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AN EXAMINATION OF THE IMPORTANCE OF SELECTED TEACHING COMPETENCIES BY AGRICULTURAL EDUCATION TEACHER EDUCATORS AND TEACHERS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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*****

The Ohio State University
2001

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ABSTRACT

The shortage of qualified instructors, and the growing numbers of alternatively certified teachers entering the teaching field has created a need to identify competencies required by successful agricultural education teachers. This study compared the opinions of agricultural education teachers with those of agricultural education teacher educators regarding the importance of selected teaching competencies identified by Owens that were unique to lists compiled by Cotrell, Chase, and Molnar and Norton.

A mail survey was used to collect data for this descriptive correlational study. The instrument contained a list of 44 selected competencies that agricultural education teacher educators and agricultural education teachers were asked to rate on importance for a successful agricultural education teacher using a seven point Likert-type scale.

The study found that there were low associations between both groups on individual competencies. However, when summated means for the variables Program Management and Managing Field Experience were compared, there were no significant differences between the two groups on the importance of the selected teaching competencies. Both groups had similar ideas on what makes a successful agriculture education teacher. Characteristics such as gender,
number of students attending their institution, academic rank or years of involvement in agricultural education teacher preparation at the post-secondary level did not have a strong relationship with opinions of agricultural education teacher educators on importance of the selected teaching competencies. For agricultural education teachers, type of school where they taught, grade levels taught, and type of community where the school is located had a moderate association with managing field experience. A substantial relationship was found for both agricultural education teacher educators and agricultural education teachers between the summated scores for competencies in program management and managing field experience.

Agricultural education teacher educators and agricultural education teachers were also asked to determine what new competencies might be needed by agricultural education teachers to meet the new challenges of increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations. Thirty new competencies were generated by study participants.
DEDICATION

To My Daughter, Nikki

You are so much a part of the reason
that I started on this journey.

Thank you for being patient, for providing
words of encouragement when I became discouraged,
and for being so much more to me than “just” a daughter.

“Looks like we made it, look how far we’ve come…”

To My Mother,

Without you none of this would have been possible.

Thank you for always being there,
for listening and giving advice when sometimes
I just needed to think “out loud,”
and for believing in me even when I didn’t believe in myself.

We are blessed with a few close friends to enrich our lives.
In you I have found not only a Mother, but one of those friends.
ACKNOWLEDGMENTS

The journey to the completion of a doctoral program could not possibly be completed without the support and guidance of many people who have had a profound influence on its scope and direction. These people provided valuable advice and helped smooth out many of the "bumps in the road" along the way. I would like to take this opportunity to both recognize and thank those individuals that have helped me achieve my dream:

Dr. McCaslin: Thank you especially for both your continual sound advice and your patience. You have provided guidance when needed, nudged when I needed a little push, listened when I shared a new idea or explored a new area of emphasis, and have done all of the things that make you a truly great advisor. The road would have been so much rougher without you to help navigate.

Dr. Papritan: You have served as both an exemplary role model and mentor. I can only hope to "dance" as well as you do in the classroom with additional years of practice. Thank you for providing opportunities and experiences that have greatly enriched this journey. It is difficult to express my appreciation for all the guidance you have given, ideas you have shared, and encouragement you have offered. The future looks bright because of your help in building it.
Dr. Budke: Your suggestion to "think about enrolling in our Master's program" started this whole process. Thank you for such good advice. As both an instructor for several courses, and a committee member you have often gone above and beyond what might be expected in those roles. You have always provided insightful suggestions for solutions to problems that were providing "road blocks" and always had an open door when I had something to discuss.

Dr. Hansen: Thank you for serving as a sounding board through numerous versions of this final product, for offering suggestions when I needed to explore a concept a little more thoroughly, and for "bugging" me when I wasn't moving along the path quickly enough.

Thank you to the faculty, staff, and other graduate students who have added in large and small ways to this total experience. This is a time in my life for which I will always have fond memories.
VITA

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FIELD OF STUDY

Major Field: Agricultural Education
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CHAPTER 1
INTRODUCTION

The shortage of qualified instructors, and the growing numbers of alternatively certified teachers entering the teaching profession not only from traditional teacher preparation programs at institutions of higher learning, but also from industry or other professions, has created a need to identify the competencies required by a successful agricultural education teacher. An early attempt at preparing better teachers involved the identification of performance criteria where specific teacher behaviors were being observed on an individual basis in the classroom (Rosenshine & Furst, 1971). Rosenshine and Furst and the later work of others (American Association of Colleges for Teacher Education, 1974; Norton, 1984; Adams, MacKay, & Patton, 1981; Harrington & Kalamas, 1985) began the performance based teacher education movement that was based on needed teaching competencies. Rosenshine and Furst (1971) stated that

The results of these investigations indicated that training procedures which focused on denotable, specific behaviors were more effective than traditional methods courses in changing teacher behavior. Teacher training then becomes a procedure for closing the gap between the behaviors which do occur and behaviors which educators believe should occur by training the teachers in the desired behaviors (p.39).
Later, the Carnegie Forum on Education and the Economy (1986) reinforced the importance of providing teachers with needed competencies by recommending that increasing the knowledge and skills of the nation's public school teachers would result in greater student achievement. More recently, proceedings from the National Education Summit (1999) found that many graduates of approved teacher preparation programs were unable to pass state licensing exams testing both basic skills and subject matter knowledge.

Competency based instruction was developed as one method of transferring knowledge of teaching competencies to teachers. Competency based instruction was a flexible approach where students took an individualized program, worked at their own pace, used a sequence of learning objectives and learning experiences or activities, worked toward successful performance of occupational tasks to achieve each competency, and had their performance evaluated using criteria stated in the learning objectives (Burrell, 1993).

One way to deliver competency based instruction was through "learning packages" or "modules" that provided the necessary components of high quality instruction and sufficient time to achieve competence (Burrell, 1993). Burrell reported that learning packages or modules were designed to:

1. "Guide" students through the selected learning activities and to help the student master a task.
2. Take advantage of learning materials already available such as standard textbooks, audiovisual presentations, and other applicable resources.
3. Split the task into sections, phases, or enabling objectives instead of having the student learn a complex task all at once.
4. Allow the student to fully master each enabling objective before going on to the next; for each enabling objective, the student is able to practice and is given immediate feedback.

5. Actively involve the instructor in the learning process; but not necessarily as a presenter of routine instruction; much of this instruction is accomplished through textbooks, videotapes and instruction sheets.

6. Provide everything the student needs in the guide or as a specific reference.

7. Stand alone as largely self-instructional (pp. 123-124).

Competency based education was the framework used by the Center for Vocational Education at The Ohio State University when they developed a series of 132 Performance Based Teacher Education (PBTE) individualized, self-paced instructional modules. The modules were based on competencies identified by the American Association of Colleges for Teacher Education (1974) as being needed by successful teachers. In the initial development of the PBTE modules, the Center for Vocational Education identified, categorized and clustered competencies needed by successful vocational-technical teachers. A total of 384 job tasks were identified and clustered into 10 categories representing major areas of instructional responsibility (Norton, 1984). Modules were designed to integrate both theory and application in individualized learning experiences. A component of each module was a criterion-referenced assessment of the instructor's performance of the competency specified for that module (Norton).

Norton (1995a) implemented the Developing A Curriculum (DACUM) job analysis procedure to update needed teaching competencies. DACUM was a
unique, innovative and effective method of job and/or occupational analysis (Norton, 1997). Norton explained that DACUM was based on three logical premises:

1. Expert workers can describe and define their job/occupation more accurately than anyone else.

2. An effective way to define a job/occupation is to precisely describe the tasks that expert workers perform.

3. All tasks, in order to be performed correctly, demand the use of certain knowledge, skills, tools and positive worker behaviors (pp. 1-2).

The 1995 DACUM process was funded by the Illinois, Ohio and Pennsylvania Departments of Education and developed by the Center on Education and Training for Employment. The procedure identified 13 major duties essential for successful vocational-technical education teachers. These duties were then matched with 162 different tasks. The analysis also examined general knowledge, skill areas and worker behaviors essential for teachers, and future trends and concerns for the field. Among the future trends and concerns for the field were issues such as Tech Prep, teacher preparation for applied academics, school reform and restructuring, technological changes, distance education and integration (Norton, 1995b).

The challenges facing teachers have been multi-faceted. Lists of standards and performance based licensure have served as means to measure the acquisition of the competencies essential for successful educators. Thus, acquisition and demonstration of these competencies has become of paramount importance.
In addition to the increasing need for accountability and measurable results in the public schools, teacher shortages have been predicted to become widespread (Lucksinger, 2000). There was a myriad of issues of concern to educators. Several trends have become apparent as stated by the National Education Summit (1999):

1. Each state must develop strategies to address three key issues: improving teacher quality, providing all students a fair opportunity to meet higher standards, and holding schools accountable for results.

2. Students cannot be expected to meet rigorous standards unless teachers are equipped to teach higher standards. The best state standards assume a depth of content of knowledge many teachers do not have.

3. In school districts with burgeoning enrollments, the demand for qualified teachers far outstrips the supply, causing states to grant emergency credentials to people with insufficient preparation.

4. Reduction of class-size initiatives, coupled with explosive growth in student populations, have compounded the shortage of qualified classroom teachers in some areas.

5. Nearly a third of new teachers leave the profession within five years (p. 2).

In addition, many states have implemented performance based evaluation of teachers as a means to provide not only feedback and support to new teachers, but also to serve as an instrument to regulate licensure. Performance based learning has had positive outcomes in teacher education. Performance or competency based programs were generally systematic, organized, and documented with a mediated instructional approach to learning. Performance or
competency based programs focused on results and outcomes; put into practice the knowledge of how people learn best; caused program planners and teachers to look at the big picture and the overall learning process; used instructional resources more efficiently; and were more clearly accountable (Burrell, 1993).

Problem Statement

While instructional skills or competencies have proven to be essential to the success of effective teachers, the quantification and transfer of these competencies or skills has been a challenge. One factor affecting the quantification and transfer of competencies has been the inability of the local, state and federal agencies to impact changes in pre-teacher education curriculum in colleges and universities. The addition of new licensure laws requiring specified performance levels to maintain teaching credentials has introduced a new era of teacher accountability. In addition, state school report cards and student proficiency testing have placed an increased emphasis on accountability from both schools and the teachers who teach in them. The National Education Summit (1999) stated that to ensure a high quality teacher in every classroom, governors, business leaders, and education leaders must work together to strengthen entry and exit requirements of teacher-preparation programs and require them to demonstrate that graduates are prepared to teach to state standards, and are technologically literate. Financial limitations and questions regarding equitable funding for schools which place a larger
responsibility on state and local governments have increased burdens on school systems that were already in financial straits.

A continued teacher shortage has encouraged school systems to hire increasing numbers of candidates with degrees and work experience outside of education. Specifically addressing agricultural education teachers, a National Study of the Supply and Demand for Teachers of Agricultural Education in 1996-1998 conducted by Camp (2000) identified the following trends:

1. The profession is stable and growing slowly in terms of the number of teaching positions. There were 10,706 positions reported in 1998 as compared to 10,378 positions in 1965.

2. Given the net need for replacement teachers in 1998, teacher education programs qualified adequate numbers of potential new students.

3. A de-facto shortage of agricultural education teachers still exists. A growing shortfall in the number of fully qualified teachers prepared to accept available teaching positions was indicated by: the number of programs where teachers were needed but not available on September 1 (69.5 FTE); the number of programs employing teachers with emergency certification (175.5 FTE); and the number of departments that likely would not operate because a teacher was not available (55 schools).

4. Former teachers returning to the classroom and agricultural education graduates from previous years continue to make up an important source of replacement teachers for the profession.

5. Major efforts are needed to expand the capability of teacher education programs to prepare teachers. The number of active agricultural teacher education programs has declined. This may have even more serious long term implications for the profession than the decline in the number of newly qualified teachers during the same time period. (pp. 30-33).
These trends indicate an increased need to provide new and returning teachers of agricultural education with the teaching competencies needed for success in their programs. In 1998, 175.5 agricultural education teachers were hired by providing “emergency” or alternative certification (Camp, 2000). The use of alternatively certified agricultural education teachers has created a need to redefine what competencies are essential to an agricultural education teacher, and to provide these teachers with a basic pedagogical background to enhance their chances for success in the classroom.

Owens (1999) conducted a Delphi study of experts in vocational-technical education to see if selected competencies needed by successful vocational-technical teachers that were unique to lists identified by Cotrell, Chase, and Molnar (1972) and by Norton (1995b) were essential. The selected competencies were from lists of teaching competencies identified by Cotrell et al. (1972; updated by Hamilton, Harrington, Lowry, Quinn, & Sellers, 1980) or by Norton (1995b). Both the Cotrell et al. and the Norton studies agreed on many essential competencies. However, the studies also identified 37 unique competencies that were either identified by Cotrell et al. (1972) but were not found on the Norton (1995b) list or were found only on the later list. Owens’ study confirmed that all but one of the selected competencies needed by successful vocational-technical instructors was essential. As a result of this study, a question about performance based teacher education arose, Do professional teacher educators and practitioners in agricultural education agree with the Delphi panel as to which of the selected teaching competencies are important?
Purpose and Objectives

The purpose of this study was to compare the opinions of agricultural education teacher educators with those of agricultural education teachers to determine the importance of selected teaching competencies needed for successful instruction as identified by Owens (1999). The following specific objectives guided the study:

1. To determine if the selected competencies identified by Owens are considered important by both agricultural education teacher educators and agricultural education teachers.

2. To compare the perspectives of agricultural education teacher educators and agricultural education teachers regarding the selected competencies.

3. To determine the relationship among professor, institution characteristics, and personal importance of selected competencies.

4. To determine the relationship among instructor, school and community characteristics, and personal importance of selected competencies.
5. To identify new competencies that may address increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations.

Significance of the Study

Identification of needed teaching competencies has continued to be crucial to the improvement of teacher performance as a whole. New standards for excellence and new licensure policies and proficiency tests that measure school accountability have placed a renewed emphasis on quantifying the teaching competencies or skills needed by effective teachers. Darling-Hammond (1994) related that as schools are being asked to make changes so that the demands of the 21st century can be met, it becomes increasingly apparent that the success of the schools depends fundamentally on teachers. Darling-Hammond added that what teachers know and can do makes the crucial difference in what children learn. Teachers have used a wide variety of teaching strategies to build on the different experiences, intelligences, prior knowledge and learning styles of their students. Teachers have needed to understand what their students think, how they learn best, and what their students know. The mission of education has required professional development and training to ensure that teachers acquire that necessary new knowledge and skills (Darling-Hammond).

In addition to the challenges facing most schools, agricultural educators have also had to address emerging biotechnologies, environmental concerns and
having other teachers than agricultural education teachers offering instruction in agriculture in some communities. Many of these issues have resulted from the evolution of the agriculture industry into one that requires a broad-based curriculum encompassing all areas of academics along with the varying complexities in the skills needed by its workforce (Reinventing Agricultural Education for the Year 2020 Steering Committee, 1999). Conroy and Kelsey (2000) stated that central to meeting these industry standards will be teacher education programs that prepare teachers to plan, deliver and assess instruction in the technological age. The changes in agricultural teacher education have resulted in the need for development of national standards for agricultural education based upon needed teaching competencies (Conroy & Kelsey).

A teacher shortage has created a niche for new teachers entering the profession with degrees and experience outside the field of education. Many of these individuals have demonstrated a wealth of technical knowledge, but have lacked pedagogical basics that would have provided them knowledge of teaching competencies needed for success in the classroom (Bradshaw, 1997).

New performance based licensure standards have been implemented in many states that measure the level of competence of teachers, and use this assessment of competence as criteria for certification and license renewal. Performance based teacher education programs have provided individualized modules as a means to obtain knowledge about needed teaching competencies.
competencies. These modules have had an effect on some instructor training programs, agricultural education teachers and their classrooms and subsequently on students (Adams, MacKay & Patton, 1981).

**Definition of Terms**

There are several terms specific to this study. They are listed and defined below.

**Competence/Competency:** The ability to perform a given occupational task. Acceptable knowledge of the task may involve knowledge, skills, and attitudes (Norton, Huang, & Harrington, 1987, p. 17).

**Competency-Based Teacher Education (CBTE) or Performance-Based Teacher Education (PBTE):** An approach to teacher preparation in which the emphasis is on teachers’ developing and demonstrating specific teaching competencies as measured by performance tests. This contrasts with the more conventional approach, in which the emphasis is upon teachers’ gaining knowledge about how to teach as measured by written tests. The terms competency based teacher education and performance based teacher education are considered to be synonymous (Norton et al., 1987, p. 17).

**Competency Profile:** A graphic portrayal of all the duties and associated task patterns important to workers in a given occupation (Norton, 1997, p. 1, Appendix C).
**Criterion-Referenced Measure**: An instrument composed of items (criteria), established in advance of instruction, that are used for assessing students' development of knowledge, skills and/or attitudes as stated in the performance objective. The criteria are based on occupational standards and do not involve comparing the performance of one student against the performance of other students (Norton, 1997, p. 1, Appendix C).

**DACUM**: An acronym for Developing A CUrriculuM. It is an approach to job, occupational, process and functional analysis that involves bringing a committee of expert workers together under the leadership of a trained facilitator. Modified brainstorming techniques are used to specify in detail the duties and tasks that successful workers in their occupation must perform. The general knowledge and skills needed, important work behaviors, tools and equipment and future trends and concerns are also identified (Norton, 1997, p. 1, Appendix C).

**Individualized Instruction**: An approach for managing the instructional process where the focus is on helping individual learners (as opposed to groups of learners) acquire the knowledge, skills and attitudes needed. It is geared to the students' own needs, learning preferences and rate of learning (Norton, 1997, p. 2, Appendix C).

**Learning Experience**: A series of required, optional and alternate learning activities contained within each module, the completion of which leads the student toward the accomplishment of a single performance objective (Norton et al, 1987, p. 17).
**Module**: A type of learning package that usually includes a performance objective, enabling objectives, essential attitudinal and cognitive information; planning or practice activities and feedback activities. While modules are developed in a wide variety of formats, most are self-contained, transportable and designed for either individual or group use (Norton, 1997, p. 3, Appendix C).

