

AN APPRAISAL OF THE STATE OF THE ART OF  
EXTENSION EDUCATION AND OF SELECTED  
COMPETENCIES FOR BEGINNING  
COOPERATIVE EXTENSION  
WORKERS IN THE U.S.

By

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1958

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1969

Submitted to the Faculty of the Graduate College  
of the Oklahoma State University  
in partial fulfillment of the requirements  
for the degree of  
DOCTOR OF EDUCATION  
December, 1977

Thesis  
1977D  
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## PREFACE

This study is concerned with a description of what is being done in the field of Extension education at the undergraduate level throughout the United States. The other major objective is to present another viewpoint with regard to all of the competencies needed by beginning Extension workers besides the technical subject matter. The approach was to compare the perceptions of employers and educators of Extension workers as to the level of competence possessed and desired. It is hoped that this study will complement the other studies being done and will enhance the development of curricula for future Extension workers.

The author expresses his appreciation to this thesis adviser, Dr. James Netherton, for his many hours of consultation and above all for his encouragement when it was needed most. Gratitude is also expressed to the other members of the author's committee: Dr. Robert Terry for his constructive counsel and wisdom throughout the past year, Dr. James Key for his technical advice, Dr. Robert Price for the initial push to undertake a doctoral program and for his faith throughout, and Dr. Deke Johnson for his interest in the author's welfare.

The author also appreciates the time given by the Cooperative Extension personnel throughout the country who served as the authorities for the study.

Special thanks beyond words to my wife, Shelby Jean, for her sacrifices in order that I could complete my education and for her help in completing this dissertation. I also commend Daniel and Deborah for

doing their part to help and regret the time we lost together. This dissertation is dedicated to them.

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## CHAPTER I

### INTRODUCTION

#### Background

Approximately 1000 new Extension workers are hired in the U. S. each year, for an average of 20 per state. How well they are prepared for the profession is the underlying question to which the following dissertation is addressed.

Much study, discussion, and written material has been devoted to the topic of preprofessional education of Extension workers from the beginning of the Federal Extension Service in the early 1900's to the present time.

The importance of taking another look at pre-service preparation of Extension workers was expressed in the People and A Spirit (8). The following statements are relevant:

The significant expansion of programs with new and different audiences as recommended by the Joint Study Committee (Joint USDA-National Association of State Universities and Land-Grant Colleges Extension Study Committee on Cooperative Extension) requires a new set of academic disciplines added to those traditional to Extension. The knowledge needed embraces most of the concerns of human beings and must come from all of the colleges in the university...a traditional degree in technical agriculture or home economics is not necessarily relevant training for all field staff members today. In the future, Extension's field staff will be recruited with backgrounds in the social sciences, communications, and other sciences as well as in agriculture and home economics (p. 73).

The author of this study was personally concerned about the adequacy of his pre-service education for his expressed goal of becoming

an Extension worker. He took the route which has prevailed, generally speaking, throughout the history of Cooperative Extension. This view was expressed by H. C. Ramsower ( 28, P. 197), in 1937, in a speech he gave to the Land Grant College meeting where he said, "Training prescribed for the teacher of vocational agriculture is excellent preparation for the good Extension worker. It increases the graduate's possibility of employment in the teaching field."

There have been upsurges in interest in undergraduate pre-service education for Extension workers as far back as 1937. Another statement by Ramsower was that:

Undergraduate work for the county agent should include one or more courses in the major fields of agriculture. He should be well fortified in the basic physical and biological sciences as well as in the arts and in the social sciences. In particular, he should get some training in education, psychology, and sociology or rural sociology. Public speaking, journalism, and Extension methods should be given consideration (p. 197).

This might very well have been the beginning of thinking towards pre-service curricula for Extension workers, because more was said about it as the years went by. In 1948, the Joint Committee on Extension Programs, Policies and Goals (34, p. 42) said, "Extension has become of sufficient importance as a profession to justify special consideration in the Land Grant college curricula." It really became a matter of importance when a Subcommittee on Pre-Service Training of the Land Grant College Committee on Pre-Service and Graduate Training was appointed by the Senate Committee in May, 1953, for the specific purpose of developing a program at the undergraduate level for prospective Extension workers. In their report it was pointed out that:

...the demand for Extension personnel in all areas continues to increase with the growing awareness of the need for special training for Extension workers. As a result many colleges are considering ways and means for providing the training at the

undergraduate level. Many administrators see this as a strategic time to appraise and to revise the program offered for prospective Extension workers or if there is no program offered to develop one (29, p. 1).

