerning your present level of competency. **:** Please read each statement carefully. Then rate your present level of competency in the following areas.

1= Not Competent 2 = Slightly Competent 3 = Competent 4 = Very Competent 5 = Extremely Competent

A. **Handicapped Students** are defined as individuals who are mentally retarded. Hard of hearing, deaf, speech or language impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or learning disabilities, who therefore require special education and related services.

B. **Economically Disadvantaged** is defined as an individual who comes from a family who the state identifies as low income based in (a) annual income at or below poverty line (b) eligibility for free or reduced price lunch (c) eligibility for AFDC or other public assistance programs and (e) eligibility for participation on programs assisted under Title II or JTPA

C. **Academically Challenged** is defined as students who have scored below the 25th percentile on a standardized achievement test or aptitude test. Also whose secondary school grades are below 2.0 on a 4.0 scale or fails to maintain minimum academic competencies.

SECTION I

PROFESSIONAL ROLE AND DEVELOPMENT	**NC**	**SC**	**C**	**VC**	**EC**
1. Assisting the student in viewing his/her assets and limitations realistically based on the IEP:					
a. Handicapped students	1	2	3	4	5
b. Economically disadvantaged students	1	2	3	4	5
c. Academically challenged students	1	2	3	4	5
2. Demonstrating objectivity and sensitivity to cultural differences of special needs students:					
a. Handicapped students	1	2	3	4	5
b. Economically disadvantaged students	1	2	3	4	
c. Academically challenged students	1	2	3	4	5
3. Influencing attitudes of regular school personnel and other students toward acceptance of:					

a. Handicapped students 1 2 3 4 5
b. Economically disadvantaged students 1 2 3 4 5
c. Academically challenged students 1 2 3 4 5

INSTRUCTIONAL ROLE

4. Assisting the student in developing good study habits related to agricultural education:
   a. Handicapped students 1 2 3 4 5
   b. Economically disadvantaged students 1 2 3 4 5
   c. Academically challenged students 1 2 3 4 5

5. Providing methods of inclusion with other students for daily activities:
   a. Handicapped students 1 2 3 4 5
   b. Economically disadvantaged students 1 2 3 4 5
   c. Academically challenged students 1 2 3 4 5

6. Using a variety of teaching methods and techniques to provide instruction for:
   a. Handicapped students 1 2 3 4 5
   b. Economically disadvantaged students 1 2 3 4 5
   c. Academically challenged students 1 2 3 4 5

7. Using objective and orderly procedures on a daily basis:
   a. Handicapped students 1 2 3 4 5
   b. Economically disadvantaged students 1 2 3 4 5
   c. Academically challenged students 1 2 3 4 5

8. Using concrete, tangible demonstrations rather than verbal and abstract:
   a. Handicapped students 1 2 3 4 5
   b. Economically disadvantaged students 1 2 3 4 5
   c. Academically challenged students 1 2 3 4 5

9. Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with:
   a. Handicapped students 1 2 3 4 5
   b. Economically disadvantaged students 1 2 3 4 5
   c. Academically challenged students 1 2 3 4 5

10. Using supplemental strategies that produce cognitive skills with:
    a. Handicapped students 1 2 3 4 5
    b. Economically disadvantaged students 1 2 3 4 5
    c. Academically challenged students 1 2 3 4 5

11. Challenging the learner's skills and abilities:
    a. Handicapped students 1 2 3 4 5
    b. Economically disadvantaged students 1 2 3 4 5
    c. Academically challenged students 1 2 3 4 5

12. Formatting instructional materials into shorter units of working with:

a.	Handicapped students	1	2	3	4	5
b.	Economically disadvantaged students	1	2	3	4	5
c.	Academically challenged students	1	2	3	4	5

KNOWLEDGE STATEMNTS

13. Familiar with the laws that apply to special needs students:

a.	Handicapped students	1	2	3	4	5
b.	Economically disadvantaged students	1	2	3	4	5
c.	Academically challenged students	1	2	3	4	5