**Performance Objective**: A statement describing desired teacher performance, the conditions under which the performance is to occur and the criteria by which the performance will be evaluated (Norton et al., 1987, p. 18).

**Task**: A work activity that is discrete, observable, performed in a limited period of time and that leads to a product, service or decision. Tasks are frequently referred to as the competencies that students or trainees must obtain in order to be successful workers (Norton, 1997, p. 4, Appendix C).
Limitations of the Study

The nature of this study offered some limitations. These limitations were as follows:

1. This study was based on the perceptions of randomly selected agricultural education teacher educators and agricultural education teachers working in the field. There was no way to ensure that respondents answered truthfully or that they completed the forms themselves.

2. The study was limited to determining identified differences in the teaching competencies needed by agricultural education teachers as perceived by agricultural education teacher educators and agricultural education teachers. The comparisons made were subject to possible interpretation errors by the researcher.
Assumptions

There were some assumptions upon which this study was based. These assumptions were as follows:

1. There would be differences in the importance of selected competencies considered necessary to being a successful agricultural education teacher when opinions of agricultural education teacher educators were compared with those of agricultural education teachers.

2. The competencies identified by Cotrell et al. (1972) and by Norton (1995b) provided an appropriate set of competencies needed by successful agricultural education teachers.

3. Selected participants would have expertise in the area of agricultural education.
Format of the Dissertation

This dissertation is written in five chapters. The following information will be addressed in each of the next four chapters: Chapter 2, review of literature; Chapter 3, methodology; Chapter 4, findings; and Chapter 5, summary, conclusions and recommendations.
CHAPTER 2
REVIEW OF LITERATURE

This study was designed to compare the opinions of agricultural education teachers with those of agricultural education teacher educators to determine the importance of selected teaching competencies needed for successful instruction. In addition, agricultural education teacher educators and agricultural education teachers were asked to determine what new teaching competencies might be needed by agricultural educators to meet the new challenges of increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations.

This chapter reviews literature related to: (a) performance based teacher education and competency based instruction, (b) the determination of essential teacher competencies, (c) current issues in vocational-technical education, (d) summary of literature review and (e) conceptual framework.
Performance Based Teacher Education and Competency Based Instruction

The definition and applications for performance based teacher education and competency based instruction was referenced as it applied to the competencies needed by successful agricultural education teachers. Each of these areas will be described in the following section.

Definition

Performance based teacher education referred to the way in which teachers demonstrated knowledge and skills. Competency based teacher education emphasized achievement of a minimum standard using the criteria levels of cognitive, performance and consequence. Norton and Huang (1975) defined competency as achievement of the knowledge, skills, and attitudes required to perform a given task.

Competency based learning accommodated individual differences in learning style and provided a flexible rate of learning. This logical, systematic structure for learning made learning easier for students with certain cognitive characteristics (Ryan & Pritz, 1993).

Competency based instruction was based on an occupational analysis that listed tasks necessary to be successful in an occupation. Ordered lists were used to determine competencies and to develop learning objectives, learning activities and criteria for students to learn and demonstrate as competency performance (Burrell, 1993).
Performance based teacher education (PBTE) modules were developed by the Center for Vocational Education at The Ohio State University. From a list of identified competencies required of successful agricultural education teachers (American Association of Colleges for Teacher Education, 1974), a set of five essential elements and seven desirable characteristics were used to establish the operational framework for the PBTE modules (Norton, 1984).

Additional desirable characteristics associated with PBTE programs included: instruction was individualized to the maximum extent possible, learning experiences were guided by immediate feedback, there was emphasis on meeting exit requirements, instruction was individually paced rather than time-based and largely field-centered and instruction was often modularized and used materials with both required and optional learning activities that allowed for flexibility and for various learning styles (Norton, 1984).

Applications

The individualization that was a component of PBTE allowed educational institutions to provide field-based programs to larger service areas. PBTE provided for increased flexibility in getting help to new teachers immediately following hiring, and created increased productivity of teacher education programs by shortening the time required to certify teachers. In addition, through standardizing the skills teachers were required to master, PBTE increased accountability of vocational-technical education teacher education curricula, and significantly changed the role of the university teacher from that of a classroom


lecturer to a learning facilitator. PBTE was found to have an impact on improving the caliber and effectiveness of vocational-technical education teachers particularly in the areas of instructional planning, organizing instruction, student reinforcement, individualizing instruction and student evaluation. Teachers were also able to increase their ability to self-evaluate their performance and had greater confidence in themselves as teachers (Adams, MacKay, & Patton, 1981).

There was a significant relationship between competency based teacher education and teacher competence. In addition, teachers who had completed competency based teacher education were more competent than teachers who had experienced traditional teacher education (Lees, DaRoza & Carey, 1982).

Performance based assessment has also been used in agricultural education classrooms for student evaluation. Lynch (2000) related that the new vocational education was characterized by a curriculum based on the need for students to demonstrate mastery of rigorous industry standards, technology, and general employment competencies. Students' work was assessed and "scored" on criteria often based on standards in workplaces and established collaboratively by teachers and employers.

Performance based teacher education was also used in terms of teacher evaluation. An example of performance based teacher evaluation was the Professional Assessments for Beginning Teacher Series (PRAXIS) (http://www.teachingandlearning.org). In 1987, the Educational Testing Service began a large-scale project to provide a framework for state and local agencies to use for teacher licensing decisions. Known as the Professional Assessments for
Beginning Teachers Series (PRAXIS), it consisted of three areas. PRAXIS I assessed basic academic skills, PRAXIS II assessed basic subject area knowledge and was used in initial teaching licensure and PRAXIS III assessed teachers in terms of actual teaching skills and classroom performance during the first year of teaching. The PRAXIS series was designed to evaluate all aspects of a beginning teacher’s classroom performance. PRAXIS III divided the complex activity of teaching into 22 components that were clustered into four domains of teaching responsibility. Domain 1 included planning and preparation. Domain 2 encompassed classroom environment. Instruction was covered by Domain 3, and Domain 4 addressed professional responsibilities. Each component defined a distinct aspect of the domain and had two to five elements that described a specific feature of that component (Danielson, 1996).

Performance based accreditation was also used by the National Council for Accreditation of Teacher Education (NCATE) in evaluating teacher education preparation programs (U.S. Department of Education, 2000). NCATE wanted to be a catalyst for improvement within the field, set expectations for change, and create new norms in teacher education. Previously, accreditation had been based upon syllabi, course offerings and standards that were developed in collaboration with the pertinent discipline associations in each field. The performance based accreditation process also considered how well teacher candidates knew their subject matter by examining student results on Praxis II, if they had command of pedagogy, and whether graduates wound up teaching in the subject areas for which they prepared. NCATE also required that accredited
teacher education programs fully involved K-12 schools in the education of
candidates; ensured their candidates knew how to help all students learn—not just
some; modeled effective teaching; and prepared their students to use technology
effectively. Other artifacts used in the accreditation process included lesson
plans, essays/journals reflecting on teaching, observations and videotapes, tests
used to evaluate candidates, and pass rates on state licensing (U.S. Department

**The Determination of Essential Teacher Competencies**

The methods used in identifying teacher competencies and the
applications of these methods in identifying essential competencies as needed
by successful agricultural education teachers were examined. Each area is
discussed in the following section.

**Rationale**

Specific exhibited teacher behaviors observed in a classroom setting are
known as performance criteria (Rosenshine & Furst, 1971). Research that
attempted to determine whether training procedures could modify the behavior of
the teacher as measured by systematic observation resulted in the identification
of essential teaching competencies. The result of this research recommended
training procedures which focused on denotable specific behaviors, as they were
observed as being more effective than traditional methods in changing teacher
behavior. As a result, teacher training evolved into a procedure for closing the
gap between the behaviors that did occur and the behaviors that educators believed should occur by training the teachers in the desired behaviors (Rosenshine & Furst).

In 1967, the U.S. Office of Education sponsored a project at the Center for Vocational Education to determine the teaching skills needed in order to be an effective vocational-technical education teacher. From this study, 384 job tasks considered important for agricultural education were identified and verified. The job tasks were next clustered into 10 categories representing major areas of instructional responsibility (Norton, 1983).

These categories included: (a) program planning, development and evaluation; (b) instructional planning; (c) instructional execution; (d) instructional evaluation; (e) management; (f) guidance; (g) school-community relations; (h) student vocational organization; (i) professional role and development; and (j) coordination (Cotrell et al., 1972).

Another approach to determining essential teacher competencies was developed in response to the National Council for Agricultural Education’s Reinventing Agricultural Education for the Year 2020. A web-based statistical program was used to generate a concept map that provided visualization of concepts through cluster analysis. As a first step in development of a set of
national standards for teacher education in agriculture, the group found eight major clusters of importance for teachers of agricultural education. These clusters were:

1) Enhance professional development.
2) Develop partners and linkages.
3) Provide experiential pre-service activities.
4) Improve standards and structure.
5) Build collaboration locally.
6) Reform preservice curriculum.
7) Expand youth and leadership programs.
8) Enhance science and technical requirements (Conroy & Kelsey, 2000).

Applications

Identification and validation of essential competencies was achieved through the use of three basic procedures. The first procedure based competencies on theories of the characteristics an effective teacher should possess. Although conceptually effective, this approach required a high degree of technical skill and conceptual expertise. Consequently, it could be rather costly. Also, theoretically derived competencies could only be successful (accurate) if the underlying theories were accurate descriptions of the realities of the teaching process and implied other limitations to the procedure. Another procedure used to identify and validate competencies was the task analysis approach. First, a literature search was conducted. Next, teachers working in that area and/or at a given level were asked to describe what they did, what they
felt they should be doing, and what additional skills they felt they needed. Because this procedure tended to perpetuate the status quo, it received much criticism. In addition, the procedure did not necessarily address what teachers do or should do to facilitate student learning and achievement. Course conversion was the third approach to competency identification. In this approach, present courses and/or curriculum packages were translated or reformed into new statements of behavioral objectives or competencies. The knowledge or skills a teacher should possess were inferred from current course content. Although this approach was expedient and relatively low cost, it generally perpetuated the status quo rather than generating any significant curriculum or program changes.

Competencies addressing each of the learning domains: cognitive, psychomotor and affective were usually identified. Level of specificity of the competency statements was also an important factor to consider. However, since number of competencies and level of specificity could be broken down to a measurable level, these factors were not as critical. Level of mastery for which the competencies were identified (i.e., successful teacher, beginning teacher) was also considered when determining competencies. Validation of identified competencies was accomplished by (a) comparing to other lists of competencies, (b) rating by educators at all levels as to the importance of each item, (c) subjecting to Q-Sort and Delphi techniques and (d) comparing to existing literature (Kay, 1975).
Needed competencies for successful vocational teachers have been addressed by the National Board for Professional Teaching Standards (1996) in their standards for certification. The National Board had the purpose of establishing rigorous standards for what teachers should know and be able to do, of certifying teachers who met those standards, and contributing to related education reform (Shapiro, 1993). The National Board based its system on five core propositions for excellent teaching. They included:

1. Teachers are committed to students and their learning.
2. Teachers know the subjects they teach and how to teach those subjects to students.
3. Teachers are responsible for managing and monitoring student learning.
4. Teachers think systematically about their practice and learn from experience.
5. Teachers are members of learning communities (p.29).

The certification process had two parts. A portfolio compiled by the teacher during the school year and assessment center exercises by computer in the summer. The 1999-2000 school year was the first year of eligibility for National Board Certification in the Career-Technical Education field (U.S. Department of Education, 2000). This type of certification has been effective in recognizing teaching excellence of experienced teachers.
Changes in Vocational-Technical Education

The rationale explaining current issues in agricultural education and the effects of these changes for agricultural education teachers were reviewed. Each of these topics is described in this section.

Rationale

Current issues in agricultural education continue to change the competencies needed by successful teachers. For example, a new vocationalism stressing curricular integration and attempting to somewhat blur the lines between academic and agricultural education, was described by Lewis (1998). In this ideology, the intermingling of both academic and vocational education curricular streams was encouraged.

In addition, legislation such as Perkins II (...) imply that teachers must be prepared to (a) implement programs of tech prep, (b) integrate academic and vocational education, (c) operate apprenticeship and other school-to-work connected programs, (d) serve at-risk learners effectively, (e) use computers and technology throughout the instructional program, (f) design new and innovative curriculum and instruction for contemporary workplaces, (g) provide for leadership development among students and (h) inform students of multiple career options and career paths (Lynch, 1996, p.14).
Changes in secondary and post-secondary education that have created a need for a change in the focus of vocational education were examined by Lynch (1997). Educational system changes included the development of performance standards and measures for students, increased integration of academic and vocational education, and increased implementation of tech prep programs. An increased need for some form of postsecondary education or training for students was noted. The focus of secondary education was affected by changing skills needed in the workplace. This need for new skills was caused by identification of important workplace issues such as constantly changing technology, globalization, worker accountability, and changes in desired work-related competencies (Lynch).

Lynch (2000) later described the essence of the "new" vocational education. It was academically challenging and career relevant. It combined both academics and career applications while teaching students about all aspects of the industry they were preparing to enter. It taught students how to apply high-level math, science, technology, and languages. Finally, it provided students with the education and technical skills needed for successful employment in various careers or professions.

Applications

Changes in curriculum occurred because new areas of emphasis were needed as a result of the changes in agricultural education. Program changes to help meet the needs of the "new" workplace were recommended by Lynch (1997). They included a basic skills core curriculum for all students as well as
strengthening curriculum requirements, developing new public and private sector partnerships, elimination of student tracking, implementation of procedures to measure student performance, and improved teacher preparation. Also proposed were preparing learners as problem solvers, collaborators, makers of meaning, lifelong learners, change agents and practitioners in the democratic process.

Changes in teacher education were also proposed to help meet changing needs in agricultural education. The standards of several different organizations were reviewed and discussed. Themes found in many standards included multiple pathways for preparation, development of new knowledge bases for agricultural education, improvement in the academic preparation of teachers, setting of high standards for teacher education programs, authentic assessment of teacher education candidates, increased funding for teacher education, and creating a new vision for teacher education (Lynch, 1997).

Some major issues affecting agricultural education were discussed. Increased dependence upon information technology was an aspect of daily life that must be integrated and addressed in the vocational education classroom. Biggs, Hinton and Duncan (1996) suggested that in addition to the extensive knowledge about learning and the pedagogical manifestations of it, teachers needed to increase their knowledge of technology and its applications to education. This included being able to use today’s basic technological skills such as multimedia and electronic presentation, computer operation, word processing,
data management and analysis, electronic communication, Internet, use of hardware and software packages and related ethics and impacts.

In a Technology Brief, the National Education Association addressed the issue of technology in education. If technology was to achieve its ultimate use in the classroom, what teachers know and can do with it was of prime concern. In terms of utilizing programs to promote technology, the brief related that if the goal was to have teachers integrate technology into curriculum, utilize technology to enhance learning, and use these tools to teach individual children, an ongoing training strategy was required. In support of encouraging teachers to use technology in their classrooms, teachers who experienced good examples of how the computer can be employed beyond an "electronic notebook" were more likely to exploit the devise for collaborating, communicating, storing and retrieving information, streamlining administration, and fueling creativity. While technology on its own was not the sole answer to every challenge in education, it was a powerful tool to improve teaching and learning (http://www.nea.org, 2001).

The Task Force on Vocational Technical Teacher Education (1995) developed a list of guiding principles that it believed would affect meaningful change in the preparation learning enterprise workers (teachers) in the future if endorsed and incorporated into action. One of these guiding principles was provision of extensive experience in the application of instructional technology and the design, selection, and use of such technology to support learning.

Another issue of interest was integration between subject areas. Integration of academic and vocational subject matter was listed within two of the
clusters identified as important for agricultural educators by Conroy and Kelsey (2000). Lynch, Smith and Rojewski (1994) reported that the integration of academic (theory) and vocational education (practice) were critical to the reform of secondary educational programs. With an integrated approach, barriers between disciplines were reduced and interdisciplinary collaboration replaced isolation (Holmes, Williams, Gurchiel, Peake, Goldstein, & Mainwood, 1992).

The Task Force on Vocational Technical Teacher Education (1995) listed within its guiding principles affecting future teacher preparation, "dissolution of the dualism/dichotomy between academic and vocational education with provision of experiences to discover that all can learn and learn more effectively with a rich mix of academic and vocational education” (p.13).

Losh (2000) supported the use of contextual instruction to improve both academic and vocational-technical instruction. Vocational instructors that embedded academic content in their instruction provided opportunities for academic skill reinforcement for students enrolled in occupational preparation programs. Academic teachers provided instruction that had more utility to the learner and that was a more robust learning tool for the majority of students.

Another issue of current interest was the use of distance learning. Distance learning was defined as "a learning environment involving a school setting and at least one other location outside the school. Instruction is usually provided via video transmission or electronic access to off-site databases” (Ohio Department of Education, 2000, p.16). Persons (2000) maintained that the definition of school, what it is and where it is located must be changed. Distance
learning offered a viable opportunity for agricultural educators to battle declining enrollments, increased graduation requirements, decreased funding, and changing clientele. It provided students with opportunities to enroll in courses they might not have been able to take and allowed schools the opportunity to offer subjects for which they had no qualified teachers (Swan, 1992).

The exploding availability and capabilities of advanced technology-based teaching and learning was seen as a powerful means to expand access, reduce costs, shift the focus of education from "seat time" to competency based learning, and to utilize new approaches to teaching and assessment (NEA, http://www.nea.org, 2001).

Meeting the needs of a diverse student population continued to be a challenge for agricultural educators. Holder and Pearson (1995) related that as demographics continued to change, the diversity in populations of students contrasted sharply with a lack of diversity in the teachers who served them. There was a growing need for exemplary educators who were prepared to cope with the complexities of change.

A guiding principle for future teacher preparation involved the "provision of extensive, authentic, quality experience working with diverse learner populations (people of all racial and ethnic groups, those with disabilities, those from urban and rural areas, those in poverty, and people of different ages) in the preparation system" (Task Force on Vocational Technical Teacher Education, 1995, p. 13).
Summary of Literature Review

Performance based teacher education and competency based instruction were individualized methods of teacher preparation that implemented identified competencies in performance based instructional modules to improve overall teacher competencies and classroom performance. Using a mastery-based, individualized system of evaluation, the modules have been effective in improving instructional planning, in organizing instruction, in successful student reinforcement and in individualizing both instruction and student evaluation skills of vocational teachers. Development of the modules began with a framework of essential criteria identified as critical to the success of agricultural education teachers. Since the modules were based on a framework of identified competencies, they were helpful as a guideline to this study.