That committee deliberated for a couple of years before coming out with a planning guide for an undergraduate education program for Extension work in 1957. Love (22, p. 17) indicated that fourteen Land Grant universities offered an undergraduate program in Extension education in 1957. By 1962, he said, this number had dropped to ten. Then according to a Report of Programs in Extension Education for Professional Extension Workers (33) in 1966, there were only nine different universities that offered a major or degree in Extension Education to either men or women, or both. There were 599 students enrolled in undergraduate courses in Extension education in thirty-four states during the 1965-66 academic year.

Much of the reason for this failure of undergraduate curricula to grow and thrive may have been because of what W. W. Clark (7, p. 213) said in 1940, "In Wisconsin we have not felt it to be desirable to set up a special undergraduate course of study for prospective Extension workers." One reason he gave was:

We are able to employ in the Extension Service very few people directly following graduation. There is little incentive for students to follow a course of study for a field in which there is little prospect of a job upon graduation (7, p. 213).

Mary Collings and Harland Copeland (6) said it another way in 1962 at a conference at Oklahoma State University on "Training Extension Workers for the Future." They said:

The number of majors offered and the enrollment in Extension undergraduate courses is decreasing. In the past the purpose of these courses was recruitment and shortening the time spent in induction training. Both are agency goals. We have been conspicuously unsuccessful in reaching either for, as far as we can tell, we recruit less than ten percent of those enrolled

and we make no allowance for the course or courses taken in the way we put students through induction (p. 44).

In the last couple of years, there has been another surge in interest in pre-service education for Extension workers as evidenced by the study done by Itulya in Arizona which has resulted in the development of an undergraduate curriculum based upon the competencies identified by Extension workers in Arizona. Another study was underway to determine the competencies needed for a curriculum in 4-H Youth Work on a national basis being done by Mississippi State University. There is also a study underway by the American Institute for Research for the Cooperative Extension Service to determine valid criteria for performance appraisal and selection of new Extension workers. It is called the National Performance Appraisal Project. Other studies have been aimed at identifying the appropriate curricula for pre-service education of Extension workers. Critical incident studies as well as the more recent competency studies have all been a part of the growing picture relating to pre-service Extension education.

Much of the above work has been based upon the curriculum development model that was devised by Ralph Tyler (31). He served as the consultant for a ten-year study entitled the "Concept Approach to Programming in Adult Education with Special Application to Extension Education." When the author of this study began to investigate the state of the art of Extension education in the country it was discovered that no recent information was available on what is really going on in Extension education throughout the country. The feeling that there is a need to know this was concurred with by Dr. Gordon Dowell (10), who is the Director of Staff Development for Federal Extension in a personal letter.

The other aspect of Extension education which was discovered and chosen to be a part of this study was that having to do with competency. There has been a considerable increase in interest in competency-based education including that being done by the National Center for Vocational Education at Ohio State University and studies such as the one done in Texas on competencies for vocational agriculture teachers. The idea of competency-based vocational teacher education has a lot of relationship to Extension education, because it appears to the author that much of Extension education seems to be going on in agriculture and home economics education departments.

Several studies have been done in this regard and, as already mentioned, considerable interest has developed in the last few years around competencies needed by Extension educators. Leagans expressed the current thinking when he said:

What is known today about the personnel development process all points to the necessity of identifying the competencies needed as a precondition for effective professional development activity. Without this knowledge of what competencies are needed it is virtually impossible for either a trainee or a trainer to select accurately the content needed, effective communication techniques, or the time span required for a training program (p. 139).

And finally he said, "It was expected that these areas of competency, once identified, would be useful in the design of curricula for training Extension agents in the professional aspects of the job (p. 140)."

All of these statements were made when Leagans was describing the typology of professional role behavior of Cooperative Extension agents derived from critical incidents researched in Ohio by E. Weldon Findley (12).