14. Completing Individualized Education Plan (IEP) for:

a.	Handicapped students	1	2	3	4	5
b.	Economically disadvantaged students	1	2	3	4	5
c.	Academically challenged students	1	2	3	4	5

STUDENT LEADERSHIP AND ORGANIZATIONS

15. Integrating and actively involving special needs students in vocation organizations:

a.	Handicapped students	1	2	3	4	5
b.	Economically disadvantaged students	1	2	3	4	5
c.	Academically challenged students	1	2	3	4	5

16. Providing leadership roles and opportunities for:

a.	Handicapped students	1	2	3	4	5
b.	Economically disadvantaged students	1	2	3	4	5
c.	Academically challenged students	1	2	3	4	5

Section II	**Demographics**

Please choose the appropriate response.

17. What is your gender?

- ⧉ Male
- ⧉ Female

18. What is your ethnicity?

- ⧉ Caucasian/White
- ⧉ African-American (Black)
- ⧉ Asian-American or Pacific Islander
- ⧉ Hispanic/Latino
- ⧉ Native American/American Indian
- ⧉ Other (specify) _____

19. What is your age? _____ or indicate below

- ⧉ 21 – 30
- ⧉ 31– 40
- ⧉ 41 – 50
- ⧉ 51– 60
- ⧉ 61 or Above

20. What is the highest degree you have earned?

- ⧉ Associate
- ⧉ Bachelor
- ⧉ Masters
- ⧉ Doctorate

21. Have your educational courses included a section of time spent working with students with special needs?

- ⧉ Yes
- ⧉ No

22. Have you taken one or more courses or workshops (in the last 5 years), specifically related to teaching students with special needs? A course would be any number of credit hours taken at any institution of higher education.

Courses (in the last 5 years)

- ⧉ No
- ⧉ Yes, (How many?)_____

Workshops (in the last 5 years)

- ⧉ No
- ⧉ Yes, (How many?)_____

23. How many years have you taught secondary agricultural education courses?

- ⧉ Fewer than 2 years
- ⧉ 2 – 5 years
- ⧉ 6 – 9 years
- ⧉ 10 – 13 years
- ⧉ 14 years or more

24. Please indicate your primary area of teaching responsibility:

- ⧉ Agricultural Production
- ⧉ Agricultural Mechanics
- ⧉ Agricultural Science
- ⧉ Natural Resources/Environmental Sciences (Includes Forestry)
- ⧉ Agribusiness
- ⧉ Horticulture
- ⧉ Animal Science
- ⧉ Other (Specify)_____

25. What is the percentage of special needs students in your class?

- ⧉ Less than 10%
- ⧉ 11% - 20%
- ⧉ 21% - 30%
- ⧉ 31% - 40%
- ⧉ 41% - 50%
- ⧉ Other (Specify)_____

26. Which best reflects the majority of students in your class:

- ⧉ Handicapped students
- ⧉ Economically disadvantaged students
- ⧉ Academically challenged students

27. Please list all the professional societies/organizations in which you have held membership in during the last five years.

- ⧉ 1. Association of Agricultural Educators
- ⧉ 2. American Association for Agricultural Education
- ⧉ 3. National Science Teacher Association
- ⧉ 4. Agricultural Education Division of the Association for Career and Technical Education
- ⧉ 5. Other:

_____

Appendix C

Factor Analysis

Teacher Competency Levels

Factor 1(Instruction)	Cronbach Alpha .95

1. Providing methods of inclusion with other students for daily activities for Students with disabilities
2. Using a variety of teaching methods and techniques to provide instruction for Economically Disadvantaged Students
3. Using a variety of teaching methods and techniques to provide instruction for Academically Challenged Students
4. Using objective and orderly procedures on a daily basis with Economically Disadvantaged Students
5. Using objective and orderly procedures on a daily basis with Academically Challenged Students
6. Using concrete, tangible demonstrations rather than verbal and abstract with Economically Disadvantaged Students
7. Using concrete, tangible demonstrations rather than verbal and abstract with Academically Challenged Students
8. Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with Economically Disadvantaged Students
9. Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with Academically Challenged Students