Teacher competencies were essential in determining what makes a successful agricultural education teacher. Critical to the validity of the identified competencies was measurability.

Competencies needed by teachers in agricultural education have gained importance as a result of changes to the profession and new issues that needed to be addressed. New competencies to address these issues were needed. Successfully meeting these new challenges would be critical for effective agricultural education teachers.
Conceptual Framework

Following a review of literature, the study was planned and a conceptual framework was developed. This section describes the conceptual framework for the study.

Agricultural education teacher educators and agricultural education teachers will look at the importance of selected teaching competencies as identified for vocational/technical teachers and determine the importance of these competencies for agricultural education teachers. A number of demographic characteristics might have a relationship to the importance each group attaches to the selected competencies. Agricultural education teacher educators were asked for information on gender, size of institution, academic rank, and years of involvement in post-secondary agricultural teacher education. Agricultural education teachers were asked for information on gender, type of school, grade level(s) taught, size of school, years as an agricultural education teacher and whether they had served as a cooperating teacher for student teachers.

The teaching competencies needed by successful vocational-technical teachers identified by both Cotrell et al. (1972) and Norton (1995b) were accepted as the framework for successful agriculture teaching. Agriculture education teachers who were skilled at performing those tasks would be regarded as successful. Consequently, these studies helped define the competencies needed by a successful agricultural education teacher. Both studies agreed on many essential competencies. However, the competencies
used in the study were one of 36 competencies that were either identified by Cotrell et al. but were not found on the Norton list or were found only on the later list. A determination of the importance of the selected competencies by agricultural education teacher educators and agricultural education teachers would help determine if these competencies were needed by successful agricultural education teachers.

There are also issues currently affecting agricultural education that may require new teaching competencies to effectively meet the challenges provided by these issues. Study participants would be asked to generate new competencies that might help meet the challenges resulting from these issues.

Ultimately, a combination of new and existing competencies will be needed by agricultural education teachers to ensure success in the classroom. The conceptual framework for this study is presented in Figure 2.1.
Characteristics of Agricultural Education Teachers
- Gender
- Type of School
- Grade Level(s) Taught
- Size of School
- Years as an Agricultural Education Teacher
- Status as Coop. Teacher

Selected Competencies for Successful Vocational/Technical Teachers From List Identified by Cotrell et al. (1972)

Selected Competencies for Successful Vocational/Technical Teachers From List Identified by Norton (1995b)

Issues to Meet New Challenges in Agricultural Education
- Conroy & Kelsey (2000)
- Persons (2000)

Verified Competencies Needed by Successful Agricultural Education Teachers

New and Existing Competencies Needed by Successful Agricultural Education Teachers as Perceived by Agricultural Education Teacher Educators and Agricultural Education Teachers

Figure 2.1: Conceptual framework for the study
CHAPTER 3
METHODOLOGY

This research was a descriptive correlational study. Two lists of
competencies needed for vocational-technical educators were compared:
teaching competencies required by successful vocational-technical teachers as
identified in a study (Cotrell et al., 1972) and teaching competencies required by
successful vocational-technical teachers as identified in a study (Norton, 1995b).
The 36 competencies that were unique to one or the other study were then
identified. The intent of the researcher was to gather opinions from agricultural
education teacher educators and agricultural education teachers regarding the
importance of the 36 selected teaching competencies, and to elicit new
competencies needed to meet current issues such as increased dependence
upon information technology, integration of academic and vocational subject
matter, distance learning and meeting the needs of diverse student populations.

This chapter has been organized into sections reflecting the methods used
to conduct the study. The sections include: (a) type of research, (b) population
and sample, (c) instrumentation, (d) data collection and (e) data analysis.
Type of Research

To gain an understanding of the opinions of professional agricultural education teacher educators and agricultural education teachers regarding the importance of selected teacher competencies, a descriptive correlational research study was conducted. A survey was used to collect the data. Survey research has been used to describe the present status of an incident and distribution of the phenomenon. Survey research also has permitted the researcher to summarize the characteristics of different groups or measure their attitudes and opinions towards some issue. Data has usually been collected in a natural setting using mail questionnaires, interviews or by telephone. Generalizations have usually been made to populations so that random sampling is often involved (Ary, Jacobs, & Razavieh, 1996).

Mail surveys have been widely used in collecting data on specific populations. The technique had the advantages of making possible the collection of wide scopes of information from large populations. It also has been a first step in identifying more specific problems to be used in research.

In terms of disadvantages, survey research has been demanding both in terms of time and money. Non-response has also caused difficulties in obtaining valid data. Stimulating response has been crucial in conducting successful survey research. One factor affecting response rate has been the image of the study. Image has been communicated by the shape, size and color of the envelope; the way the address is affixed to the envelope; content of the cover letter; color and size of the stationary; and content and appearance of the
questionnaire (Dillman, 1978). In addition, to maximize survey response, it has been important to minimize the costs of responding, to maximize the rewards for response and to establish trust with respondents that rewards (whether intrinsic or extrinsic) would be delivered with the questionnaire. Response rate has been defined as the number of useable instruments divided by the sample size (Dillman). For mail surveys using lengthy questionnaires sent to the general public, response rates have ranged from 60 to 75 percent. Dillman reported an average of 74 percent for mail surveys.

Correlational research has also been concerned with determining relationships existing among variables. Variables have not been manipulated, but only investigated as to the extent to which the variables were related (Ary, Jacobs, & Razavieh, 1996).

**Population and Sample**

**Population**

The target population was agricultural education teacher educators and agricultural education teachers in the United States. Respondents were selected for participation in the study from these two groups.

Agricultural education teacher educators were identified in the membership roster of the American Association for Agricultural Education (1999). This organization had membership in all 50 states and included faculty from universities that have agricultural education programs. The American Association for Agricultural Education was dedicated to studying, applying and
promoting the teaching and learning processes in agriculture. With a membership of 135 agricultural education teacher educators, the organization has valued effective teaching, developing and empowering others, actively engaging learners/experiential learning, quality research and other scholarly activities, taking an active role in contributing to both formal and non-formal educational systems, professional renewal and adjusting to change and in interacting with peers (American Association for Agricultural Education, 1999).

Respondents who were practicing agricultural education teachers were taken from the Agricultural Educators Directory (National Postsecondary Agricultural Student Organization (PAS), 1999). This organization has provided opportunities for individual growth, leadership and career preparation to its members. A population of 10,857 practicing agricultural education teachers was listed in the directory.

Sample

The Krejcie and Morgan (1970) table for determining sample size from a given population was used to get a random sample of respondents. It was found that for a population of 10,857 agricultural education teachers, with a confidence level of 95%, the sample size should be 375. A stratified random sample was used to ensure proportionate representation from each of the states. The number of agricultural education teachers in each state was divided by the total
number of agricultural education teachers, and a percentage was determined. These percentages were used to determine the number of the 375 study participants that would come from each state.

It was found that for a population of 135 agricultural education teacher educators at a confidence level of 95%, the sample size should be 103. An accessible population of 103 agricultural education teacher educators was randomly selected for participation in the study.

Instrumentation

Instrumentation was similar to that used in the Owens (1999) study. The competencies listed in the instrument resulted from cross matching identified teaching competencies from lists identified by Cotrell et al. (1972) and Norton (1995b) that were needed by successful vocational-technical teachers. Initially, the researcher matched the 384 performance competencies that were identified as important to vocational-technical teachers (Cotrell et al.) with their corresponding PBTE module areas. Next, this cross-matched list was compared to the list of 162 teaching competencies for successful vocational-technical teachers identified in a DACUM study (Norton). The lists were examined for similarities and differences. There were 37 competencies that were unique to the Cotrell et al. study or to the Norton study. One of the competencies “Assist the on-the-job instructor with development of teaching techniques” did not reach consensus in the Owens (1999) study and was not used in this study. The instrument contained the remaining 36 competencies that were unique to the
Cotrell et al. study or to the Norton study. Some of the 36 competencies were split into one or more similarly stated competencies to eliminate double barreled content and resulted in a total of 44 competencies. Each statement utilized a 5-point Likert-type scale where NI indicated “not important,” SI indicated “slightly important,” MI indicated “moderately important,” VI indicated “very important,” and DK indicated “don’t know”. The participants were asked to identify the level of importance of each competency to a successful agricultural education teacher. Appendix A contains a list of the cross-referenced competencies.

The instrument was divided into three parts. Part I included the 44 selected teaching competencies. Competencies 1-29 were listed under Section A. Program Management. Competencies 30-44 were listed under Section B. Managing Field Experience.

Part II of the instrument asked participants to determine what new competencies might be needed to address such current issues in agricultural education as the increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of a diverse student population. Each of these issues was listed in an open-ended statement that allowed the respondent to write the competency that would be needed to effectively address that issue. There were four questions in this section. The instrument was considered to be partially open-ended as the researcher wished to stimulate free thought, solicit suggestions and clarify positions (Dillman, 1978).
Part III secured information about the characteristics of respondents and institutions. The following demographic information was determined to be important to the study: gender (for both groups), for agricultural education teacher educators (number of students attending their institution, academic rank, and years involved in agricultural education teacher preparation at the post secondary level) and for agricultural education teachers (type of school where they teach, grade levels taught, type of community where school is located, years as an agricultural education teacher and whether they had served as a cooperating teacher for student teachers). The instruments for agricultural education teacher educators and agricultural education teachers were identical except for Part III that secured information on respondents’ characteristics. The instrument used in this study is found in Appendix B.

Validity

Ary, Jacobs and Razavieh (1996) defined validity as the extent to which an instrument measures what it is intended to measure. Face and content validity of the instrument were verified by a panel of experts who were agricultural education teacher educators. Appendix C lists the panel of experts. The panel members were advised of the objectives of the study and the purpose of the instrument in a cover letter accompanying the instrument. They were asked to provide feedback regarding the validity, clarity, content and organization of the instrument. Minor revisions were made based on the content validity panel recommendations. Ary, Jacobs and Razavieh also defined construct validity as
the extent to which an instrument is associated with some psychological
construct and the extent to which test scores serve as a measure of that
construct. Criterion-related validity was defined by Ary, Jacobs and Razavieh as
the predictive relationship of the items to some relevant external criterion.
Neither construct or criterion-related validity was considered due to the nature of
this study. Results of the study were only generalizable to the population from
which the sample was drawn. Thus, neither ecological or population validity
were of concern in this study.

Reliability

Reliability has been defined by Nunnaly (1972) as the extent to which an
instrument measures consistently whatever it is measuring. Acceptable levels
of reliability recommended by Nunnaly were .50 to .60. Internal consistency of
the questionnaire items was assessed using Cronbach alpha (Ary, Jacobs &
Razavieh, 1996). Test-retest reliability has been defined by Ary, Jacobs and
Razavieh as the consistency of subjects' scores over time. The test-retest
reliability coefficient assumed that the characteristic(s) being measured by the
test was stable over time, so any change in scores from one time to another were
due to random error.

A group of 21 agricultural education teacher educators not included in the
study, and 30 randomly selected agricultural education teachers not used in the
study were asked to complete the questionnaire. A letter of introduction, a
questionnaire and a token of appreciation were included in the mailing. Two
weeks later, another questionnaire was sent to each of the participants on the
reliability panel. The responses of agricultural education teacher educators and agricultural education teachers were compared item by item from the first test to the retest. Agreement was said to exist if a respondent answered SI (slightly important), MI (moderately important), VI (very important), NI (not important) or DK (don't know) exactly the same on both instruments. The internal consistency reliability index for the instrument was .75 on Section A of the instrument and .74 on Section B of the instrument for agricultural education teacher educators and .87 on Section A of the instrument and .81 on Section B of the instrument for agricultural education teachers. The test-retest reliability was .55 on Section A and .69 on Section B for agricultural education teacher educators and .63 on Section A and .71 on Section B for agricultural education teachers.

### Data Collection

The survey instrument was sent to the study participants using regular U.S. mail. An initial introductory letter was sent on January 10, 2001 a few days before the questionnaire to announce the arrival of the questionnaire, explain the importance of the study and ask for their participation. On January 15, 2001 the packet containing the questionnaire was mailed. The packet consisted of the instrument, an individually addressed cover letter and a self-addressed stamped return envelope. The cover letter thanked the participant for participating in the study, provided instructions for filling out and returning the instrument and set a response date. Participants were given two weeks from the mailing date to
respond. Each instrument was mailed in a white catalog envelope that made it easily identifiable to the participant. A "thank you" postcard was sent to participants approximately one week later on January 22, 2001 following the initial mailing of the questionnaire. The postcard informed the participants that a questionnaire had been sent out the previous week, thanked those who had already completed the questionnaire and reminded those who had not responded to please do so immediately and invited participants to call for a replacement questionnaire if one was needed. Four weeks after the initial mailing on February 12, 2001 nonrespondents were sent a replacement questionnaire. Approximately two weeks after the second questionnaire had been sent on March 12, 2001 nonrespondents were sent a certified notification requested mailing containing an additional questionnaire with a stamped return envelope. Nonrespondents who had not returned the third questionnaire were then contacted by telephone (Dillman, 2000). The data collection process took four months to complete.

A dollar bill was included with the mailed packet to encourage participants to complete and return the instrument. Dillman (2000) stated that a very strong case can be made for the use of a modest incentive. Its impact on response is likely to be stronger than any other stimulus except for multiple contacts with respondents. Appendix D contains the correspondence used.

Nonresponse issues were addressed by contacting nonrespondents by certified mail or by telephone to elicit their responses to the instrument. Four (20%) agricultural education teacher educators and 20 (12%) of agriculture
education teachers who were nonrespondents were randomly selected to receive a certified notification requested mailing containing an additional questionnaire with a stamped return envelope. The certified mailing was sent on March 12, 2001. Beginning April 16, 2001 nonrespondents who had not returned the questionnaire were contacted by telephone. Responses were received from four agricultural education teacher educators and 18 agriculture education teachers. Means for opinions on the importance of the selected teaching competencies of the nonrespondents were compared with those of the respondents. There was no significant difference in the responses of the two groups.

Data Analysis

Descriptive statistics were calculated for each respondent. SPSS (10.1) was utilized for data analysis. A total of 92 agricultural education teacher educators and 223 agricultural education teachers responded to the instrument. The response rate for agricultural education teachers was 59.5%, and for agricultural education teacher educators was 89.3%. The overall response rate was 65.9%. To ensure accuracy of data entry, a 5% sample of the original questionnaires were randomly selected and crosschecked item by item with the information in the study database. There were no entry errors found by this procedure. In cases where participants had failed to provide a response, mean substitution was used. Descriptive statistics were calculated for each instrument item (measures of central tendency and variability). The convention for describing measures of association as defined by Davis (1971) was used for
interpretation. A coefficient of .70 or higher was considered to have a very strong association. A substantial association was described by a coefficient of .50 to .69. Associations of .30 to .49 were considered to have a moderate association. Measures with low association had coefficients of .10 to .29. Association coefficients of .01 to .09 had negligible association. Only associations of .30 or better were considered to have statistical significance. Each research objective was addressed in the following way:

**Objective 1: To determine if the selected competencies identified by Owens are considered important by both agricultural education teacher educators and agricultural education teachers.**

A contingency table was constructed listing each of the competencies, frequencies and percents included in Part I of the instrument. Columns included agricultural education teacher educators and agricultural education teachers. Rows included each of the competencies. Cramer's V was used to describe the strength of the statistical association between the two groups and their opinions regarding the importance of the teaching competencies. The Davis convention was used to interpret these relationships.

**Objective 2: To compare the perspectives of agricultural education teacher educators and agricultural education teachers regarding the selected competencies.**

A t-test for independent samples was used to determine is there was a difference between the opinions of agriculture education teacher educators and
Objective 3: To determine the relationship among professor, institution characteristics and personal importance of the selected competencies.

To determine if relationships between demographics such as gender, number of students attending their institution, academic rank, years involved in agricultural education preparation at the post secondary level and personal importance of selected competencies, correlations were computed. Pearson-product moment correlations were used to describe the amount and direction of any relationships between years involved in agricultural education preparation at the post secondary level and personal importance of selected competencies. Spearman's Rho was used to describe the amount and direction of any relationships between number of students attending their institution and academic rank and personal importance of the selected teaching competencies. Point-biserial correlations were calculated to determine the amount and direction of any relationship between gender and personal importance of the selected competencies.

Objective 4: To determine the relationship among instructor, school and community characteristics, and personal importance of selected competencies.

To determine if relationships between demographics such as gender, type of school where they teach, grade levels taught, type of community where school is located, years as an agricultural education teacher, whether they have served as a cooperating teacher for student teachers and personal importance of
selected competencies, correlations were calculated. Pearson product-moment calculations were used to describe the amount and direction of any relationships between years as an agricultural education teacher and personal importance of selected competencies. Cramer’s V was calculated to describe the amount and direction of any relationships between type of school where they teach, grade levels taught, and type of community where school is located and importance of the selected teaching competencies. Point-biserial correlations were calculated to determine the amount and direction of any relationship between gender, whether or not they had been a cooperating teacher for student teachers, and personal importance of the selected competencies.

**Objective 5: To identify new competencies to address increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations.**

Possible new competencies identified in Part II of the instrument were listed. Common themes were summarized. Summarized competencies and accompanying frequencies for agricultural education teacher educators and agricultural education teachers are reported in Chapter 4.
CHAPTER 4

FINDINGS

The results of the study are reported in this chapter. The chapter is organized by the objectives of the study. These objectives were designed to compare the opinions of agricultural education teacher educators and agricultural education teachers on the importance of selected teaching competencies from identified lists for vocational-technical education teachers. The relationships of professor and institution and the personal importance of selected competencies for agricultural education teacher educators; and the relationships of instructor, school and type of community for agricultural education teachers were also examined. Finally, new competencies to address issues of current interest in agricultural education are proposed.

Objective 1: To determine if the selected competencies identified by Owens are considered important by both agricultural education teacher educators and agricultural education teachers.