Most of the studies uncovered were primarily concerned with asking

Extension workers, in one way or another, to identify the tasks or competencies that they considered to be most important. The author of this study took a cue from one of Itulya's (18) recommendations which was to determine whether there is any relationship between the competencies considered essential by Extension agents and those considered as essential for Extension agents by their supervisors and university professors. This, considered in the light of one aspect of Tyler's (31) rationale for deriving educational objectives, involves determining educational needs by comparing expected and desired abilities with present abilities of learners. These leads became the basis for this study. It was decided by the researcher to take the competencies and tasks already identified by other studies and assimilate them into a study in which a difference in the level of competency possessed by incoming Extension workers and the desired level of competency as perceived by persons most responsible for hiring and supervising Extension workers could be assessed. Then the study went a step further to compare the perceptions held by the educators of Extension workers about the level of competency they are producing and they think is desirable for students who complete courses in subjects related to Extension education.

It was decided that at the same time as the matter of competency was being studied it might be well to gather information on the current state of the art (who is doing what) in Extension education. More specifically, the faculty of the Agricultural Education Department at Oklahoma State University wanted to know whether there might be a need for pre-service Extension education curriculum and, if so, what should it contain?

The previous discussion leads to the statement of the problem to be addressed in this study.

### The Problem Statement

The problem was that not enough was known about what the employers of Extension workers feel was needed in the way of competency (the difference between what is the case and what should be). There also was a lack of current information (since 1967) about the state of the art (who is doing what) in Extension education in the United States. There appeared to have been several changes that needed to be identified.

There also appears to be some consensus (described in the review of literature) that certain competencies are needed by beginning Extension agents, but no research was found by the researcher regarding the views of the employers of new Extension workers as to the possessed and desired levels of competence as compared to the views of Extension educators.

### Purpose of the Study

The purposes of the study were to (1) determine and describe the state of the art (what is being done by whom and why) of pre-professional Extension education; (2) determine and compare the possessed and desired levels of competency of beginning Extension workers; and (3) propose a pre-service competency based Extension education curriculum based upon the findings.

### Objectives of the Study

The specific objectives of the study were to:

1. Determine and describe what has been and is being done in terms of pre-service Cooperative Extension education in the United States.
2. Synthesize and categorize a list of non-technical (professional) competencies for beginning Extension workers.
3. Determine and compare the desired levels and possessed levels of competence for the selected list of competencies as perceived by selected Cooperative Extension employers and selected Extension educators. The null hypotheses used to test this objective were:
  - a. There is no difference between the level of competency possessed by new Extension workers as perceived by employers and the level of competence possessed by students who complete courses as perceived by the Extension educators in each of the selected competencies.
  - b. There is no difference between the level of competence desired of new Extension workers as perceived by employers and the level of competence desired by educators of students who complete courses.
  - c. There is no difference between the means of the possessed level and desired level for each of the selected competencies as perceived by Extension employers.
  - d. There is no difference between the level of competency possessed by students who complete Extension related courses and the level of competency desired of students who complete the courses for each of the selected competencies as perceived by Extension educators.



4. Establish the relative importance of the competencies for incoming Extension workers.
5. Recommend a pre-service Extension education curriculum based upon the findings of the study.

#### Assumptions

The following assumptions were made regarding the study:

1. The competencies identified by previous studies provided the basic list of competencies.
2. Two hundred responses from at least 35 states represented a sufficient and suitable cross-section of the employers upon which conclusions could be reached.
3. The responses were given in the manner in which the researcher had intended.
4. A comparison between the responses of employers and educators could be made.

#### Scope and Limitations

The scope of the study was nationwide including all states for the educators and the state of the art portion of the study.

The limitations which were recognized included:

1. Variations in numbers of responses from states prohibit any state-by-state conclusions in respect to competency levels.
2. The competency list used in the study excluded technical subject matter competencies and only included those considered to be related to the educational methodology aspects of Extension work.

## Definitions

Certain key terms used throughout the study had to be defined to assure accurate communication with the reader.

Competency: A skill or ability to perform in a certain way.

Level of competence: The degree to which one has adequate or specified qualification or capability.

Employer: A Cooperative Extension administrator who is directly involved in the hiring of new Extension personnel, i.e., district directors or area agents, personnel directors or state directors of the Cooperative Extension Service.

Educator: Full or part-time faculty who has some responsibility for the education of prospective Extension workers, i.e., staff development specialists or coordinators, professors or department heads.

## CHAPTER II

### REVIEW OF LITERATURE

#### Introduction

The following review of literature includes selected references relating to the state of the art of Extension education. Section one is a brief review of the principles, policies and practices of pre-service Extension education to establish a context for what is being done now by whom and why.