Factor 2 (Cognitive Skills)	Cronbach Alpha .95

1. Assisting the student in developing good study habits related to agricultural education for Students with disabilities
2. Providing methods of inclusion with other students for daily activities for Students with disabilities
3. Using a variety of teaching methods and techniques to provide instruction for Students with disabilities
4. Using objective and orderly procedures on a daily basis with Students with disabilities
5. Using concrete, tangible demonstrations rather than verbal and abstract for Students with disabilities
6. Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with Students with disabilities
7. Using supplemental strategies that produce cognitive skills with Students with disabilities
8. Challenging the learner's skills and abilities, Students with disabilities
9. Formatting instructional materials into shorter units of working with Students with disabilities
10. Integrating and actively involving special needs students in vocation organizations, Students with disabilities
11. Providing leadership roles and opportunities for Students with disabilities

Factor 3 (Leadership) Cronbach Alpha .94

1. Integrating and actively involving special needs students in vocation organizations, Economically Disadvantaged Students
2. Integrating and actively involving special needs students in vocation organizations, Academically Challenged Students
3. Providing leadership roles and opportunities for Economically Disadvantaged Students
4. Providing leadership roles and opportunities for Academically Challenged Students

Factor 4 (IEP)	Cronbach Alpha .94

1. Familiar with the laws that apply to Students with disabilities
2. Familiar with the laws that apply to Economically Disadvantaged Students
3. Familiar with the laws that apply to Academically Challenged Students
4. Completing Individualized Education Plan (IEP) Students with disabilities
5. Completing Individualized Education Plan (IEP)for Economically Disadvantaged Students
6. Completing Individualized Education Plan (IEP)for Academically Challenged Students

Factor 5 (Self-Advocay)	Cronbach Alpha .91

1. Assisting the student in viewing his/her assets and limitations realistically based on the IEP, Students with disabilities
2. Assisting the student in viewing his/her assets and limitations realistically based on the IEP, Economically Disadvantaged Students
3. Assisting the student in viewing his/her assets and limitations realistically based on the IEP, Academically Challenged Students
4. Demonstrating objectivity and sensitivity to cultural differences of Students with disabilities
5. Demonstrating objectivity and sensitivity to cultural differences of Economically Disadvantaged Students
6. Demonstrating objectivity and sensitivity to cultural differences of special needs students: Academically Challenged students
7. Providing methods of inclusion with other students for daily activities, Academically Challenged Students

Factor 6 (Skills & Abilities)	Cronbach Alpha .91

1. Using supplemental strategies that produce cognitive skills with Economically Disadvantaged Students
2. Using supplemental strategies that produce cognitive skills with Academically Challenged Students
3. Challenging the learner's skills and abilities, Economically Disadvantaged Students
4. Challenging the learner's skills and abilities, Academically Challenged Students
5. Formatting instructional materials into shorter units of working with Economically Disadvantaged Students
6. Formatting instructional materials into shorter units of working with Academically Challenged Students

Factor 7 (Adminstration)	Cronbach Alpha .93

1. Influencing attitudes of regular school personnel and other students toward acceptance of Students with disabilities
2. Influencing attitudes of regular school personnel and other students toward acceptance of Economically Disadvantaged Students
3. Influencing attitudes of regular school personnel and other students toward acceptance of Academically Challenged Students