The first objective of the study was to determine if the selected teaching competencies were considered important by both agricultural education teacher educators and agricultural education teachers. The importance of the competencies was evaluated using a 44-item five-point Likert scale. The descriptive statistics for these selected competencies for agricultural education
teachers ranged from 0 (Don’t Know) to 4 (Very Important). For agricultural education teacher educators, the importance of the selected teaching competencies also ranged from 0 (Don’t Know) to 4 (Very Important).

A contingency table was constructed for each of the competencies included in Part I of the instrument. Columns included agricultural education teacher educators and agricultural education teachers. Rows included the possible responses to the Likert-type questions. Chi-square was used on each competency to compare whether the importance of each selected competency was related between the two groups. Cramer’s V was used to describe the strength of the statistical association between the two groups and their opinions regarding the importance of the teaching competencies. There was little relationship between the opinions of agricultural education teacher educators and agricultural education teachers on the importance of the selected teaching competencies for agricultural education teachers. None of the relationships between agricultural education teacher educators and agricultural education teachers had a moderate or higher relationship. All of the relationships were low or negligible.
<table>
<thead>
<tr>
<th>Selected Teaching Competencies</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
<th>Cramer's V</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Program Management</td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
<td>.21</td>
</tr>
<tr>
<td>1. Obtain approval from the school administration for establishing the vocational student organization.</td>
<td>5 5 5 30 178</td>
<td>2 5 5 24 66</td>
<td>.21</td>
</tr>
<tr>
<td>2. Assist the cooperating employer's personnel in accepting the training status of the (high school) student-learner.</td>
<td>17 1 19 82 104</td>
<td>5 2 21 34 30</td>
<td>.23</td>
</tr>
<tr>
<td>3. Assist the cooperating employer's personnel in accepting the role of the (high school) student-learner.</td>
<td>15 1 19 83 105</td>
<td>4 2 17 34 36</td>
<td>.17</td>
</tr>
<tr>
<td>4. Maintain good working relationships with training station personnel.</td>
<td>4 0 5 27 187</td>
<td>1 0 3 16 72</td>
<td>.08</td>
</tr>
<tr>
<td>5. Encourage the on-the-job instructor to follow the training plan in providing experiences for the (high school) student-learner.</td>
<td>7 0 8 86 142</td>
<td>2 0 4 35 61</td>
<td>.09</td>
</tr>
<tr>
<td>6. Evaluate the quality of on-the-job training received by the (high school) student-learner.</td>
<td>3 0 7 49 164</td>
<td>2 0 5 14 71</td>
<td>.09</td>
</tr>
<tr>
<td>7. Provide a workshop to assist on-the-job instructors in techniques for teaching (high school) student-learners.</td>
<td>4 9 50 69 91</td>
<td>2 5 24 43 16</td>
<td>.21</td>
</tr>
</tbody>
</table>

Table 4.1: Relationship of importance of selected teaching competencies between agricultural education teachers (n=223) and agricultural education teacher educators (n=92). Note. 0= Don't Know, 1= Not Important, 2= Slightly Important, 3= Moderately Important, and 4= Very Important. The mode for each competency has been boldfaced. Cont’d.
### Table 4.1: Cont'd.

<table>
<thead>
<tr>
<th>Selected Teaching Competencies</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
<th>Cramer's V</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Host company representatives at school.</td>
<td>9</td>
<td>3</td>
<td>46</td>
</tr>
<tr>
<td>9. Establish a course syllabus</td>
<td>4.0%</td>
<td>1.3%</td>
<td>20.2%</td>
</tr>
<tr>
<td>10. Develop secondary and post-secondary coordinated curriculum.</td>
<td>1</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>11. Lobby elected officials.</td>
<td>2.7%</td>
<td>2.7%</td>
<td>13.9%</td>
</tr>
<tr>
<td>12. Develop integrated projects.</td>
<td>7</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>13. Develop learning guides/modules.</td>
<td>3.1%</td>
<td>11.7%</td>
<td>23.3%</td>
</tr>
<tr>
<td>14. Provide Instruction for using computers.</td>
<td>3</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>15. Coordinate job shadowing.</td>
<td>1.3%</td>
<td>8.5%</td>
<td>40.4%</td>
</tr>
<tr>
<td>16. Employ the coaching method.</td>
<td>5</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>17. Develop a safety handbook.</td>
<td>1</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>18. Develop individual learning contracts.</td>
<td>.1%</td>
<td>.4%</td>
<td>7.3%</td>
</tr>
<tr>
<td>19. Develop individual behavioral contracts.</td>
<td>5</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>20. Provide guidelines for substitute teachers.</td>
<td>2.7%</td>
<td>2.7%</td>
<td>17.5%</td>
</tr>
</tbody>
</table>

Cont'd.
### Table 4.1: Cont'd.

<table>
<thead>
<tr>
<th>Selected Teaching Competencies</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
<th>Cramer's V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
<td></td>
</tr>
</tbody>
</table>

**A. Program Management**

<table>
<thead>
<tr>
<th>Competency</th>
<th>6 5 30 76 166</th>
<th>3 9 19 31 30</th>
<th>.21</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Disseminate announcements to students and teachers.</td>
<td>2.7% 2.2% 13.5% 34.1% 47.5%</td>
<td>3.2% 9.8% 20.7% 33.7% 32.6%</td>
<td>.14</td>
</tr>
<tr>
<td>22. Develop a seating chart.</td>
<td>0 51 68 61 43</td>
<td>0 21 33 30 8</td>
<td>.12</td>
</tr>
<tr>
<td>23. Assess students' ability to integrate skills.</td>
<td>0 0 14 71 138</td>
<td>1 0 3 24 64</td>
<td>.18</td>
</tr>
<tr>
<td>24. Assist with students' portfolio development.</td>
<td>1 5 32 88 97</td>
<td>0 0 4 37 51</td>
<td>.14</td>
</tr>
<tr>
<td>25. Participate in the scheduling process.</td>
<td>2 6 27 73 116</td>
<td>1 3 16 29 33</td>
<td>.13</td>
</tr>
<tr>
<td>26. Provide substitute coverage for colleagues.</td>
<td>18 33 56 73 41</td>
<td>3 17 30 31 11</td>
<td>.13</td>
</tr>
<tr>
<td>27. Participate in levies/campaigns.</td>
<td>22 50 65 68 18</td>
<td>7 20 36 27 2</td>
<td>.15</td>
</tr>
<tr>
<td>28. Present at professional meetings.</td>
<td>4 5 34 86 94</td>
<td>0 2 15 42 33</td>
<td>.10</td>
</tr>
<tr>
<td>29. Participate in trade shows.</td>
<td>5 31 57 89 41</td>
<td>4 12 34 37 5</td>
<td>.19</td>
</tr>
</tbody>
</table>

**B. Managing Field Experience**

<table>
<thead>
<tr>
<th>Competency</th>
<th>6 5 30 76 166</th>
<th>3 9 19 31 30</th>
<th>.13</th>
</tr>
</thead>
<tbody>
<tr>
<td>30. Provide opportunities for potential teachers to observe in public school programs.</td>
<td>1 3 10 60 149</td>
<td>0 0 4 16 72</td>
<td>.13</td>
</tr>
</tbody>
</table>

Cont'd.
Table 4.1: Cont'd.

<table>
<thead>
<tr>
<th>Selected Teaching Competencies</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
<th>Cramer's V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>B. Managing Field Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Provide opportunities for potential teachers to participate in public school programs.</td>
<td>2 2 12 56 151</td>
<td>0 1 3 15 73</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>.9% .9% 5.4% 25.1% 67.7%</td>
<td>1.1% 3.3% 16.3% 79.3%</td>
<td></td>
</tr>
<tr>
<td>32. Plan activities for the student teacher which draw upon college course work.</td>
<td>9 5 21 93 85</td>
<td>1 1 5 29 56</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td>4.1% 2.2% 9.4% 41.7% 42.6%</td>
<td>1.1% 1.1% 5.4% 31.5% 60.9%</td>
<td></td>
</tr>
<tr>
<td>33. Plan activities for the student teacher which enrich college course work.</td>
<td>6 4 21 90 102</td>
<td>1 1 3 23 64</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>2.7% 1.8% 9.4% 40.4% 45.7%</td>
<td>1.1% 1.1% 3.3% 25.0% 69.5%</td>
<td></td>
</tr>
<tr>
<td>34. Interpret local school board policies to the student teacher.</td>
<td>7 3 21 76 116</td>
<td>0 4 22 33 33</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>3.1% 1.4% 9.4% 34.1% 52.0%</td>
<td>4.3% 23.9% 35.9% 35.9%</td>
<td></td>
</tr>
<tr>
<td>35. Interpret local school board regulations to the student teacher.</td>
<td>5 1 19 70 128</td>
<td>0 4 18 35 35</td>
<td>.26</td>
</tr>
<tr>
<td></td>
<td>2.2% .5% 8.5% 31.4% 57.4%</td>
<td>4.3% 19.7% 38.0% 38.0%</td>
<td></td>
</tr>
<tr>
<td>36. Assign responsibilities commensurate with the student teacher's knowledge.</td>
<td>4 2 20 66 131</td>
<td>1 1 6 25 59</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>1.8% .9% 9.0% 29.6% 58.7%</td>
<td>1.1% 1.1% 6.5% 27.2% 64.1%</td>
<td></td>
</tr>
<tr>
<td>37. Assign responsibilities commensurate with the student teacher's experience.</td>
<td>4 2 19 78 120</td>
<td>0 1 8 35 48</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>1.8% .9% 8.5% 35.0% 53.8%</td>
<td>1.1% 8.7% 38.0% 52.2%</td>
<td></td>
</tr>
<tr>
<td>38. Confer with the college supervisor and the student teacher regarding plans for the total</td>
<td>4 1 9 38 173</td>
<td>0 0 1 6 83</td>
<td>.16</td>
</tr>
<tr>
<td>student teaching experience.</td>
<td>1.8% .5% 4.0% 16.1% 77.6%</td>
<td>1.1% 8.7% 90.2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cont'd.</td>
</tr>
</tbody>
</table>
Table 4.1: Cont’d.

<table>
<thead>
<tr>
<th>Selected Teaching Competencies</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
<th>Cramer’s V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 1 2 3 4</td>
<td>0 1 2 3 4</td>
<td></td>
</tr>
<tr>
<td>B. Managing Field Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. Confer with the college supervisor and the student teacher regarding plans for evaluating the total student teaching experience.</td>
<td>4 1 8 40 170</td>
<td>0 0 1 8 83</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>1.6% .5% 3.6% 17.9% 76.2%</td>
<td>1.1% 8.7% 90.2%</td>
<td></td>
</tr>
<tr>
<td>40. Demonstrate instructional techniques for student teachers.</td>
<td>6 1 4 39 173</td>
<td>1 1 1 12 77</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>2.7% .5% 1.8% 17.5% 77.5%</td>
<td>1.1% 1.1% 1.1% 13.0% 83.7%</td>
<td></td>
</tr>
<tr>
<td>41. Consult regularly with the student teacher regarding planning teaching.</td>
<td>3 1 3 42 174</td>
<td>0 0 0 15 77</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>1.3% .5% 1.3% 18.8% 78.1%</td>
<td>16.3% 83.7%</td>
<td></td>
</tr>
<tr>
<td>42. Consult regularly with the student teacher regarding implementing teaching.</td>
<td>3 0 3 46 171</td>
<td>0 0 0 15 77</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>1.3% 1.3% 20.7% 76.7%</td>
<td>16.3% 83.7%</td>
<td></td>
</tr>
<tr>
<td>43. Consult regularly with the student teacher regarding evaluating teaching.</td>
<td>3 0 6 50 164</td>
<td>0 0 1 17 74</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>1.3% 2.7% 22.4% 73.6%</td>
<td>1.1% 18.5% 80.4%</td>
<td></td>
</tr>
<tr>
<td>44. Confer regularly with the student teacher.</td>
<td>3 0 2 19 189</td>
<td>0 0 0 7 85</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>1.3% .9% 8.5% 89.3%</td>
<td>7.6% 92.4%</td>
<td></td>
</tr>
</tbody>
</table>
Objective 2: To compare the perspectives of agricultural education teacher educators and agricultural education teachers regarding the selected competencies.

Competencies (1-29) were summed in a variable called Program Management. Competencies (30-44) were summed in a variable called Managing Field Experience. Descriptive statistics for the summated variables appear in Table 4.2. The summed scores for Program Management ranged from 46-114 with a mean of 89.98 (SD = 11.88). The summed scores for Managing Field Experience ranged from 0-60 with a mean of 53.50 (SD = 7.13).

<table>
<thead>
<tr>
<th>Selected Teaching Competencies</th>
<th>Range</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Management (Summated Means)</td>
<td>46-114</td>
<td>89.97</td>
<td>11.88</td>
</tr>
<tr>
<td>Managing Field Experience (Summated Means)</td>
<td>0-60</td>
<td>53.50</td>
<td>7.13</td>
</tr>
</tbody>
</table>

Table 4.2: Descriptive statistics for overall summated means on competencies concerning Program Management (competencies 1-29) and Managing Field Experience (competencies 29-44) for agricultural education teachers (n=223) and agricultural education teacher educators (n=92) combined.
A t-test for independent samples was used to compare mean responses from each group (agriculture education teacher educators and agriculture education teachers) on the summated means for Program Management competencies and for Managing Field Experience competencies. The results of this comparison are presented in Table 4.3.

The hypothesis tested was:

\[ H_0 : \mu_1 = \mu_2 \quad \text{(There is no difference in the opinions of agricultural education teacher educators and agricultural education teachers on the summated means on the importance of program management and managing field experience competencies, the means are equal)} \]

\[ H_1 : \mu_1 \neq \mu_2 \quad \text{(There is a difference in the opinions of agricultural education teacher educators and agricultural education teachers on the summated means on the importance of program management and managing field experience competencies, the means are not equal)} \]

Levene's Test for Equality of Means was used to determine whether to use the chart for equal or unequal variances of means when making a decision on the hypothesis. The F statistic for Program Management was .059. Managing Field Experience had an F statistic of 4.60. Since in both cases the value of the F statistic exceeded alpha (.05), equal variances of the mean were assumed.

To determine whether to reject or fail to reject the hypothesis, the computed t statistic was used to determine whether there was a difference in the opinions of agriculture education teacher educators and agriculture education teachers on the importance of the summated teaching competencies.
<table>
<thead>
<tr>
<th>Selected Teaching Competencies</th>
<th>F Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Program Management (Summated Means)</td>
<td>.059</td>
<td>90.79</td>
</tr>
<tr>
<td>Managing Field Experience (Summated Means)</td>
<td>4.60</td>
<td>53.05</td>
</tr>
</tbody>
</table>

Table 4.3: Comparison of opinions on importance of selected teaching competencies (summated means) of agricultural education teachers (n=223) and agricultural education teacher educators (n=92).

The computed t for Program Management was 1.89 (p = .059) and the computed t for Managing Field Experience was -1.76 (p = .079). Since the 2-tailed significance of t was greater than alpha (.05) in both cases, the researcher failed to reject H₀ for both summated variables. There was no difference in the opinions of agricultural education teacher educators and agricultural education teachers on the importance of either Program Management or Managing Field Experience.
Objective 3: To determine the relationship among professor, institution characteristics and personal importance of the selected competencies.

To determine if relationships among demographics such as gender, number of students attending their institution, academic rank, years involved in agricultural education preparation at the post secondary level and personal importance of selected teaching competencies, items requesting this information were included on the questionnaire. The results of the responses to these items are presented in Table 4.4. Eighty-five (92.4%) of the 92 agricultural education teacher educators were male and 7 (7.6%) were female. None of the respondents taught at institutions having 999 or less students. Three (3.3%) agricultural education teacher educators taught at institutions with 1,000 to 4,999 students; three (3.3%) taught at institutions with 5,000 to 9,999 students; 28 (30.4%) agricultural educators taught at institutions with 10,000 to 19,999 students; 32 (34.8%) taught at institutions having 20,000 to 29,999 students; and 24 (26.1%) agricultural education teacher educators taught at institutions with 30,000 or more students attending.

The academic rank of the agricultural education teacher educators ranged from instructor to professor. One (1.1%) was an instructor. Seventeen (18.5%) of the respondents were assistant professors. Nineteen (20.7%) were associate professors. Fifty (54.3%) had attained the rank of professor.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>85</td>
<td>92.4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>7</td>
<td>7.6</td>
</tr>
<tr>
<td></td>
<td>No Response</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of</td>
<td>999 or less</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Students</td>
<td>1,000 to 4,999</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Attending</td>
<td>5,000 to 9,999</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Institution</td>
<td>10,000 to 19,999</td>
<td>28</td>
<td>30.4</td>
</tr>
<tr>
<td></td>
<td>20,000 to 29,999</td>
<td>32</td>
<td>34.8</td>
</tr>
<tr>
<td></td>
<td>30,000 or more</td>
<td>24</td>
<td>26.1</td>
</tr>
<tr>
<td></td>
<td>No Response</td>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>Academic Rank</td>
<td>Instructor</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Assistant Professor</td>
<td>17</td>
<td>18.5</td>
</tr>
<tr>
<td></td>
<td>Associate Professor</td>
<td>19</td>
<td>20.7</td>
</tr>
<tr>
<td></td>
<td>Professor</td>
<td>50</td>
<td>54.3</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>No Response</td>
<td>3</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Table 4.4: Agricultural education teacher educator (n=92) demographic information.

Years the agricultural education teacher educators had been involved in teacher preparation are discussed in Table 4.5. The number of years of involvement in agricultural education teacher preparation ranged from 2 to 36. The mean was 17.93 (SD = 9.22).
Table 4.5: Descriptive statistics on agricultural education teacher educator (n=92) years involved in agricultural education teacher preparation.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years in Agricultural Education</td>
<td>2-36</td>
<td>17.93</td>
<td>9.22</td>
</tr>
<tr>
<td>Teacher Preparation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Associations among years of involvement in teacher preparation, gender, and summated scores for Program Management and Managing Field Experience are presented in Table 4.6. Pearson-product moment correlations were calculated between years of involvement in teacher preparation and opinions on the importance of selected teaching competencies using the summated scores for Program Management and Managing Field Experience. These correlations were used to describe the amount and direction of any relationships between years involved in agricultural education preparation at the post secondary level and personal importance of selected competencies. Point-biserial correlations were calculated to determine the amount and direction of any relationship between gender and opinions on importance of the selected competencies using the summated variables.