The second section of the review of the state of the art has to do with the curricula in Extension education for the universities that were identified in a 1966 Federal Extension Report.

The second part of the literature review is directed at the topic of competency-based curricula. In the first section, the author reviews some selected views on curriculum development that are applicable to Extension education. Then a section is devoted to competency-based teacher education as a point of reference for the competency portion of the study. In the third section some selected research relating to Extension education curricula are reviewed.

An ERIC (Educational Resources Information Center) search was conducted to find any studies that had been done relating to Extension education undergraduate curricula. The following searches were made:

1. Agriculture Education and Extension education or Extension agents and curriculum development or curriculum evaluation or

curriculum planning or curriculum research.

2. Rural Extension or Extension education and curriculum development or curriculum evaluation or curriculum planning or curriculum research.
3. Extension agents and training.
4. Extension agents and training and curriculum planning or curriculum research.
5. Performance-based education and Extension education.
6. Extension education and performance-based teacher education.
7. Agriculture agents and performance-based teacher education.
8. Extension agents and performance-based teacher education.

All of the 35 references found by the ERIC searches listed above were reviewed. Most of them were not relevant to the topic of this study, because they had to do with inservice and graduate education for Extension workers. Only the study done by E. Weldon Findley (12) was determined by the researcher to be relevant and useful. It is reviewed in the competency section of this chapter.

The other material reviewed in this chapter is the result of the researcher's personal knowledge and experience in Cooperative Extension Service, the suggestions given by staff development personnel throughout the country to the preliminary survey, a review of the research lists relating to Cooperative Extension work published by Federal Extension, and a personal search of the Oklahoma State University Agricultural and Extension education library.

## State of the Art

Extension Principles, Policies, and Practices  
Relating to Pre-Service Education

According to W. A. Lloyd (21, p. 25), Seamann Knapp, an early leader in Extension work, said in 1906 that, "The men who act as field agents must be practical farmers." His county agents were selected because of their success in farming and their qualities of leadership. Since then, in some states, the emphasis for pre-service training in Extension work is oriented toward preparing vocational agriculture or home economics teachers. This line of thought was expressed by H. C. Ramsower (28, p. 197) and bears repeating. He said, "Training prescribed for the teacher of vocational agriculture is excellent preparation for the good Extension worker and increases the graduate's possibility of employment in the teaching field."

Since that time the role of Extension workers has changed considerably. Mary Collings (6, p. 391) summarized the changes when she said, "From itinerant teacher, to organizer, to educator, to highly trained technician, social action catalyst, or change agent, the Extension worker has shifted roles over the fifty years to meet the demands of the times."

She also said:

Cooperative Extension work is unique in its problem-solving approach to program development, in its application of knowledge drawn from a wide range of special fields, to the solution of problems confronting individuals, families, business, and communities (p. 401).

The change in thinking probably began about the time that the Joint Committee Report on "Extension Programs and Policies" (34, p. 42) stated:

Extension has become of sufficient importance as a profession to justify consideration in the Land Grant college curricula . . . . Formal education for Extension workers should be such as to develop rigorous critical thinking and a balance in action.

That same committee (34) also suggested that four underlying principles be kept in mind relative to developing Extension programs for the preparation of Extension educators:

1. There is no single method for attaining the varied kinds of competence needed in Extension work.
2. The program should be sufficiently flexible to permit both specialization and integration as needed.
3. All departments and sections of instruction will need to cooperate in working out solutions to educational problems.
4. A "task force" in education which utilizes all available resources of the institution and cuts across departmental lines, whenever necessary, is needed if students are to be properly prepared in the field of Extension teaching (p. 42).

They went on to say that the goal should be to prepare Extension educators who:

1. are basically grounded in the physical and social sciences of significance to life in rural America.
2. are familiar with reliable sources of information.
3. understand the background, philosophy, objectives, policies, and organization of the Extension system.
4. are skilled in applying principles of psychology and education to Extension teaching, supervision, and administration.
5. can organize people and stimulate leadership among them.
6. understand the processes by which rural people and Extension workers cooperating can analyze local problems, arrive at potentially sound solutions, and develop a county Extension program.
7. know the problems and procedures of adult and out-of-school youth education.