Appendix D

Teacher Perceived Competencies

Sixteen Teacher Perceived Competencies

Competencies	Student	Mean	SD
Assisting the student in viewing his/her assets and limitations realistically based on the IEP	Students with disabilities	2.95	.91
	Economically disadvantaged students, (no IEP required)	3.30	.83
	Academically challenged students (no IEP required)	3.23	.80
Demonstrating objectivity and sensitivity to cultural differences of special needs students	Students with disabilities	3.35	.92
	Economically disadvantaged students	3.49	.83
	Academically challenged students	3.43	.82
Influencing attitudes of regular school personnel and other students toward acceptance of special needs students	Students with disabilities	3.33	.87
	Economically disadvantaged students	3.40	.84
	Academically challenged students	3.34	.82
Assisting the student in developing good study habits related to agricultural education	Students with disabilities	3.05	.92
	Economically disadvantaged students	3.31	.80
	Academically challenged students	3.23	.83
Providing methods of inclusion with other students for daily activities:	Students with disabilities	3.22	1.00
	economically Disadvantaged students	3.60	.85
	Academically challenged students	3.50	.87
Using a variety of teaching methods and techniques to provide instruction for special needs students	Students with disabilities	3.26	1.10
	Economically disadvantaged students	3.62	.88
	Academically challenged students	3.52	.90
Using objective and orderly procedures on a daily basis	Students with disabilities	3.41	.96
	economically Disadvantaged students	3.56	.88
	Academically challenged students	3.55	.92

Using concrete, tangible demonstrations rather than verbal and abstract	Students with disabilities	3.49	.93
	Economically disadvantaged Students	3.64	.86
	Academically challenged students	3.64	.86
Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with special needs students	Students with disabilities	3.52	.97
	Economically disadvantaged students	3.73	.87
	Academically challenged students	3.73	.88
Using supplemental strategies that produce cognitive skills with student with special needs	Students with disabilities	2.96	.97
	Economically disadvantaged students	3.25	.88
	Academically challenged students	3.23	.87
Challenging the learner's skills and abilities	Students with disabilities	3.24	.93
	Economically disadvantaged students	3.49	.84
	Academically challenged students	3.48	.85
Formatting instructional materials into shorter units of working with special needs students	Students with disabilities	3.14	.99
	Economically disadvantaged students, (no IEP required)	3.33	.91
	Academically challenged students (no IEP required)	3.31	.90
Familiar with the laws that apply to special needs students	Students with disabilities	2.62	1.00
	Economically disadvantaged students (no IEP required)	2.67	.98
	Academically challenged students (no IEP required)	2.77	1.00
Completing Individualized Education Plan (IEP) for special needs students	Students with disabilities	2.59	1.20
	Economically disadvantaged students (no IEP required)	2.68	1.20
	Academically challenged students (no IEP required)	2.71	1.20
Integrating and actively	Students with disabilities	3.29	.98

involving special needs students in vocation organizations	Economically disadvantaged students	3.58	.91
	Academically challenged students	3.53	.91
Providing leadership roles and opportunities for special needs students	Students with disabilities	3.20	1.10
	Economically disadvantaged students	3.52	.93
	Academically challenged students	3.49	.95

Appendix E

Competency Levels

Teacher Competency Levels Professional Role and Development

Competency by Student Type	n	Not Competent f	%	Slightly Competent f	%	Competent f	%	Very Competent f	%	Extremely Competent f	%
Assist the student in viewing his/he assets and limitations realistically:											
Students with disabilities	217	11	5.1	52	24.0	99	45.6	46	21.2	9	4.1
Economically Disadvantaged Students	217	5	2.3	24	11.0	102	47.0	73	33.6	13	6.0
Academically Challenged Student	217	6	2.8	22	10.1	114	52.5	66	30.9	9	4.1
Demonstrate Objectivity and sensitivity to cultural differences of special needs students:											
Students with disabilities	216	5	2.3	31	14.4	84	38.9	75	34.7	21	9.7
Economically Disadvantaged Students	215	4	1.9	12	5.6	96	44.7	80	37.2	23	10.7
Academically Challenged Student	218	3	1.4	15	7.0	105	48.8	71	33.0	21	9.8
Influence attitudes of regular school personnel and other students toward acceptance of:											
Students with disabilities	215	5	2.3	26	12.1	94	43.7	73	34.0	17	7.9
Economically Disadvantaged Students	218	6	2.8	16	7.4	95	44.0	83	38.4	16	7.4
Academically Challenged Student	214	6	2.8	16	7.5	105	49.1	73	34.1	14	6.5