There was a negligible association (Davis, 1971) between gender and opinions on the importance of summated scores for Program Management (.11)
<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Years in Teacher Preparation</th>
<th>Program Management</th>
<th>Managing Field Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years in Teacher Preparation</td>
<td>.30</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Management</td>
<td>.11</td>
<td>.16</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Managing Field Experience</td>
<td>-.01</td>
<td>.05</td>
<td>.54</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 4.6: Correlation coefficients between opinions of agricultural education teacher educators (n=92) on importance of selected teaching competencies and gender and number of years in teacher preparation.

...and Managing Field Experience (0.01). There was a moderate association (Davis, 1971) between gender and years involved in agricultural education teacher preparation at a post-secondary level (.30). There was a low association between years involved in agricultural education teacher preparation at the post-secondary level and Program Management (.16) and a negligible association with Managing Field Experience (.05). However, there was a substantial association (Davis) between opinions of agricultural education teacher educators on the importance of summated means for the variables Program Management and Managing Field Experience (.54).
Spearman’s Rho was used to describe the amount and direction of any relationships between number of students attending the institution where the agricultural education teacher educators taught and academic rank and personal importance of the selected teaching competencies. These correlations are described in Table 4.7.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of Students Attending Institution</th>
<th>Academic Rank</th>
<th>Program Management</th>
<th>Managing Field Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Students Attending Institution</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Rank</td>
<td>.13</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Management</td>
<td>-.14</td>
<td>-.02</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Managing Field Experience</td>
<td>-.16</td>
<td>-.02</td>
<td>.53</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 4.7: Correlation coefficients between opinions of agricultural education teacher educators (n=92) on importance of selected teaching competencies and number of students attending institution and academic rank.

There was a negligible association (Davis, 1971) between number of students attending the institution where the agricultural education teachers taught with respect to both Program Management (-.14) and Managing Field Experience (-.16). A low association (Davis) existed between number of students attending
the institution and academic rank of the agricultural education teacher educator (.13). There was also a negligible association (Davis) between academic rank and both Program Management (-.02) and Managing Field Experience (-.02). A substantial association (Davis) existed between the summated variables Program Management and Managing Field Experience (.53).

Objective 4: To determine the relationship among instructor, school and community characteristics, and personal importance of selected competencies.

To determine if relationships between demographics such as gender, type of school where they taught, grade levels taught, type of community where school is located (size of school district), and whether they have served as a cooperating teacher for student teachers and personal importance of selected teaching competencies, items requesting this information were included on the questionnaire. Findings are presented in Table 4.8. One hundred eighty-six (83.4%) of the 223 agricultural education teachers were male and 37 (16.6%) were female. One hundred seventy-five (78.5%) of the agricultural education teachers taught at a comprehensive high school; seven (3.1%) of the agricultural education teachers taught at a career center; 11 (4.9%) taught at a joint vocational school; 12 (5.4%) taught at Jr. High or Middle Schools; and 14 (6.3%) agricultural education teachers listed the school where they taught as other.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td>Male</td>
<td>186</td>
<td>83.4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>37</td>
<td>16.6</td>
</tr>
<tr>
<td></td>
<td>No Response</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Type of School</strong></td>
<td>Comprehensive High School</td>
<td>175</td>
<td>78.5</td>
</tr>
<tr>
<td>Where You Teach</td>
<td>Career Center</td>
<td>7</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Joint Vocational School</td>
<td>11</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td>Jr. High/Middle School</td>
<td>12</td>
<td>5.4</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>15</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td>No Response</td>
<td>3</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Grade Level(s)</strong></td>
<td>K-5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Taught</td>
<td>6-8</td>
<td>6</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>9-12</td>
<td>183</td>
<td>82.1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>31</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td>No Response</td>
<td>3</td>
<td>1.3</td>
</tr>
<tr>
<td><strong>Size of School</strong></td>
<td>Rural</td>
<td>114</td>
<td>51.1</td>
</tr>
<tr>
<td>District</td>
<td>Semi-rural</td>
<td>32</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Rural/Suburban</td>
<td>31</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td>Suburban</td>
<td>18</td>
<td>8.1</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>22</td>
<td>9.9</td>
</tr>
<tr>
<td></td>
<td>No Response</td>
<td>6</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Have You</strong></td>
<td>Yes</td>
<td>102</td>
<td>45.7</td>
</tr>
<tr>
<td>Been a Cooperating Teacher</td>
<td>No</td>
<td>117</td>
<td>52.5</td>
</tr>
<tr>
<td></td>
<td>No Response</td>
<td>4</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Table 4.8: Agricultural education teachers (n=223) demographic information.
None of the respondents taught grades K-five. Six (2.7%) of the agricultural education teachers taught grades six-eight. Grades nine-12 were taught by 182 (81.6%) of the agricultural education teachers. Thirty-one (13.9%) of the agricultural education teachers responded other.

One hundred fourteen (51.1%) of the agricultural education teachers taught in a rural area. Thirty-two (14.3%) taught in a semi-rural area. Teaching in a rural/suburban area was reported by 31 (13.9%) agricultural education teachers. Eighteen (8.1%) teachers taught in a rural/suburban area. Twenty-two (9.9%) agricultural education teachers taught in an urban area.

One hundred two (45.7%) of the agricultural education teachers had been cooperating teachers for student teachers. One hundred seventeen (52.5%) had not been cooperating teachers.

The number of years the agricultural education teachers had been teaching is reported in Table 4.9. The number of years in teaching ranged from one to 40. The mean years of teaching was 15.59 (SD = 9.67).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years as an Agricultural Education Teacher</td>
<td>1-40</td>
<td>15.59</td>
<td>9.67</td>
</tr>
</tbody>
</table>

Table 4.9: Descriptive statistics on agricultural education teachers (n=223) years as an agricultural education teacher.
Cramer's V was calculated to describe the amount and direction of any relationships between type of school where the agricultural education teachers taught, grade levels taught, and type of community where the school was located and the importance of the selected teaching competencies as described in the summated variables Program Management and Managing Field Experience.

The Cramer's V coefficients are presented in Table 4.10.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cramer’s V Program Management (summated)</th>
<th>Cramer’s V Managing Field Experience (summated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of School Where You Teach</td>
<td>.50</td>
<td>.36</td>
</tr>
<tr>
<td>Grade Level(s) Taught</td>
<td>.49</td>
<td>.35</td>
</tr>
<tr>
<td>Size of School District</td>
<td>.49</td>
<td>.35</td>
</tr>
</tbody>
</table>

Table 4.10: Relationship between opinions on importance of selected teaching competencies and type of school, grade levels taught and size of school district for agricultural education teachers (n=223).
Moderate associations (Davis, 1971) were found between type of school where the agricultural education teachers taught and Managing Field Experience (.35); grade levels taught and Managing Field Experience (.35); type of community (size of school district) where the agricultural education teachers taught and Managing Field Experience (.35); type of community (size of school district) where the agricultural education teachers taught and Program Management (.49); and grade levels taught and Program Management (.49).

A substantial association (Davis, 1971) was found between type of school where the agricultural education teachers taught and Program Management (.50). Pearson product-moment correlations were calculated between years as an agricultural education teacher and opinions on the importance of selected teaching competencies using the summated variables Program Management and Managing Field Experience. Point-biserial correlations were calculated to determine the amount and direction of any relationship between gender and personal importance of the selected competencies. Point Biserial correlations were also used to determine the amount and direction of any relationship between serving as a cooperating teacher for a student teacher and opinions on the importance of the selected teaching competencies. These correlations are reported in Table 4.11.

Negligible associations (Davis, 1971) were found between gender and Program Management (-.06); gender and Managing Field Experience (-.09); years as an agricultural education teacher and Program Management (-.04); and
### Table 4.11: Correlation coefficients between opinions of agricultural education teachers (n=223) on importance of selected teaching competencies and gender, years as an agricultural education teacher, and whether they have been a cooperating teacher for student teachers.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Years as an Agricultural Education Teacher</th>
<th>Have You Been Cooperating Teacher</th>
<th>Program Management</th>
<th>Managing Field Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years as an Agricultural Education Teacher</td>
<td>.34</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have You Been a Cooperating Teacher</td>
<td>.20</td>
<td>.35</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Management</td>
<td>-.06</td>
<td>-.04</td>
<td>-.07</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Managing Field Experience</td>
<td>-.09</td>
<td>.14</td>
<td>.14</td>
<td>.42</td>
<td>1.00</td>
</tr>
</tbody>
</table>
whether they have served as a cooperating teacher for a student teacher and Program Management (-.07).

Low associations (Davis, 1971) were found between gender and whether they have served as a cooperating teacher for a student teacher (.20); years as an agricultural education teacher and Managing Field Experience (.14); and whether they have served as a cooperating teacher for a student teacher and Managing Field Experience (.14).

Moderate associations (Davis, 1971) were found between gender and years as an agricultural education teacher (.34); years as an agricultural education teacher and whether they have served as a cooperating teacher for a student teacher (.35); and between Program Management and Managing Field Experience (.42).

Objective 5: To identify new competencies to address increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations.

Possible new competencies identified in Part II of the instrument were examined and new competencies were listed by question. The number of agricultural education teacher educators and agricultural education teachers that agreed with each of the competencies were listed after each proposed competency. Similar proposed competencies were grouped to generate a list of specific competencies for each of the current issues in agricultural education considered in this study. The number of agricultural education teacher educators
and agricultural education teachers that agreed with each of the competencies were also listed after each of the specific competencies. They are ordered according to the number of agricultural education teachers that agreed with the competency.

The required teaching competency or competencies needed to address the issue of increased dependence upon information technology.

The first issue of current importance in agricultural education addressed the need to become aware of and implement information technology in teaching practice. Respondents indicated that the New Mexico State Board of Education (1998) addressed this issue in their state licensure requirements. One such competency referred to use of technology, "Basic Computer and Technology Operations and Concepts - the teacher uses computer systems to: run software, access, generate, and manipulate data; and publish results. The teacher evaluates performance of hardware and software components of computer systems and applies basic troubleshooting strategies as needed" (p.7). The Ohio State Board of Education (1996) included the effective use of technology in the communication component of required teacher competencies in their Entry Year Program. Agricultural education teacher educators and agricultural education teachers who participated in this study also generated a number of potential new competencies to address this need. Eight new needed competencies were identified. The new competencies and the numbers of agricultural education teacher educators and agricultural education teachers that suggested the competency are reported in Table 4.12.
<table>
<thead>
<tr>
<th>Competency</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Integrate use of information technology in instructional practice.</td>
<td>21</td>
<td>72</td>
</tr>
<tr>
<td>2. Utilize web-based resources and searches in instructional preparation and delivery.</td>
<td>22</td>
<td>69</td>
</tr>
<tr>
<td>3. Participate in activities to maintain currency in information technologies.</td>
<td>9</td>
<td>50</td>
</tr>
<tr>
<td>4. Understand curriculum integration processes and use a variety of instructional methods to encourage student development in effective use of technology.</td>
<td>22</td>
<td>43</td>
</tr>
<tr>
<td>5. Develop the ability to utilize software in word processing, spreadsheets, databases, geographic information systems (GPS), e-mail, digital imaging, presentations, design, and use of the Internet.</td>
<td>26</td>
<td>35</td>
</tr>
<tr>
<td>6. Integrate electronic technology and use of the Internet into traditional teaching methods.</td>
<td>25</td>
<td>31</td>
</tr>
<tr>
<td>7. Examine differences among information technology effectiveness and efficiency.</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>8. Maintain student records and grades on the computer.</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 4.12: New teaching competencies required to address the issue of increased dependence upon information technology.
The required teaching competency or competencies needed to address the issue of integration of academic and vocational subject matter.

The second issue of current importance in agricultural education addressed the need to integrate both vocational and academic subject matter into instructional practice. Respondents also indicated that the New Mexico State Board of Education (1998) addressed this issue in their state licensure requirements. The corresponding competencies were: the teacher integrates and applies content area concepts across all areas of the curriculum; and the teacher demonstrates the ability to use academic content in planning, implementation, instruction, and assessment. The California State Board of Education (1997) in their standard for understanding and organizing subject matter for student learning, required teachers to interrelate ideas and information within and across curricular areas to extend students' understanding (http://www.ctc.ca.gov).

Agricultural education teacher educators and agricultural education teachers who participated in this study also generated a number of potential new competencies to address this need. Table 4.13 lists the eight new competencies that were identified. The table shows the number of agricultural education teacher educators and agricultural education teachers that suggested that competency.
<table>
<thead>
<tr>
<th>Competency</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Participate in a team of academic and vocational teachers to design and deliver integrated curriculum to create interdisciplinary learning.</td>
<td>46</td>
<td>85</td>
</tr>
<tr>
<td>2. Develop lesson plans that integrate academic concepts (science, math, communication).</td>
<td>14</td>
<td>56</td>
</tr>
<tr>
<td>3. Understand goals of academic programs; understand goals of vocational programs; and understand interfacing of goals of both programs.</td>
<td>13</td>
<td>43</td>
</tr>
<tr>
<td>4. Develop the ability to “cross walk” technical content with academic standards.</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>5. Develop cooperative arrangements with science, social science, math, etc.</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td>6. Understand curriculum integration processes and use a variety of instructional methods to encourage student development in problem solving and critical thinking.</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>7. Attend appropriate in-service training on integration of academic and vocational subject matter.</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>8. Develop a philosophy of integration.</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4.13: New teaching competencies required to address the issue of integration of academic and vocational subject material.
The required teaching competency or competencies needed to address the issue of distance learning.

The third issue of current importance in agricultural education addressed the need to consider distance learning as an instructional tool. Respondents also indicated that the New Mexico State Board of Education (1998) addressed this issue in their state licensure requirements. The corresponding competency was the teacher demonstrates awareness of broadcast instruction, audio/video conferencing, and other distant learning. Agricultural education teacher educators and agricultural education teachers who participated in this study generated a number of potential new competencies to address this need. Although a number of competencies were proposed to address this issue, many of the participants felt that the logistics involved in both presenting and receiving distance education were not practical or financially feasible for many school systems. The new competencies and the numbers of agricultural education teacher educators and agricultural education teachers that suggested each competency are described in Table 4.14. Six new competencies were suggested to address the issue of distance learning.
<table>
<thead>
<tr>
<th>Competency</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Select teaching strategies and knowledge of technologies that are appropriate and effective for teaching at a distance.</td>
<td>33</td>
<td>20</td>
</tr>
<tr>
<td>2. Develop skills in utilizing equipment and technology needed in distance education delivery (i.e., document camera, computer presentations, web site development, etc.).</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>3. Complete a workshop on the use of distance learning and take a class via distance learning.</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>4. Develop lessons to be delivered using distance delivery techniques.</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>5. Utilize distance learning as a means of adding specialized course material to the existing curriculum.</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>6. Develop a course for addressing identified issues and troublespots for distance education.</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4.14: New teaching competencies required to address the issue of distance learning.
The required teaching competency or competencies needed to address the issue of a diverse student population.

The fourth issue of current importance in agricultural education addressed the necessity of considering the needs of a diverse student population when planning and delivering instruction. This issue was included in the California, Ohio and New Mexico licensure requirements. The California State Board of Education (1997) included in their standard for engaging and supporting all students in learning the competency that teachers use a variety of instructional strategies and resources that respond to students' diverse needs (http://www.ctc.ca.gov). The Ohio Entry Year Program required under its area on diversity of learners that the teacher understands how students learn and provides instruction to accommodate such diversity (Ohio State Board of Education, 1996). New Mexico had similar competencies in its licensure requirements. The competencies were: The teacher applies current research findings about social and cultural environments, individual differences, linguistically diverse populations, students of different ages, students with exceptionalities, and gender differences (New Mexico State Board of Education, 1998). Agricultural education teacher educators and agricultural education teachers who participated in this study generated a number of potential new competencies to address this need. The eight new competencies generated and the numbers of agricultural education teacher educators and agricultural education teachers that suggested each competency are reported in Table 4.15.
<table>
<thead>
<tr>
<th>Competency</th>
<th>Agricultural Education Teachers</th>
<th>Agricultural Education Teacher Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Develop/deliver instruction that is sensitive to students of diverse backgrounds (cultural socio-economic, gender, etc.) and cultural heritage.</td>
<td>32</td>
<td>68</td>
</tr>
<tr>
<td>2. Demonstrate use of instructional practices to address different learning styles, needs, and abilities.</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>3. Require exposure of students to diverse populations.</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>4. Create learning experiences that make students aware of their rights and responsibilities within a local, national and international community.</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>5. Recognize, accept, and understand the effect that culture has on student learning.</td>
<td>24</td>
<td>17</td>
</tr>
<tr>
<td>6. Incorporate specific lessons addressing learning disabilities, handicaps and language barriers and the systemic programs for handling them in the public school systems.</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>7. Develop proficiency is speaking/writing a second language.</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>8. Develop strategies to recruit and retain a diverse student population.</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4.15: New teaching competencies required to address the issue of integration a diverse student population.
CHAPTER 5
SUMMARY/CONCLUSIONS/RECOMMENDATIONS

Summary

While instructional skills or competencies have proven to be essential to the success of effective teachers, the quantification and transfer of these competencies or skills has been a challenge. One factor affecting the quantification and transfer of competencies has been the inability of the local, state, and federal agencies to impact changes in pre-teacher education curriculum in colleges and universities. The addition of new licensure laws requiring specified performance levels to maintain teaching credentials has introduced a new era of teacher accountability. In addition, state school report cards and student proficiency testing have placed an increased emphasis on accountability from both our schools and the teachers who teach in them. The National Education Summit (1999) stated that to ensure a high quality teacher in every classroom, governors, business leaders, and education leaders must work together in our states to strengthen entry and exit requirements of teacher-preparation programs and require them to demonstrate that graduates are prepared to teach to state standards, and are technologically literate. Financial limitations and questions regarding equitable funding for schools which place a
larger responsibility on state and local governments have increased burdens on school systems that were already in financial straits.

A continued teacher shortage has encouraged school systems to hire increasing numbers of candidates with degrees and work experience outside of education. These trends indicate an increased need to provide new and returning teachers of agricultural education with the teaching competencies needed for success in their programs.