8. are skilled in organizing, interpreting, and presenting basic economic, social, technical, and scientific data and their implications to rural life.
9. understand the techniques and processes of evaluating the effectiveness of Extension programs (p. 42).

Another view was expressed by W. W. Clark (7, p. 213) at a Land Grant College meeting in 1940 when he said, "I should recommend that anyone interested in becoming an Extension worker should in his or her undergraduate days acquire, as far as possible, the first five items in our list of training requirements." The list he gave was as follows:

1. A general knowledge of the natural sciences.
2. An introduction to most of the fields of subject matter in agriculture and home economics, with more extensive knowledge in some.
3. An approach to economics and sociology.
4. Some experience in writing and public speaking.
5. Acquaintance with English, history, and some of the cultural arts.
6. Knowledge of the history, philosophy, psychology, and procedures of adult education.
7. Knowledge and experience in the application of these to Extension organization and methods (p. 212).

He summed up his speech by advising that students interested in Extension work to major in education and take as many of the available courses in Extension education as possible. He also suggested learning as much about as many fields of subject matter in agriculture or home economics as possible with only a small amount of specialization.

The subcommittee on Pre-Service Training referred to in Chapter I published a planning guide for an undergraduate education program for Extension work. It was a product of the growing feeling that there should be a special program to prepare future Extension workers. Many

of the programs in existence now were started when that belief prevailed.

That subcommittee developed an elaborate program proposal that was a reflection of the feeling that Extension educators should have some social science and humanities intermixed with the natural sciences and technical subject matter. They made recommendations for each of the three areas of study.

In the area of natural sciences and technical subject matter, the committee (29) said:

Formal education for Extension workers should be such as to develop rigorous critical thinking and balance in action. Broad programs of study without undue specialization are best adapted to attaining these ends . . . The prospective Extension worker needs to see the broad relationships between subject fields in major areas of agriculture and of home economics. Excessive departmentalization in the college defeats this (p. 3).

They added that:

Curricula organized with a long list of prerequisites tend to give students a very narrow base, 'to make intellectuals and not doers.' Extension workers need to be intellectuals of the type that can apply knowledge in a very practical way (p. 4).

The recommendations of the subcommittee with regard to technical subject matter is well worth citing with particular attention being drawn to items three and four as follows:

The subcommittee recommends that the colleges provide for prospective Extension workers:

1. A core of courses which introduces the student to the basic natural sciences and to the major phases of agriculture or home economics of concern to extension.
2. Additional work beyond the core in one or two areas of subject matter, with considerable proficiency in one area.
3. Some work in agricultural policy, in farm management, in agricultural economics or marketing could well be



included in the preparation for home economics agents to contribute to their perspective of the total problem of rural families. Likewise, some work in home economics such as family life, nutrition, or home management could well be included in the preparation of agricultural agents so that they would develop a greater understanding and appreciation of the problems involved in satisfying home and family living.

4. Joint classes for prospective home economics and agricultural agents whenever possible, since they are asked to work together in the county (p. 5).

In the area of social science, the subcommittee (29, p.6) stated that, "Training should emphasize planning at the neighborhood, community, and county levels, and group action for effective utilization of human and material resources." They also pointed out that Extension workers need an educational viewpoint and a family-centered approach to education. Highlights of the thirteen recommendations given in the social sciences area were that the prospective Extension worker should have:

- an understanding of American community life
- an understanding of how people learn
- skill with human relations
- an understanding of economic forces
- skill in the techniques of advising and interviewing

In the humanities area, the subcommittee recommended that Extension workers should have an appreciation of the cultural interests of other people as well as having some personal interest in creative activity. Among other recommendations given, they emphasized the field of communications as being particularly important for Extension workers. The subcommittee also proposed several course units that ought to be included in a curriculum for prospective Extension educators. Each unit includes teaching (not learning) objectives, suggested course

content, suggested learning activities, and a bibliography. The units they proposed are:

The Cooperative Extension Service  
How People Organize Their Lives  
What We Know About Helping People to Learn  
Identifying Local Needs  
Setting Objectives and Determining Programs  
The Plan of Work Development and Implementation  
Teaching Materials and Methods  
Leadership in Extension  
The Need for Evaluation in Extension Education  
The Extension Worker as a Professional Person