Teacher Competency Levels Instructional Role

Competency by Student Type	n	Not Competent f	%	Slightly Competent f	%	Competent f	%	Very Competent f	%	Extremely Competent f	%
Assisting the student in developing good study habits related to agricultural education:											
Students with disabilities	213	9	4.	47	22.1	92	43.2	54	24.8	11	5.2
Economically Disadvantaged Students	213	3	1.4	24	11.3	100	46.9	75	34.4	11	5.2
Academically Challenged Student	213	5	2.3	28	12.8	105	48.2	64	30.0	11	5.2
Providing methods of inclusion with other students for daily activities:											
Students with disabilities	214	10	4.7	42	19.3	72	33.0	70	32.1	20	9.3
Economically Disadvantaged Students	214	3	1.4	15	7.0	74	34.6	95	44.4	27	12.6
Academically Challenged Student	214	4	1.9	19	8.7	81	37.9	87	40.7	23	10.7
Using a variety of teaching methods and techniques to provide instruction for:											
Students with disabilities	213	11	5.2	38	17.8	80	37.6	52	24.4	32	15.0
Economically Disadvantaged Students	214	3	1.4	15	7.0	77	36.0	85	39.7	34	15.9
Academically Challenged Student	215	3	1.4	20	9.3	85	39.5	77	35.8	30	14.0
Using objective and orderly procedures on a daily basis:											
Students with disabilities	210	6	2.9	23	11.0	89	42.4	63	30.0	29	13.3
Economically Disadvantaged Students	207	3	1.4	14	6.8	86	41.5	72	34.8	32	15.5
Academically Challenged Student	204	4	2.0	14	6.9	85	41.7	67	32.8	34	16.7

Teacher Competency Levels Instructional Role (Continued)

Competency by Student Type	n	Not Competent		Slightly Competent		Competent		Very Competent		Extremely Competent	
		f	%	f	%	f	%	f	%	f	%
Using concrete, tangible demonstrations rather than verbal and abstract:											
Students with disabilities	209	8	3.8	15	7.2	77	36.8	84	40.2	25	12.0
Economically Disadvantaged Students	208	3	1.4	14	6.7	67	32.2	95	45.7	29	13.9
Academically Challenged Student	208	2	1.0	15	7.2	70	33.7	90	43.3	31	14.9
Using illustrations, audiovisual aids, field trips and direct experiences whenever possible with:											
Students with disabilities	210	7	3.3	19	9.0	74	35.2	77	36.7	33	15.7
Economically Disadvantaged Students	209	2	1.0	13	6.2	63	30.1	92	44.0	39	18.7
Academically Challenged Student	210	3	1.4	11	5.2	66	31.4	90	42.9	40	19.0
Using supplemental strategies that produce cognitive skills with:											
Students with disabilities	208	14	6.7	51	24.5	82	39.4	52	25.0	9	4.3
Economically Disadvantaged Students	209	5	2.4	33	15.8	87	41.6	72	43.4	12	5.7
Academically Challenged Student	208	4	1.9	36	17.3	89	42.8	67	32.2	12	5.8

Teacher Competency Levels Instructional Role (Continued)

Competency by Student Type	n	Not Competent f	%	Slightly Competent f	%	Competent f	%	Very Competent f	%	Extremely Competent f	%
Challenging the learner's skills and abilities:											
Students with disabilities	209	9	4.3	29	13.9	88	42.3	67	32.2	12	5.8
Economically Disadvantaged Students	207	4	1.9	14	6.8	86	41.5	68	32.7	14	6.7
Academically Challenged Student	208	3	1.4	18	8.7	84	40.4	82	9.6	21	10.1
Formatting instructional materials into shorter units of working with:											
Students with disabilities	207	10	4.8	42	20.3	81	39.1	58	28.0	16	7.7
Economically Disadvantaged Students	208	5	2.4	29	13.9	86	41.3	69	33.2	19	9.1
Academically Challenged Student	210	4	1.9	30	14.3	92	43.8	92	43.8	20	9.5