Owens (1999) conducted a Delphi study of experts in vocational-technical education to see if selected competencies needed by successful vocational-technical teachers that were unique to lists identified by Cotrell et al. (1972) and by Norton (1995b) were essential. The study confirmed that all but one of the selected competencies needed by successful vocational-technical instructors was essential. As a result of this study, a question about performance based teacher education arose, do professional teacher educators and practitioners in agricultural education agree with the Delphi panel as to which of the selected teaching competencies are important?

**Purpose and Objectives**

The purpose of this study was to compare the opinions of agricultural education teacher educators with those of agricultural education teachers to determine the importance of selected teaching competencies needed for successful instruction as identified by Owens (1999). The selected competencies were from lists of teaching competencies identified by Cotrell et al. (1972) or by Norton (1995b). Both the Cotrell et al. and the Norton studies
agreed on many essential competencies. However, the studies also identified 37 unique competencies that were either identified by Cotrell et al. but were not found on the Norton list or were found only on the later list. The following specific objectives were identified:

1. To determine if the selected competencies identified by Owens are considered important by both agricultural education teacher educators and agricultural education teachers.

2. To compare the perspectives of agricultural education teacher educators and agricultural education teachers regarding the selected competencies.

3. To determine the relationship among professor and institution characteristics and personal importance of selected competencies.

4. To determine the relationship among instructor, school, and community characteristics and personal importance of selected competencies.

5. To identify new competencies that may address increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations.
Methodology

This research was a descriptive correlational study. Two lists of competencies needed for vocational-technical educators were compared: teaching competencies required by successful vocational-technical teachers as identified in a study (Cotrell et al., 1972) and teaching competencies required by successful vocational-technical teachers as identified in a study (Norton, 1995b). The 36 competencies unique to each study were then identified. The intent of the researcher was to gather opinions from agricultural education teacher educators and agricultural education teachers regarding the importance of the 36 selected teaching competencies, and to elicit new competencies needed to meet current issues such as increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations.

The target population for the study was agricultural education teacher educators and agricultural education teachers in the United States. Respondents were selected for participation in the study from these two groups. Agricultural education teacher educators were identified from the 1999 membership roster of the American Association for Agricultural Education (AAAE). Respondents who were agricultural education teachers were taken from the 1999 edition of the Agricultural Educators Directory.

To get a random sample of respondents, the Krejcie and Morgan (1970) Table for Determining Sample Size from a Given Population was used. It was found that for a population of 10,857 agricultural education teachers, with a
confidence level of 95%, the sample size should be 375. A stratified random sample was used to ensure proportionate representation from each of the states. The number of agricultural education teachers in each state was divided by the total number of agricultural education teachers, and a percentage was determined. These percentages were used to determine the number of the 375 study participants that would come from each state.

It was found that for a population of 135 agricultural education teacher educators at a confidence level of 95%, the sample size should be 103. An accessible population of 103 agricultural education teacher educators was randomly selected for participation in the study.

Instrumentation was similar to that used in the Owens (1999) study. The instrument resulted from cross matching identified teaching competencies from lists identified by Cotrell et al. (1972) and Norton (1995b) that were needed by successful vocational-technical teachers. Initially, the researcher matched the 384 performance competencies that were identified as important to vocational-technical teachers (Cotrell et al.) with their corresponding PBTE module areas. Next, this cross-matched list was compared to the list of 162 teaching competencies for successful vocational-technical teachers identified in a DACUM study (Norton). The lists were examined for similarities and differences. There were 37 competencies that were unique to the Cotrell et al. study or to the Norton study. One of the competencies “Assist the on-the-job instructor with development of teaching techniques” did not reach consensus in the Owens
(1999) study and was not used in this study. The instrument was developed based on 36 competencies that were unique to the Cotrell et al. study or to the Norton study.

The instrument was divided into three parts. Some of the 36 competencies were split into more than one competency to eliminate double barreled content. Part I included 44 competencies identified as competencies needed for vocational-technical education teachers either in the (Cotrell et al., 1972) study and cross-matched with PBTE module titles addressing these competencies or in the (Norton, 1995b) study that did not appear on both studies. Competencies 1-29 were listed in Section A. Program Management. Competencies 30-44 were listed in Section B. Managing Field Experience. Each statement utilized a 5-point Likert-type scale where NI indicated “not important,” SI indicated “slightly important,” MI indicated “moderately important,” VI indicated “very important,” and DK indicated “don’t know.” The participants were asked to identify the level of importance of each competency to a successful agricultural education teacher.

Part II of the instrument asked participants to determine what new competencies might be needed to address such current issues in agricultural education as the increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of a diverse student population. Each of these four issues was listed in an open-ended statement that allowed the respondent to write the competency that would be needed to effectively address that issue. The instrument was
considered to be partially open-ended as the researcher wished to stimulate free thought, solicit suggestions and clarify positions (Dillman, 1978).

Part III secured information about the characteristics of respondents and institutions. The following demographic information was determined to be important to the study: gender (for both groups), for agricultural teacher educators (number of students attending their institution, academic rank, years involved in agricultural education preparation at the post secondary level) and for agricultural education teachers (type of school where they teach, grade levels taught, type of community where school is located, years as an agricultural education teacher and whether they had served as a cooperating teacher for student teachers). The instruments for agricultural education teacher educators and agricultural education teachers were identical except for Part III that secured information on respondents’ characteristics.

Face and content validity of the Instrument were verified by the use of a content validity procedure involving 10 agricultural education teacher educators who had experience in the area of agricultural education. The reviewers were advised of the objectives of the study and the purpose of the instrument in a cover letter accompanying the instrument. They were then solicited for their feedback regarding the validity, clarity, content and organization of the instrument. Minor revisions were made based on the content validity panel recommendations.

Reliability was defined (Nunnaly, 1972) as determining the extent to which an instrument measures consistently whatever it is measuring. Acceptable levels
Of reliability recommended by Nunnaly were .50 to .60. Internal consistency of
the questionnaire items was assessed using Cronbach alpha (Ary, Jacobs &
Razavieh, 1996). Reliability was determined using test-retest consistency. Test-
retest measured the consistency of subjects' scores over time. The test-retest
reliability coefficient assumed that the characteristic(s) being measured by the
test was stable over time, so any change in scores from one time to another were
due to random error.

A group of 21 agricultural education teacher educators not included in the
study, and 30 randomly selected agricultural education teachers not used in the
study were asked to complete the questionnaire. The responses of agricultural
education teacher educators and agricultural education teachers were compared
item by item from the first test to the retest. Agreement was said to exist if a
respondent answered SI (slightly important), MI (moderately important), VI (very
important), NI (not important) or DK (don't know) exactly the same on both
instruments. The internal consistency reliability index for the instrument was .75
on Section A of the instrument and .74 on Section B of the instrument for
agricultural education teacher educators and .87 on Section A of the instrument
and .81 on Section B of the instrument for agricultural education teachers. The
test-retest reliability was .55 on Section A and .69 on Section B for agricultural
education teacher educators and .63 on Section A and .71 on Section B for
agricultural education teachers.
Findings

Data were analyzed by research objective. The results are reported below in the same manner.

Objective 1: To determine if the selected competencies identified by Owens’ Delphi study are considered important by both agricultural education teacher educators and agricultural education teachers. The importance of the selected teaching competencies for agricultural education teachers ranged from 0 (Don’t Know) to 4 (Very Important). For agricultural education teacher educators, the importance of the selected teaching competencies ranged from 0 (Don’t Know) to 4 (Very Important). There were no moderate (Davis, 1971) relationships between the opinions of agricultural education teacher educators and agricultural education teachers on the importance of the selected teaching competencies. Eleven of the competencies showed negligible associations. Thirty-three of the selected competencies showed low association.

Objective 2: To compare the perspectives of agricultural education teacher educators and agricultural education teachers regarding the selected competencies. Means for agricultural education teacher educators and agricultural education teachers were compared on the summated variables, Program Management and Managing Field Experience. There was no significant difference found between the opinions of agricultural education teacher educators and agricultural education teachers on the importance of summated teaching competencies for agricultural education teachers using a 2-tailed test and an alpha level of .05.
Objective 3: To determine the relationship among professor and institution characteristics and personal importance of the selected competencies. The relationship of professor and institution characteristics and personal importance of the selected teaching was also examined. Moderate associations (Davis, 1971) included those between gender and years involved in agricultural education teacher preparation at a post-secondary level (.30). There was a substantial association between opinions of agricultural education teacher educators on the importance of selected teaching competencies between the summated variables Program Management and Managing Field Experience (.54).

Relationships between number of students attending the institution where the agricultural education teacher educators taught and academic rank and personal importance of the selected teaching competencies were also explored. A substantial association (Davis, 1971) existed between the summated variables Program Management and Managing Field Experience (.53).

Objective 4: To determine the relationship among instructor, school and community characteristics and personal importance of selected competencies. The relationships between demographics such as gender, type of school where they taught, grade levels taught, type of community where school is located (size of school district), and whether they have served as a cooperating teacher for student teachers of agricultural education teachers and personal importance of selected teaching competencies was examined.
Moderate associations (Davis, 1971) were also found between type of school where the agricultural education teachers taught and Managing Field Experience (.35); grade levels taught and Managing Field Experience (.35); type of community (size of school district) where the agricultural education teachers taught and Managing Field Experience (.35); type of community (size of school district) where the agricultural education teachers taught and Program Management (.49); and grade levels taught and Program Management (.49).

Moderate associations were also found between gender and years as an agricultural education teacher (.34); years as an agricultural education teacher and whether they have served as a cooperating teacher for a student teacher (.35); and between Program Management and Managing Field Experience (.42).

A substantial association was found between type of school where the agricultural education teachers taught and Program Management (.50).

Objective 5: To identify new competencies to address increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations. Agricultural education teacher educators and agricultural education teachers were asked to identify new competencies to address increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of diverse student populations.

Competencies listed by issue area include:
The required teaching competency or competencies needed to address the issue of increased dependence upon information technology.

1. Integrate use of information technology in instructional practice.

2. Utilize web-based resources and searches in instructional preparation and delivery.

3. Participate in activities to maintain currency in information technologies.

4. Understand curriculum integration processes and use a variety of instructional methods to encourage student development in effective use of technology.

5. Develop the ability to utilize software in word processing, spreadsheets, databases, geographic information systems (GPS), e-mail, digital imaging, presentations, design, and use of the Internet.

6. Integrate electronic technology and use of the Internet into traditional teaching methods.

7. Examine differences among information technology effectiveness and efficiency.
8. Maintain student records and grades on the computer.

The required teaching competency or competencies needed to address the issue of integration of academic and vocational subject matter.

1. Participate in a team of academic and vocational teachers to design and deliver integrated curriculum to create interdisciplinary learning.

2. Develop lesson plans that integrate academic concepts (science, math, communication).

3. Understand goals of academic programs; understand goals of vocational programs; and understand interfacing of goals of both programs.

4. Develop the ability to “cross walk” technical content with academic standards.

5. Develop cooperative arrangements with science, social science, math, etc.

6. Understand curriculum integration processes and use a variety of instructional methods to encourage student development in problem solving and critical thinking.
7. Attend appropriate in-service training on integration of academic and vocational subject matter.

8. Develop a philosophy of integration.

The required teaching competency or competencies needed to address the issue of distance learning.

1. Select teaching strategies and knowledge of technologies that are appropriate and effective for teaching at a distance.

2. Develop skills in utilizing equipment and technology needed in distance education delivery (i.e., document camera, computer presentations, web site development, etc.).

3. Complete a workshop on the use of distance learning and take a class via distance learning.

4. Develop lessons to be delivered using distance delivery techniques.

5. Utilize distance learning as a means of adding specialized course material to the existing curriculum.
6. Develop a course for addressing identified issues and trouble spots for
distance education.

The required teaching competency or competencies needed to address the
issue of a diverse student population.

1. Develop/deliver instruction that is sensitive to students of diverse
   backgrounds (cultural socio-economic, gender, etc.) and cultural heritage.

2. Demonstrate use of instructional practices to address different learning styles,
   needs, and abilities.

3. Require exposure of students to diverse populations.

4. Create learning experiences that make students aware of their rights and
   responsibilities within a local, national and international community.

5. Recognize, accept, and understand the effect that culture has on student
   learning.

6. Incorporate specific lessons addressing learning disabilities, handicaps and
   language barriers and the systemic programs for handling them in the public
   school systems.
7. Develop proficiency in speaking/writing a second language.

8. Develop strategies to recruit and retain a diverse student population.

Conclusions

The findings indicate that there have been many issues involved in agricultural education that have made it increasingly important to determine competencies necessary for success as an agricultural education teacher. Agricultural educators have experienced significant pressure over the past 15 years to reform the process by which the teachers are prepared in the profession. Many of these pressures have been external to the profession, but strong calls for change have come from within agricultural education as well (McLean and Camp, 2000). The conclusions reflect the implications of these findings for the preparation of agricultural education teachers.

The opinions of agricultural education teacher educators and agricultural education teachers on the importance of selected teaching competencies for agricultural education teachers were not similar between groups for individual competencies. This may have resulted from the variety of responses generated when the competency was considered by itself. One cause for this variance may be that there is not a clearly focused conceptual framework undergirding vocational and technical teacher education. The theory base, knowledge, understandings, and skills needed to teach for and about the workplace have yet
to be codified into a professional knowledge base for prospective and practicing vocational education teachers (Lynch, 1997). In other words, although both agricultural education teacher educators and agricultural education teachers felt the competencies had importance, they did not agree on the degree of importance for each competency.

When the summated means for the variables Program Management and Managing Field Experience were compared, both groups had similar ideas on what makes a successful agriculture education teacher. This would support the idea that faculty in many teacher preparation programs do in fact know what is needed by a successful agricultural education teacher and reflect this as they prepare teachers to enter the profession. In addition, agricultural education teachers agree that the concepts being taught in teacher preparation programs are important to successful practice. Standard 1 of the American Association for Agricultural Education's National Standards for Agricultural Teacher Education Program Improvement: "The design, implementation, and evaluation of an agricultural education teacher preparation program reflect a dynamic conceptual framework, grounded in experience-based knowledge and developed with input by all stakeholders." (p. 1) (http://ed.cornell.edu/aaae/STD, 2000) is already being achieved by many teacher preparation programs.

For agricultural education teacher educators, characteristics such as gender, number of students attending their institution, their academic rank or the years that they had been involved in agricultural education teacher preparation at the post-secondary level do not affect opinions on the importance of the selected
teaching competencies. Similar educational backgrounds and training may cause this group to be homogeneous in their opinions concerning teacher competencies.

For agricultural education teachers, teachers from comprehensive high schools teaching grades 9-12 in rural areas thought competencies concerning Program Management and Managing Field Experience were important. The majority of the agricultural education teachers who participated in this study fit this demographic profile. Logically, these characteristics would effect both an agricultural education teachers' opinions on how to best prepare a student teacher, and the competencies they felt were needed for program/classroom management. Teachers with more years of teaching experience had served as a cooperating teacher for student teachers than had teachers with fewer years of experience. Generally, more experienced teachers are selected for supervision of student teachers. Both groups think similarly about the importance of Program Management and Managing Field Experience. Since an effective student teaching experience has a large effect on how a teacher manages a classroom when they begin practice, it would make sense that agricultural education teacher educators and agricultural education teachers felt the summated competencies were both important and related to one another. This relationship would be supported by Darling-Hammond (1994) who stated that teaching for understanding requires teachers to have comprehensive knowledge of subject matter, competence in presenting that knowledge in instructional activities, and
skill in managing classroom procedures in a way that enables active student learning.

The identification of new competencies relating to information technology, integration of vocational and academic subject matter, distance learning, and meeting the basic needs of diverse student populations reflected the extent to which the philosophy of agricultural education has changed to meet the demands of each student in the educational system as well as the changing face of modern agriculture. The new competencies were consistent with current educational philosophy, computer applications in all aspects of teaching and learning, and the growing concern that no student can be wasted. Being able to identify competencies important to successful agriculture education teachers and providing means for agricultural education teachers to acquire these competencies has become increasingly critical with the emphasis on accountability and positive outcomes. Teacher expertise is the single most important factor in determining student achievement (Darling-Hammond, 1994).

**Recommendations**

Recommendations in this section include implications for existing theory and practice as well as further research.

**Theory**

Opinions of both agricultural education teacher educators and agricultural education teachers on the importance of selected teaching competencies
indicate that some additions to theory may be necessary to accommodate the changing agricultural education framework. Results from this study indicate additional areas of theory to explore might include:

1. Agricultural education teacher educators should use this study as they are attempting to benchmark competencies important for agricultural education teachers. The study validated the Owens (1999) study on the importance of selected competencies for vocational-technical teachers and substantiated that these competencies were also important for agricultural education teachers. The National Standards for Agricultural Teacher Education Program Improvement (American Association for Agricultural Education, 2000) stated as one of its expectations in the areas of candidate performance that programs should be designed so that teacher candidates attain competence in basic principles, concepts and experiential practices.

2. Theorists who are calling for a series of new competencies that have emerged in the new agricultural education framework should consider the competencies proposed by agricultural education teacher educators and agricultural education teachers in addressing the current issues in agricultural education used in this study.
Practice

For research to be truly useful to the population for which it is intended, it must be applied in the field (i.e., put into practical use). This study will lend support to ongoing research on teaching competencies and standards. New areas for practitioners to explore might include:

1. This list of competencies should be compared with those being considered by AAAE as it develops its standards for agricultural teacher education program improvement. Similarities and differences should be noted and explored.

2. This study should be helpful in providing additional information to colleges and universities that are determining how well their teacher preparation programs are meeting the needs of future agricultural education teachers.

3. Agricultural education teachers should use this study to determine if they possess the competencies to be successful in their field. They should also determine whether they are currently using these competencies in their classrooms.

4. The competencies evaluated in this study should be used by the National Board for Professional Teaching Standards to determine if they are included in the standards for Career and Technical Education certification.
Further Study

The changing face of agricultural education and the need to establish national standards to evaluate both agricultural education teacher preparation programs and agricultural education teachers themselves, has continued the need to identify which competencies are important for success in the teaching profession. As a result of this study, some additional areas of study should include:

1. The competencies considered in this study should be compared with other lists of competencies to see how they are similar as well as how they differ. Some lists to consider would be those used in developing the National Standards for Agricultural Teacher Education Program Improvement (American Association for Agricultural Education, 2000) as well as The Framework for Professional Practice (Danielson, 1996).