The next era in the development of Extension education curricula perceived by the researcher was expressed in an address delivered at the National Conference of Extension Training Leaders at the University of Maryland in 1966 by George Hyatt, Jr. (17), the Director of the North Carolina Agricultural Extension Service. The speech was entitled, "Areas of Needed Staff Competency Reflected in State Extension Objectives and Organization." He identified competencies needed by Extension staff members by looking at the objectives and the organization of the Cooperative Extension Service. He said that Extension workers need to:

1. understand the Cooperative Extension Service.
2. understand technical subject matter appropriate to their needs and the needs of the people with whom they work.
3. understand the principles and processes of programming.
4. understand the principles of learning and teaching.
5. understand and have a high degree of proficiency in the

communication process.

6. Understand the structure and dynamics of human society.
7. Have a high degree of skill in human relations.
8. Understand the principles of management and be able to apply them.
9. Keep informed about current issues and problems confronting the people and discuss them in an objective and informative manner with groups.
10. Understand the principles of administration and supervision.
11. Understand and be able to apply the principles and techniques of evaluation (pp. 5-8).

In summarizing the topic of Extension principles and philosophies, a couple more of Hyatt's thoughts are relevant to this study. One was that:

As the Cooperative Extension Service assumes roles that are broader in nature, the traditional agriculture and home economics competencies available in the Colleges of Agriculture and Home Economics need to be supplemented from other segments of the university either through cooperative arrangements with other facets of the Land Grant university or by hiring people with these competencies directly into the Cooperative Extension Service (p. 10).

He also said:

It would appear to be a principle in any organization that if one wishes to have an adequate organization he should staff that organization with the kinds of competence that are necessary to achieve the program objectives of the organization (p. 1).

### Extension Education Curricula

The 1966 Federal Extension Report on Programs in Extension Education for Professional Extension Workers (33) identified nine universities that had an undergraduate major in Extension education for men or women, or both. Those listed were Florida, Georgia, Kentucky, New

Hampshire, New Mexico, Pennsylvania, Puerto Rico, Tennessee, and Wisconsin. Catalogs for these universities which were available in the Oklahoma State University Library were reviewed to determine the nature of their programs.

New Mexico State University (25) had a major in Agriculture and Extension Education in the Department of Agriculture and Extension Education. They offered a B.S. degree in Agriculture. The five courses offered in Extension education were: (1) Introduction to Agriculture and Extension Education, (2) Effective Leadership, (3) Planning Community Programs in Agriculture and Extension Education, (4) Methods in Agriculture and Extension Education and (5) Directed Teaching in Agriculture Extension Education.

The University of Tennessee (37) catalog stated:

No formal undergraduate curriculum is offered in agriculture extension education, but undergraduate courses are available as electives in each formal curriculum. Courses are designed to: (1) develop in prospective Extension workers and other interested students an understanding of the functions, responsibilities, and techniques of the Cooperative Extension Service, and (2) provide prospective extension workers with practical Extension work experience in selected training counties (p. 48).

A course in Introduction to Agricultural Extension and up to six hours in the course entitled, Field Studies, accomplish those purposes. Their program is offered by the Institute of Agriculture at Tennessee.

Pennsylvania State University (27) prepares agriculture Extension workers through their program in Agriculture Education. Student programs are centered around fundamental courses in technical agriculture. Five courses were identified which relate to Extension education, but actually only one is identified specifically as an Extension course. It is Methodology of Extension Education.

The University of Florida (30) had a curriculum in Agriculture and Extension Education that was designed to offer students a combination of courses in technical agriculture, professional education, and Extension methodology. Four courses are offered with direct relationship to Extension education, but two of them are non-classroom courses, one of which is a practicum for four to sixteen hours of credit and the other is individual work for one to eight hours of credit. The two classroom courses are Development and Role of Extension Education and Agriculture Youth Programs, each for four credits.

At the University of Georgia (35) a major in Agriculture Extension is offered through the College of Agriculture and the School of Home Economics. Three undergraduate-level courses were listed under Agriculture Extension in the catalog. The course in Agriculture Extension Organization and Procedures must be taken in the junior year prior to the summer supervised work experience. Then in the senior year, the students major in Agriculture Extension and take the course in Agricultural Extension Service Programs. Georgia has two options for Extension majors which are science or administration.