Teacher Competency Levels Knowledge

Competency by Student Type	n	Not Competent f	%	Slightly Competent f	%	Competent f	%	Very Competent f	%	Extremely Competent f	%
Familiar with the laws that apply to special needs Students											
Students with disabilities	208	26	12.5	73	35.1	73	35.1	26	12.5	10	4.8
Economically Disadvantaged Students	208	22	10.6	69	33.2	84	40.4	22	10.6	11	5.3
Academically Challenged Students	206	18	8.7	67	32.5	79	38.3	28	13.6	14	6.8
Completing Individualized Education Plan (IEP) for:											
Students with disabilities	207	42	20.3	58	28.0	63	30.4	30	14.5	14	6.8
Economically Disadvantaged Students	206	37	18.0	54	26.2	66	32.0	35	17.0	14	6.8
Academically Challenged Student	204	36	17.6	55	26.8	62	30.2	37	18.0	15	7.3
Integrating and actively involving special needs students in vocation organizations:											
Students with disabilities	204	8	3.9	30	14.7	82	40.2	62	30.4	22	10.8
Economically Disadvantaged Students	204	5	2.5	17	8.3	65	31.9	89	43.6	28	13.7
Academically Challenged Student	202	4	2.0	19	9.4	71	35.1	81	40.1	27	13.4
Providing leadership roles and opportunities for:											
Students with disabilities	205	15	7.3	32	15.6	78	39.0	56	27.3	34	11.7
Economically Disadvantaged Students	205	6	2.9	16	7.8	76	37.1	79	38.5	28	13.7
Academically Challenged Student	202	7	3.5	16	7.9	80	39.6	70	34.7	29	14.4

Teacher Competency Levels Student Leadership and Organizations

Competency by Student Type	n	Not Competent f	%	Slightly Competent f	%	Competent f	%	Very Competent f	%	Extremely Competent f	%
Integrating and actively involving special needs students in vocation organizations:											
Students with disabilities	204	8	3.9	30	14.7	82	40.2	62	30.4	22	10.8
Economically Disadvantaged Students	204	5	2.5	17	8.3	65	31.9	89	43.6	28	13.7
Academically Challenged Student	202	4	2.0	19	9.4	71	35.1	81	40.1	27	13.4
Providing leadership roles and opportunities for:											
Students with disabilities	205	15	7.3	32	15.6	78	39.0	56	27.3	34	11.7
Economically Disadvantaged Students	205	6	2.9	16	7.8	76	37.1	79	38.5	28	13.7
Academically Challenged Student	202	7	3.5	16	7.9	80	39.6	70	34.7	29	14.4

Curriculum Vita

Erica M. Bobbitt

Education

December 2011	Ph.D., The Pennsylvania State University Major: Agricultural and Extension Education
May 1992	M.S., Michigan State University Major: Agricultural and Extension Education
August 1993	B.S., North Carolina A&T State University

Professional Experience

August 2008 – August 2011	Graduate Assistant (Instructor, Research Assistant and Teaching Assistant), The Pennsylvania State University
January 2000- August 2008	Exceptional Needs Specialist, Wake County Public Schools
October 2006 – August 2009	Market News Reporter, The North Carolina Department of Agriculture
August 1993 – October 2006	Horticulture Teacher, Nash-Rocky Mount Public School

Publications

Paper Presentation

Bobbitt, E., & Baggett, C. (2011). Secondary agricultural education teachers' competencies regarding the individual education plan (IEP) process. Paper presented at *The 9th Annual Hawaii International Conference on Education*, Honolulu, Hawaii.

Paper Presentation

Bobbitt, E., & Baggett, C. (2011). Secondary agricultural education teachers' competencies regarding the individual education plan (IEP) process. Paper presented at The Pennsylvania Career and Technical Education Conference (PACTEC), Champion, PA.

Professional Affiliations

- Member Gama Sigma Delta Honors Society
- Member Alpha Tau Alpha (ATA) Professional Agricultural Education Fraternity
- Member of AAAE