2. As more alternatively certified teachers become agricultural education teachers, it becomes increasingly important to measure whether the competencies needed by this group of teachers vary from those needed by graduates of traditional teacher preparation programs at colleges and universities.
3. Many of the competencies used in this study are contained in the PBTE modules. An effort should be made to update these modules as well as explore how they might be used in teacher preparation programs. In addition, the individualized, self-paced nature of the modules would make them ideal for use as a self-study tool in entry year programs as well as an effective delivery tool for distance education.

4. A study should be done cross-referencing the PBTE Modules to other current lists of competencies (Framework for Professional Practice, the National Board for Teaching Standards, etc.). The modules should then be used by teachers in gaining additional competencies or strengthening weak instructional areas as they prepare for Praxis III evaluation, other professional assessment or in licensure activities.

5. A study should be done to determine the degree to which current agricultural education teacher preparation program curricula address the competencies needed for successful agricultural education teachers and to see how these programs align with national trends in all areas of teacher education.

6. A conceptual framework for agricultural education and what teachers should know and be able to do should be developed using the selected teaching competencies as one of the “yardsticks” to measure skills and knowledge needed by agricultural education teachers.
7. A study using a group of agricultural education teacher educators and agricultural education teachers should be done to allow respondents to rank the importance and relevancy of the competencies.
APPENDIX A

COTRELL LIST OF COMPETENCIES,
NORTON (DACUM) LIST OF COMPETENCIES,
AND CROSS REFERENCED COMPETENCIES
Category A: Program Planning, Development, and Evaluation

A-1 Prepare for a Community Survey
A-2 Conduct a Community Survey
A-3 Report the Findings of a Community Survey
A-4 Organize an Occupational Advisory Committee
A-5 Maintain an Occupational Advisory Committee
A-6 Develop Program Goals and Objectives
A-7 Conduct an Occupational Analysis
A-8 Develop a Course of Study
A-9 Develop Long-Range Program Plans
A-10 Conduct a Student Follow-Up Study
A-11 Evaluate Your Vocational Program

Category B: Instructional Planning

B-1 Determine Needs and Interests of Students
B-2 Develop Student Performance Objectives
B-3 Develop a Unit of Instruction
B-4 Develop a Lesson Plan
B-5 Select Student Instructional Materials
B-6 Prepare Teacher-Made Instructional Materials

Category C: Instructional Execution

C-1 Direct Field Trips
C-2 Conduct Group Discussions, Panel Discussions, and Symposiums
C-3 Employ Brainstorming, Buzz Group, and Question Box Techniques
C-4 Direct Students in Instructing Other Students
C-5 Employ Simulation Techniques
C-6 Guide Student Study
C-7 Direct Student Laboratory Experience
C-8 Direct Students in Applying Problem-Solving Techniques
C-9 Employ the Project Method
C-10 Introduce a Lesson
C-11 Summarize a Lesson
C-12 Employ Oral Questioning Techniques
C-13 Employ Reinforcement Techniques
C-14 Provide Instruction for Slower and More Capable Learners
C-15 Present an Illustrated Talk
C-16 Demonstrate a Manipulative Skill
C-17 Demonstrate a Concept or Principle
C-18 Individualize Instruction
C-19 Employ the Team Teaching Approach
C-20 Use Subject Matter Experts to Present Information
C-21 Prepare Bulletin Boards and Exhibits
C-22 Present Information with Models, Real Objects, and Flannel Boards
C-23 Present Information with Overhead and Opaque Materials
C-24 Present Information with Filmstrips and Slides
C-25 Present Information with Films
C-26 Present Information with Audio Recordings
C-27 Present Information with Televised and Videotaped Materials
C-28 Employ Programmed Instruction
C-29 Present Information with the Chalkboard and Flip Chart

Category D: Instructional Evaluation

D-1 Establish Student Performance Criteria
D-2 Assess Student Performance: Knowledge
D-3 Assess Student Performance: Attitudes
D-4 Assess Student Performance: Skills
D-5 Determine Student Grades
D-6 Evaluate Your Instructional Effectiveness

Category E: Instructional Management

E-1 Project Instructional Resource Needs
E-2 Manage Your Budgeting and Reporting Responsibilities
E-3 Arrange for Improvement of your Vocational Facilities
E-4 Maintain a Filing System
E-5 Provide for Student Safety
E-6 Provide for First Aid Needs of Students
E-7 Assist Students in Developing Self-Discipline
E-8 Organize the Vocational Laboratory
E-9 Manage the Vocational Laboratory
E-10 Combat Problems of Student Chemical Use

Category F: Guidance

F-1 Gather Student Data Using Formal Data-Collection Techniques
F-2 Gather Student Data Through Personal Contacts
F-3 Use Conferences to Help Meet Student Needs
F-4 Provide Information on Educational and Career Opportunities
F-5 Assist Students in Applying for Employment or Further Education
Category G: School-Community Relations

G-1 Develop a School-community Relations Plan for Your Vocational Program
G-2 Give Presentations to Promote Your Vocational Program
G-3 Develop Brochures to Promote Your Vocational Program
G-4 Prepare Displays to Promote Your Vocational Program
G-5 Prepare News Releases and Articles Concerning Your Vocational Program
G-6 Arrange for Television and Radio Presentations Concerning Your Vocational Program
G-7 Conduct an Open House
G-8 Work with Members of the Community
G-9 Work with State and Local Educators
G-10 Obtain Feedback about Your Vocational Program

Category H: Vocational Student Organization

H-1 Develop a Personal Philosophy Concerning Vocational Student Organizations
H-2 Establish a Vocational Student Organization
H-3 Prepare Vocational Student Organization Members for Leadership Roles
H-4 Assist Vocational Student Organization Members in Developing and Financing a Yearly Program of Activities
H-5 Supervise Activities of the Vocational Student Organization
H-6 Guide Participation in Vocational Student Organization Contests

Category I: Professional Role and Development

I-1 Keep Up-to-date Professionally
I-2 Serve Your Teaching Profession
I-3 Develop an Active Personal Philosophy of Education
I-4 Serve the School and Community
I-5 Obtain a Suitable Teaching Position
I-6 Provide Laboratory Experiences for Prospective Teachers
I-7 Plan the Student Teaching Experience
I-8 Supervise Student Teachers

Category J: Coordination of Cooperative Education

J-1 Establish Guidelines for Your Cooperative Vocational Program
J-2 Manage the Attendance, Transfers, and Terminations of Co-op Students
J-3 Enroll Students in Your Co-op Program
J-4 Secure Training Stations for Your Co-op Program
J-5 Place Co-op Students on the Job
J-6 Develop the Training Ability of On-the-Job Instructors
J-7 Coordinate On-the-Job Instruction
J-8 Evaluate Co-op Students' On-the-Job Performance
J-9 Prepare for Students' Related Instruction
J-10 Supervise an Employer-Employee Appreciation Event

Category K: Implementing Competency-Based Education (CBE)

K-1 Prepare Yourself for CBE
K-2 Organize the Content for a CBE Program
K-3 Organize Your Class and Lab to Install CBE
K-4 Provide Instructional Materials for CBE
K-5 Manage the Daily Routines of Your CBE Program
K-6 Guide Your Students Through the CBE Program

Category L: Serving Students with Special/Exceptional Needs

L-1 Prepare Yourself to Serve Exceptional Students
L-2 Identify and Diagnose Exceptional Students
L-3 Plan Instruction for Exceptional Students
L-4 Provide Appropriate Instructional Materials for Exceptional Students
L-5 Modify the Learning Environment for Exceptional Students
L-6 Promote Peer Acceptance of Exceptional Students
L-7 Use Instructional Techniques to Meet the Needs of Exceptional Students
L-8 Improve Your Communication Skills
L-9 Assess the Progress of Exceptional Students
L-10 Counsel Exceptional Students with Personal-Social Problems
L-11 Assist Exceptional Students in Developing Career Planning Skills
L-12 Prepare Exceptional Students for Employability
L-13 Promote Your Vocational Program with Exceptional Students

Category M: Assisting Students in Improving their Basic Skills

M-1 Assist Students in Achieving Basic Reading Skills
M-2 Assist Students in Developing Technical Reading Skills
M-3 Assist Students in Improving Their Writing Skills
M-4 Assist Students in Improving Their Oral Communication Skills
M-5 Assist Students in Improving Their Math Skills
M-6 Assist Students in Improving Their Survival Skills
Norton (DACUM) Competencies
As Identified for Career Related Teachers

A: Develop Relationships with Business and Industry
A-1 Organize advisory committee
A-2 Maintain advisory committee
A-3 Solicit business, industry, and labor surveys
A-4 Conduct business, industry and labor surveys
A-5 Disseminate business, industry and labor survey results
A-6 Link courses to business/industry competencies
A-7 Develop work-site learning opportunities (e.g., co-op, mentoring, shadowing, apprenticeship)
A-8 Develop secondary/postsecondary articulation agreements
A-9 Communicate student credentials to employers
A-10 Obtain feedback from former students
A-11 Host company representatives at school

B: Develop Program/Course Curriculum
B-1 Conduct needs assessment
B-2 Assess course feasibility
B-3 Promote the proposed course/program
B-4 Develop course/program competency profile
B-5 Research course content
B-6 Develop a course outline
B-7 Establish a course syllabus
B-8 Develop performance objectives
B-9 Integrate academic and vocational course elements
B-10 Develop secondary and postsecondary coordinated curriculum (e.g., Tech Prep)
B-11 Identify course learning outcomes
B-12 Infuse employability skills throughout the curriculum
B-13 Obtain course curriculum approval(s)
B-14 Determine the required facilities
B-15 Develop a course budget
B-16 Select print reference materials (e.g., modules, learning guides, manuals)
B-17 Select non-print references (e.g., audiovisuals, software)
B-18 Select external resources (e.g., field trips, guest speakers, job shadowing)
B-19 Develop a course evaluation strategy
B-20 Establish a grading policy
B-21 Develop a competency-based implementation strategy
C: Promote the Educational/Training Program

C-1 Develop promotional materials  
C-2 Recruit students for programs  
C-3 Participate in school open house  
C-4 Conduct program tours  
C-5 Showcase student achievements  
C-6 Network with colleagues and administrators about your program  
C-7 Write professionals articles  
C-8 Lobby elected officials  
C-9 Conduct community presentations/meetings  
C-10 Contribute public relations information  
C-11 Supervise student service to the public

D: Prepare for Instruction

D-1 Assess students' present level of achievement  
D-2 Identify students' learning styles  
D-3 Plan instruction collaboratively with academic teachers  
D-4 Develop integrated projects  
D-5 Develop lesson plans  
D-6 Develop instructional materials (e.g., worksheets, job sheets, handouts, lab assignments)  
D-7 Prepare audiovisual resources (e.g., transparencies, videos)  
D-8 Develop learning guides/modules  
D-9 Prepare instructional area(s) (e.g., classroom, lab, shop, job site)  
D-10 Establish environment conducive to learning

E: Facilitate Instruction

E-1 Introduce a lesson  
E-2 Conduct formal classroom presentations  
E-3 Conduct demonstrations  
E-4 Employ various teaching methods within lessons  
E-5 Employ various questioning techniques  
E-6 Individualize instruction  
E-7 Conduct group discussions  
E-8 Conduct group activities  
E-9 Employ student projects  
E-10 Provide for instruction using computers  
E-11 Provide guided practice  
E-12 Incorporate instructional games  
E-13 Employ simulation techniques  
E-14 Conduct role playing
E-15 Incorporate guest speakers
E-16 Conduct field trips
E-17 Coordinate work site learning
E-18 Coordinate job shadowing
E-19 Participate in team teaching
E-20 Employ peer teaching
E-21 Employ the coaching method
E-22 Facilitate cooperative learning
E-23 Teach safety practices
E-24 Adjust instruction according to student feedback
E-25 Address special learning needs
E-26 Provide remedial instruction
E-27 Assist students with learning activities
E-28 Resolve classroom conflicts
E-29 Summarize a lesson

F: Manage the Classroom/Laboratory

F-1 Enforce school policies
F-2 Develop a safety handbook
F-3 Enforce safety procedures
F-4 Establish classroom procedures (e.g., homework, testing, make-up work)
F-5 Develop student behavioral expectations, consequences and rewards
F-6 Administer student behavior rewards and consequences
F-7 Develop individual learning contracts
F-8 Develop individual behavioral contracts
F-9 Monitor the physical environment
F-10 Provide parents with student and program information
F-11 Consult with other professionals
F-12 Provide guidelines for substitute teachers
F-13 Disseminate announcements to students and teachers
F-14 Create bulletin board displays
F-15 Develop a seating chart
F-16 Provide for classroom, shop, lab housekeeping
F-17 Manage a competency-based education classroom/lab, shop

G: Assess Student Performance

G-1 Establish student assessment strategy
G-2 Determine student assessment criteria
G-3 Assess student affective performance
G-4 Assess student psychomotor performance
G-5 Assess student cognitive performance
G-6 Assess students' ability to integrate skills
G-7 Analyze assessment data
G-8 Determine student grades
G-9 Assist with students' portfolio development
G-10 Maintain student progress charts (e.g., lab, skills project, assignments)
G-11 Develop peer and self-assessment procedures

H: Advise Students

H-1 Assess student concerns/needs
H-2 Advise students on matters where qualified
H-3 Refer students to resource persons
H-4 Advise students on career paths (e.g., employment, education, and military)
H-5 Coach students through classroom discussions
H-6 Advise students to set high career and personal expectations

I: Manage Tools, Equipments, Supplies and Materials

I-1 Order tools, equipment, supplies, and materials
I-2 Store tools, equipment, supplies, and materials
I-3 Maintain a inventory of tools, equipment, supplies, and materials
I-4 Manage distribution and collection of tools, equipment, supplies, and materials
I-5 Maintain tools and equipment
I-6 Control loss of tools, equipment, supplies, and materials
I-7 Acquire instructional resources (e.g., wood, metal, chemicals)
I-8 Duplicate instructional materials

J: Support Student Organizations and Activities

J-1 Encourage student participation in activities
J-2 Support student activities through instruction
J-3 Advise student organizations
J-4 Coach student teams
J-5 Chaperone student activities
J-6 Supervise fundraisers
J-7 Recognize student achievements
K: Maintain Course Effectiveness

K-1 Obtain evaluative data (e.g., from students, teachers, advisory committee, self)
K-2 Analyze course evaluation data
K-3 Modify course according to data
K-4 Implement course modifications
K-5 Revise course to include new technologies and requirements
K-6 Revise course to meet student and industry needs

L: Perform Teaching-Related Activities

L-1 Document student behavior (e.g., discipline incidents, notable achievements, academic concerns)
L-2 Document students' safety competency
L-3 Maintain attendance records
L-4 Process student forms
L-5 Collect student fees (e.g., lab fees, tool kits, membership dues)
L-6 Proctor tests and surveys
L-7 Monitor assigned areas (e.g., halls, restrooms)
L-8 Conduct home visits
L-9 Participate on committees
L-10 Participate in staff meetings
L-11 Participate in scheduling process
L-12 Participate in budgeting process
L-13 Mentor colleagues
L-14 Provide recommendations for students and colleagues
L-15 Provide substitute coverage for colleagues
L-16 Participate in levies/campaigns
L-17 Provide consulting services

M: Continue Professional Development

M-1 Participate in experiences with business and industry (e.g., visits, internships, summer jobs)
M-2 Participate in professional organizations
M-3 Participate in professional meetings, conferences (e.g., symposiums, inservice training, workshops)
M-4 Present at professional meetings
M-5 Read professional literature
M-6 Participate in trade shows
M-7 Continue formal professional education
M-8 Maintain occupational certification(s)
Cross-Referenced List of PBTE Modules (Cotrell Competencies) and Norton (DACUM) Duties and Tasks for Career Related Teachers

<table>
<thead>
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<th>PBTE Module</th>
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<tr>
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APPENDIX B

INSTRUMENT
An Examination of the Importance of Selected Teaching Competencies for Agricultural Education Teachers

Directions: The following list of competencies for agricultural education teachers were either identified by Cotrell et al. (1985) but were not found in the DACUM -Center for Education and Training for Employment Workshop conducted by Norton (1995) or were found only on the later list. There were many competencies which the two studies shared. This study only addresses those competencies that were unique to each list. Section A has competencies that address program management as well as teaching and learning. Section B has competencies that apply to managing field experiences (student teaching). Please indicate the degree to which you think these selected competencies are important to a successful agricultural education teacher by circling one of the categories following each statement. The following key is used to describe your answer:

KEY:  
NI = Not Important  
SI = Slightly Important  
MI = Moderately Important  
VI = Very Important  
DK = Don’t Know

Example:

Enrich instruction to challenge the abilities of the more capable student ..........NI SI MI VI DK

In this example, the respondent thought that the competency was very important.