In Wisconsin, the agriculture Extension major is available in the Department of Continuing and Vocational Education. The latest catalog of the College of Agriculture and Life Sciences (4) said that:

The Curriculum in Extension education gives students planning to enter the Extension work a basic training in the applied agricultural sciences, in the natural sciences, in the social sciences, and in business and industry. A major in Extension can be taken under one of four options, namely natural resources, the social science option, the production and technology option, and the business and industry option. Under these options, the student chooses to major in Extension Education and takes supporting courses within any one of the four options. The exact sequence of courses is developed with the advisor. A four-year curriculum in Extension education in the appropriate option will prepare one for work in county Extension

programs as well as many other positions in business and industry, government, foreign service, and the agriculture missionary field (p. 56).

There is actually only one course at the undergraduate level that has Extension in its title. It is Field Practice in Extension for three to six credit hours. They also offer a series of five adult education courses which are subtitled (a) Overview, (b) the Agencies and Programs of Adult Education, (c) Program Development and Evaluation, (d) Understanding of the Individual Adult and (e) Sociological Backgrounds to Adult Learning. All of these courses require at least junior standing to be taken. Other appropriate courses offered at the graduate level, but available to students with junior standing are: Leadership in Community Programs; Introduction to University Extension; and Principles in Youth Development Education.

A couple of other courses are available with the consent of the instructor, namely: Introduction to Leadership; Behavioral Sciences in Extension Youth Programs; and Seminar in Evaluation of Extension Work.

There may have been other universities that had majors in Extension Education or, at least, had elective courses available to undergraduate students at the time of this review, but the review was limited to those listed by the Federal Extension Service in 1966 which was the last time a national survey was made. Other universities having majors in Extension Education are found in Chapter IV under the findings of this study.

### Competency Based Curricula

#### Curriculum Development Principles

There are many views on the best way to go about development of a

curriculum but the researcher chose to consider only those of Lewis Mayhew and Ralph Tyler. Mayhew (24) pointed out that in reaching curricular decisions the following factors should be considered: students' needs and desires, graduates' performance and evaluation, faculty members' abilities and interests, cost, expectations of the users of the product (employers, for example) and of the society as a whole, existing programs of similar nature, and finally the patterns of progression through the college years.

Ralph Tyler (31) said there are several stages involved in curriculum development and instruction. To begin with, he feels the process begins with determining the needs and objectives as perceived by the learners, the subject matter specialists, and that which can be identified as relevant from contemporary life surrounding the subject.

Subject matter specialists in this case are the administrators of Cooperative Extension, the personnel directors, the district directors, the responsible department's faculty and the faculty of the other departments who may be involved in the Extension education curriculum. Everyone involved in curriculum development and instruction, no matter what the subject is, must take into consideration the contemporary (current and anticipated critical activities) circumstances that are relevant to expected situations the students will face.

Those inputs then evolve into tentative objectives which must pass the tests (screens) of philosophy and/or values of the university, the state and Federal Extension Service and the responsible department(s).

The next screen that the objectives must pass through is the psychology of learning according to Tyler (31). He points out:

Education objectives are educational ends, they are the results to be achieved from learning. Unless these ends are

in conformity with conditions intrinsic in learning they are worthless as educational goals (p. 24).

After the objectives pass these tests (screens) they must be stated in terms that lead to the selection of appropriate learning experiences to best accomplish the desired objectives. Tyler (31, p. 30) says that, "The most useful form for stating objectives is to express them in terms which identify both the kind of behavior to be developed in the student and the content or area of life in which this behavior is to operate." Mager (23, p. 53) puts it more succinctly. "An objective will communicate your intent to the degree you have described what the learner will be DOING when demonstrating his achievement and how you will know he is doing it."

The next step in Tyler's model is to select the appropriate learning experiences that will accomplish, as nearly as possible, the stated objectives. Tyler (31, p. 41) defines a learning experience as, "the interaction between the learner and the external conditions in the environment to which he can interact."

Next in the model, according to Tyler, is the organization of learning experiences for effective instruction. The continuity, sequencing and integration of the learning experiences are the criteria to be met in an effective organization of courses.

Finally, the evaluation of the effectiveness of the learning experiences completes the Tyler model of curriculum development.

The ideas that form the basis of this study are the ones referred to by both Mayhew and Tyler regarding the consideration of the views of the users of the graduates (the employers) in relation to the views of the faculty members (the educators). Due to the reliance upon Tyler (32) by Extension people in the report on The Concept Approach to



Programming in Adult Education With Special Applications to Extension Education, it was decided, by the author, to follow his model in proceeding with this study.