A. Program Management

1. Obtain approval from the school administration for establishing the vocational student organization ................................................. NI SI MI VI DK

2. Assist the cooperating employer's personnel in accepting the training status of the (high school) student-learner ................................................ NI SI MI VI DK

3. Assist the cooperating employer's personnel in accepting the role of the (high school) student-learner ................................................ NI SI MI VI DK

4. Maintain good working relationships with training station personnel ................................................................. NI SI MI VI DK

5. Encourage the on-the-job instructor to follow the training plan in providing experiences for the (high school) student-learner ........ NI SI MI VI DK
6. Evaluate the quality of on-the-job training received by the (high school) student-learner

7. Provide a workshop to assist on-the-job instructors in techniques for teaching (high school) student-learners

8. Host company representatives at school

9. Establish a course syllabus

10. Develop secondary and post-secondary coordinated curriculum

11. Lobby elected officials

12. Develop integrated projects

13. Develop learning guides/modules

14. Provide instruction for using computers

15. Coordinate job shadowing

16. Employ the coaching method

17. Develop a safety handbook

18. Develop individual learning contracts
19. Develop individual behavioral contracts .................................................. NI SI MI VI DK
20. Provide guidelines for substitute teachers ............................................. NI SI MI VI DK
21. Disseminate announcements to students and teachers ......................... NI SI MI VI DK
22. Develop a seating chart ........................................................................ NI SI MI VI DK
23. Assess students' ability to integrate skills .............................................. NI SI MI VI DK
24. Assist with students' portfolio development .......................................... NI SI MI VI DK
25. Participate in the scheduling process ...................................................... NI SI MI VI DK
26. Provide substitute coverage for colleagues .......................................... NI SI MI VI DK
27. Participate in levies/campaigns ............................................................... NI SI MI VI DK
28. Present at professional meetings ............................................................ NI SI MI VI DK
29. Participate in trade shows ..................................................................... NI SI MI VI DK
B. Managing Field Experience

30. Provide opportunities for potential teachers to observe in public school programs .......................................................... NI SI MI VI DK

31. Provide opportunities for potential teachers to participate in public school programs .......................................................... NI SI MI VI DK

32. Plan activities for the student teacher which draw upon college course work .............................................................. NI SI MI VI DK

33 Plan activities for the student teacher which enrich college course work .............................................................. NI SI MI VI DK

34. Interpret local school board policies to the student teacher .............................................................. NI SI MI VI DK

35. Interpret local school board regulations to the student teacher ............................................................................................. NI SI MI VI DK

36. Assign responsibilities commensurate with the student teacher's knowledge .............................................................. NI SI MI VI DK

37. Assign responsibilities commensurate with the student teacher's experience .............................................................. NI SI MI VI DK

38. Confer with the college supervisor and the student teacher regarding plans for the total student teaching experience ............................................................................................. NI SI MI VI DK

39. Confer with the college supervisor and the student teacher regarding plans for evaluating the total student teaching experience ............................................................................................. NI SI MI VI DK

40. Demonstrate instructional techniques for student teachers .............................................................. NI SI MI VI DK
42. Consult regularly with the student teacher regarding planning teaching .................................................. NI SI MI VI DK

42. Consult regularly with the student teacher regarding implementing teaching .................................................. NI SI MI VI DK

43. Consult regularly with the student teacher regarding evaluating teaching .................................................. NI SI MI VI DK

44. Confer regularly with the student teacher .................................................. NI SI MI VI DK
Part II: Competencies to Address Current Issues

There are many issues that will shape agricultural education in the future. New competencies may need to be acquired by agricultural educators in order to successfully meet these challenges. The researcher identified several current issues affecting agricultural education through a review of literature. Conroy and Kelsey (2000) and Persons (2000) have identified current issues affecting agricultural education including increased dependence upon information technology, integration of academic and vocational subject matter, distance learning and meeting the needs of a diverse student population.

Directions: Please describe competencies that will needed for a successful agricultural education teacher to meet the challenges created by this issue.

Example: A competency addressing the issue of documenting professional development:

*Develop a teaching portfolio to show growth in instructional practices.*

1. The required teaching competency or competencies needed to address the issue of increased dependence upon information technology:
2. The required teaching competency or competencies needed to address the issue of integration of academic and vocational subject matter.

3. The required teaching competency or competencies needed to address the issue of distance learning.

4. The required teaching competency or competencies needed to address the issue of a diverse student population.
Part III: Characteristics of Agricultural Education Teacher Educators and Institutions

Directions: Please circle the letter in front of the information that describes you or your situation, or fill in the blank with the correct information. The answers will be used for statistical information. All information will be confidential.

1. What is your gender?
   a) MALE
   b) FEMALE

2. How many students attend your institution?
   a) 999 OR LESS
   b) 1,000 to 4,999
   c) 5,000 to 9,999
   d) 10,000 to 19,999
   e) 20,000 to 29,999
   f) 30,000 OR MORE

3. What is your academic rank?
   a) INSTRUCTOR
   b) ASSISTANT PROFESSOR
   c) ASSOCIATE PROFESSOR
   d) PROFESSOR
   e) OTHER (PLEASE SPECIFY) ____________________________

4. How many years have you been involved with the preparation of agricultural education teachers at the post secondary level? _______
Part III: Characteristics of Agricultural Education Teachers and Schools

Directions: Please circle the letter in front of the information that describes you or your situation, or fill in the blank with the correct information. The answers will be used for statistical information. All information will be confidential.

1. What is your gender?
   a) MALE
   b) FEMALE

2. In what type of school do you teach?
   a) COMPREHENSIVE HIGH SCHOOL
   b) CAREER CENTER
   c) JOINT VOCATIONAL SCHOOL
   d) JR. HIGH/MIDDLE SCHOOL
   e) OTHER (PLEASE SPECIFY) ________________

3. What grade level(s) best describe your students?
   a) K-5
   b) 6-8
   c) 9-12
   d) OTHER (PLEASE SPECIFY) ________________

4. Which population category best describes your school district?
   a) RURAL (located in a county with population <40,000 and not contiguous to a Metropolitan Statistical Area-MSA)
   b) SEMI-RURAL (located in a county with population >40,000 and not contiguous to an MSA)
   c) RURAL /SUBURBAN (located in a county with population <40,000 and were contiguous to an MSA)
   d) SUBURBAN (located in a county with population >40,000 and were contiguous to an MSA)
   e) URBAN (located in a county classified as an MSA - Metropolitan Statistical Area)

5. How many years have you been an agricultural education teacher? ________

6. Have you ever been a cooperating teacher for a student teacher? ________
Please Return to:

Margaret Owens
The Ohio State University
Agricultural Engineering Building
590 Woody Hayes Dr., Rm. 137
Columbus, Ohio 43210

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Dr. Robert J. Birkenholz  
University of Missouri  
Department of Agricultural Education  
Columbia, Missouri

Dr. Jacquelyn P. Deeds  
Mississippi State University  
Department of Agr. Info. Science and Education  
Mississippi State, Mississippi

Dr. Tracy Hoover  
University of Florida  
Department of Agricultural Education and Communication  
Gainesville, Florida

Dr. Jacqui Lockaby  
Texas Tech University  
Department of Agricultural Education and Communication  
Lubbock, Texas

Dr. Roland Peterson  
University of Minnesota  
Department of Vocational and Technical Education  
St. Paul, Minnesota

Dr. Kirk A. Swortzel  
Auburn University  
Department of Curriculum and Teaching  
Auburn, Alabama

Dr. Robert Terry, Jr.  
Oklahoma State University  
Department of Agricultural Education, Communication and 4-H  
Stillwater, Oklahoma

Dr. Robert M. Torres  
New Mexico State University  
Agricultural and Extension Education  
Las Cruces, New Mexico

Dr. George Wardlow  
University of Arkansas  
Department of Agricultural and Extension Education  
Fayetteville, Arkansas
Dr. Mark Zidon
University of Wisconsin-Platteville
School of Agriculture
Platteville, Wisconsin
APPENDIX D

CORRESPONDENCE
June 18, 2000

Dear ,

The preparation of teachers is critical to their future success in the classroom. Two previous studies [Cotrell et al. (1985) and Norton (1995)] have established a list of competencies important for successful vocational-technical teachers. Both studies agreed on many essential competencies that will not be considered in this study, but 36 competencies were unique. We are interested in seeing if the 36 unique competencies are relevant to agricultural education teachers. The original list of 36 unique competencies was used to develop a questionnaire. For clarity, some of the original competencies were changed to statements that only address one aspect of the competency. Additionally, issues affecting agricultural education will be examined to determine competencies that might be needed by agricultural education teachers to meet new challenges.

However, prior to conducting the study, I am seeking your expert opinion about the content and organization of this questionnaire. Please comment on any changes you feel should be made in the instrument as well as providing feedback on the following questions:

1. Is the content of this questionnaire representative of the unique competencies essential to a successful vocational-technical teacher as identified by Cotrell et al. (1972) and Norton (1995)? *Copies of these two sets of competencies are attached.

2. How adequate are the instructions provided for the study participants?

3. How legible, attractive, readable and convenient is the questionnaire?

4. Which items are not clear?

You may also write on the questionnaire itself. Thank you very much for your important contribution to this study. If you have any questions, please contact me by e-mail at owens.162@osu.edu or by telephone at (614) 292-6519. Please complete this review by August 28, 2000. You may also fax your comments to me at (614) 292-9448.

Sincerely,

Margaret Owens
Graduate Research Associate

Dr. N.L. McCaslin
Professor and Chair
Department of Human and
Community Resource Development
1. Is the content of this questionnaire representative of the unique competencies essential to a successful vocational-technical teacher as identified by Cotrell et al. (1985) and Norton (1995)?

2. How adequate are the instructions provided for the study participants?
3. How legible, attractive, readable and convenient is the questionnaire?

4. Which items are not clear?
September 28, 2000

Dear Dr.,

The preparation of teachers is critical to their future success in the classroom. Two studies [Cotrell et al. (1972) and Norton (1995)] established a list of competencies important for successful vocational-technical teachers. Both studies agreed on many competencies that will not be considered in this study, but 36 competencies were unique. We are interested in seeing if the 36 unique competencies are relevant to agricultural education teachers. The original list of 36 unique competencies was used to develop a questionnaire. For clarity, some of the original competencies were changed to statements that only addressed one aspect of the competency. Additionally, issues affecting agricultural education will be examined to determine competencies that might be needed by agricultural education teachers to meet new challenges.

However, prior to conducting the study, I am seeking your expert opinion to help determine the reliability of this questionnaire. We are interested in whether or not the responses to this questionnaire are internally consistent, and if they vary over time.

The enclosed questionnaire should take about fifteen minutes to complete. Your reply to this questionnaire will be kept confidential. Please complete the questionnaire and return it in the envelope provided by October 9, 2000. We have included a dollar bill as a token of appreciation for your help. Thank you very much for your contribution to this study. If you have any questions, please contact me by e-mail at owens.162@osu.edu or by telephone at (614) 292-6519.

Sincerely,

Margaret Owens
Graduate Research Associate

Dr. N.L. McCaslin
Professor and Chair
Department of Human and
Community Resource Development
October 31, 2000

Dear 

You should have received a questionnaire on the importance of selected competencies for agricultural education teachers on or about September 28. I am seeking your expert opinion to help determine the reliability of this questionnaire. We are interested in whether or not the responses to this questionnaire are internally consistent, and if they vary over time.

If you have not already returned the questionnaire, please take a moment to complete and return it now. The questionnaire should take about fifteen minutes to complete. Your reply to this questionnaire will be kept confidential. Thank you very much for your contribution to this study. If you have any questions or did not receive the questionnaire, please contact me by e-mail at owens.162@osu.edu or by telephone at (614) 292-6519.

Sincerely,

Margaret Owens
Graduate Research Associate

N.L. McCaslin
Professor and Chair
Department of Human and Community Resource Development
November 1, 2000

Dear

Thank you for your response to the questionnaire on the importance of selected competencies for agricultural education teachers. As mentioned in the previous letter, I am seeking your expert opinion to help determine the reliability of Part I (Sections A and B) of this questionnaire. We are interested in whether or not the responses to this questionnaire are internally consistent, and if they vary over time. It is not necessary to complete Part II this time. In order to see if answers vary over time, I am using a test-retest method to measure reliability. In this method, you will be asked to answer the questions on this instrument again to see if the answers vary from your first set of responses.

The enclosed questionnaire should take about fifteen minutes to complete. Your reply to this questionnaire will be kept confidential. Please complete the questionnaire and return it in the envelope provided by November 15. We have included a dollar bill as a token of appreciation for your help. Thank you very much for your contribution to this study. If you have any questions, please contact me by e-mail at owens.162@osu.edu or by telephone at (614) 292-6519.

Sincerely,

Margaret Owens
Graduate Research Associate

N.L. McCaslin
Professor and Chair
Department of Human and Community Resource Development
January 3, 2001

Dear ,

I am conducting a research study to examine changes in the teaching profession and/or society which may have caused revisions in the competencies required for a successful agricultural education teacher. The purpose of this study is to compare the opinions of agricultural education teacher educators with those of agricultural education teachers to determine the importance of selected teaching competencies needed for successful instruction. I am comparing differences between two lists of teaching competencies as first identified by Cotrell et al. (1972) and later readdressed in a DACUM study (1995). In addition, I am soliciting your opinions regarding new competencies that might be needed to meet the challenges provided by issues currently affecting agricultural education.

You have been identified as a person who has expertise in the field of agricultural education. You were selected through your role as a teacher of agricultural education to participate in this study.

In a few days, you will receive in the mail a questionnaire for this important research project. I am writing in advance because we have found that many people like to know ahead of time that they will be contacted. Your participation in this project is of critical importance. Responding to the questionnaire should take approximately fifteen minutes of your time.

Your reply to the questionnaire will be kept confidential and your participation in this study is voluntary. Thank you for your time and consideration. It is only with the generous help of teachers like you that this research can be successful. Please contact me by calling (614) 292-6519 or by e-mail at owens.162@osu.edu if you have any further questions concerning this project. I look forward to receiving your response.

Sincerely,

Margaret Owens
Graduate Research Associate

N. L. McCaslin
Professor and Chair
Department of Human and Community Resources
January 3, 2001

Dear [Name],

I am conducting a research study to examine changes in the teaching profession and/or society which may have caused revisions in competencies required for a successful agricultural education teacher. The purpose of this study is to compare the opinions of agricultural education teacher educators with those of agricultural education teachers to determine the importance of selected teaching competencies needed for successful instruction. I am comparing differences between two lists of teaching competencies as first identified by Cotrell et al. (1972) and later readdressed in a DACUM study (1995). In addition, I am soliciting your opinions regarding new competencies that might be needed to meet the challenges provided by issues currently affecting agricultural education.

You have been identified as a person who has expertise in the field of agricultural education. You were selected through your membership in the American Association for Agricultural Educators (AAAE) as a professional agricultural education teacher educator to participate in this study.

In a few days, you will receive in the mail a questionnaire for this important research project. I am writing in advance because we have found that many people like to know ahead of time that they will be contacted. Your participation in this project is of critical importance. Responding to the questionnaire should take approximately fifteen minutes of your time.

Your reply to the questionnaire will be kept confidential and your participation in this study is voluntary. Thank you for your time and consideration. It is only with the generous help of educators like you that this research can be successful. Please contact me by calling (614) 292-6519 or by e-mail at owens.162@osu.edu if you have any further questions concerning this project. I look forward to receiving your response.

Sincerely,

Margaret Owens
Graduate Research Associate

N. L. Mc Caslin
Professor and Chair
Department of Human and Community Resource Development
January 15, 2001

Dear [Name],

I am asking you to help in a study gathering information on the importance of selected teaching competencies needed by agricultural education teachers. Your expertise and perspective will be invaluable in validating the importance of existing teaching competencies and will be essential in determining what new teaching competencies may be needed to meet the challenges of current issues affecting agricultural education.

Cotrell et al. (1972) identified a list of essential vocational-technical education teacher competencies. A similar DACUM study was done by the Center for Education and Training for Employment (CETE) facilitated by Norton (1995). A comparison of these competencies found that many were shared by both lists. However, 15 competencies were unique to the Cotrell et al. list and 22 competencies were unique to the CETE-DACUM workshop list.

The purpose of this study is to obtain perspectives from agricultural education teacher educators and practicing agricultural education teachers on the importance of each of these essential teaching competencies. In addition, possible new competencies will be identified.

The enclosed questionnaire should take about fifteen minutes to complete. Your reply to this questionnaire will be kept confidential. Please complete the questionnaire and return it in the envelope provided by February 1, 2001. We have included a dollar bill as a way of saying thank you for your help. If you have any questions concerning the questionnaire or the study, please call me at (614) 292-6519 or e-mail at owens.162@osu.edu.

Sincerely,

Margaret Owens,  
Graduate Teaching Associate

N. L. McCaslin,  
Professor and Chair  
Department of Human and  
Community Resource Development
January 22, 2001

Last week a questionnaire seeking your opinions on the importance of selected teaching competencies for agricultural education teachers was mailed to you.

If you have already completed and returned the questionnaire, please accept my sincere thanks. If not, please do so today. I am especially grateful for your help in sharing your opinions on the importance of selected teaching competencies as well as advancing ideas for new teaching competencies.

If you did not receive a questionnaire, or if it was misplaced, please call me at (614) 292-6519 or e-mail at owens.162@osu.edu, and I will mail another one to you.

Margaret Owens
Graduate Research Assistant
The Ohio State University
Department of Human and Community Resource Development
Columbus, Ohio
Dear [Name],

About two weeks ago, I sent you a questionnaire asking your opinions on the importance of selected teaching competencies for agricultural education teachers as identified in studies conducted in 1972 and 1995. To the best of my knowledge, it has not yet been returned. In the event that you did not receive the first questionnaire, I have enclosed a duplicate questionnaire and a self-addressed stamped envelope.

I am writing you again because of the importance that your questionnaire has for helping to get accurate results. Although I sent questionnaires to people teaching in every state, it's only by hearing from nearly everyone that the results are truly representative.

The comments of other agricultural educators who have already responded have offered some important insights into the importance of the selected competencies as well as generated some exciting potential new competencies that will be needed by teachers of agricultural education. The results are going to be very useful to all agricultural educators.

I hope that you will fill out and return the questionnaire soon. If you have any questions, please feel free to contact me at (614) 292-6519 or by e-mail at owens.162@osu.edu.

Sincerely,

Margaret Owens,
Graduate Teaching Associate

N. L. McCaslin,
Professor and Chair
Department of Human and Community Resource Development
March 14, 2001

Dear [Name],

About five weeks ago, I sent you a questionnaire asking your opinions on the importance of selected teaching competencies for agricultural education teachers as identified in studies conducted in 1972 and 1995. As of today, I have not received your completed questionnaire. Although you may not have had time to complete the questionnaire, I would genuinely appreciate hearing from you.

I am writing you again because of the importance that your questionnaire has for helping to get accurate results. The study's usefulness depends upon our receiving a questionnaire from each respondent.

The comments of other agricultural educators who have already responded have offered some important insights into the importance of the selected competencies as well as generated some exciting potential new competencies that will be needed by teachers of agricultural education. The results are going to be very useful to all agricultural educators. In order to accurately represent the opinions of agricultural educators on the importance of the selected teaching competencies, your response is essential.

In the event that your questionnaire has been misplaced a replacement with a self-addressed stamped return envelope is enclosed. If you have any questions, please feel free to contact me at (614) 292-6519 or by e-mail at owens.162@osu.edu.

Sincerely,

Margaret Owens,
Graduate Teaching Associate

N. L. McCaslin,
Professor and Chair
Department of Human and Community Resource Development
LIST OF REFERENCES