### Competency-Based Teacher Education

In order to establish a point of reference for this study, the author turned to the field of education and the idea of competency-based education. A considerable amount of literature was found to select from for this discussion. The author most often cited was W. Robert Houston (15). He referred to competency-based education (which is interchangeable with performance-based according to him) as a culturally-based movement. He pointed out that many professions have turned to the competency approach to education and training, because it appears to be an idea whose time has come. Houston feels that two forces in American society today have contributed to the development of competency-based education; namely, accountability and personalization. In regard to what it is, he points out that competency-based education emphasizes a minimum standard for effective performance and that it refers to ways in which a learner can be observed to demonstrate knowledge and skills.

Houston, in collaboration with Howsam (16), said that competency-based instruction has emerged from emphasis on goal orientation and individualization. They also point out that, "the word competency has been chosen to indicate an emphasis on the 'ability to do,' in contrast to the more traditional emphasis on ability to demonstrate knowledge (p. 3)." They also say there are a couple of characteristics essential to the concept of competency-based instruction. The first is that,

"precise learning objectives--defined in behavioral and assessable terms--must be known to the learner and the teacher alike (p. 3)."

The second characteristic is accountability, because:

. . . the learner knows he is expected to demonstrate the specified competencies to the required level and in the agreed-upon manner. He accepts the responsibility and expects to be held accountable for meeting the established criteria (p. 4).

The characteristic of personalization is not necessarily a characteristic of competency-based education alone, although it is almost universally associated with it.

The purpose of Extension education has been to develop educators who can operate in the climate of Extension work which is basically informal adult or youth education based on the principle of helping people help themselves. It seems to the researcher that everything relating to Extension education (policies, philosophy, objectives) and the idea of competency-based education fit together in a very coherent way.

It also appears to the author that basically what competency-based education means to Extension education is that certain abilities are developed according to expressed competencies needed for doing Extension work. It also seems evident that the idea and purpose of competency-based education is consistent and compatible with the principles of curriculum development espoused by Ralph Tyler and subscribed to by Extension educators and administrators for the most part.

#### Research Relating to Extension Education Curricula

The researcher reviewed studies identified by the ERIC search and other investigations by the researcher. Only three studies were

selected as representative of the research that has been done on competency-based curricula in Extension education.

E. Weldon Findley (12) in collaboration with J. Paul Leagans conducted a study of the role behaviors of county Extension agents in New York in 1969. The method used for the study was the Flanagan Interview Technique. The purpose was to identify and describe behavior of Extension agents that has had a key influence on the achievement of effective or ineffective outcomes in specified activities. This seemed to be the first study of Extension work that identified some of the tasks or what may even be considered competencies needed for successful Extension work. Two hundred and eleven Extension agents in 30 randomly selected New York counties were asked to identify one critical incident in which their behavior had led to an effective outcome and one in which their behavior had led to an ineffective result. The semi-structured interviews were recorded for analysis later.

This was the first time (that the author could find) in which the competencies of an Extension agent were actually researched. The 419 critical incidents identified by that study were later described by Leagans (17) as "A Typology of Role Behaviors of County Cooperative Extension Agents" (see Appendix D). That study produced some very specific descriptions of roles of Extension agents. It laid the groundwork for the later studies into the competencies required to be an effective Extension worker. At that stage, the researchers were still stating the roles in terms of understanding, although terms like "executes" and "influences" made the statements begin to look like today's concept of competencies.

In the early 1970's, there was a renewed interest in the

competencies needed by agriculture educators. Several studies were conducted similar to the one done by the Texas Department of Agricultural Education in 1976. That project directed by Don Herring (13) and called Identification and Validation of Competencies for Teacher Education Agriculture surveyed supervising teachers, teacher trainers and state staff personnel about the level of importance of 131 competencies.

They were also asked when the various competencies should be acquired.

Based on the findings, the list of 13 groups of competencies were prioritized and the consensus regarding the best timing for the training was tabulated. That study and others like it are relevant to this research, because most of the interest in Extension education is found in either Agriculture Education or Home Economics Education departments. That is true of all of the current research being done on Extension education curricula. The methodology of the Texas study also served as a point of reference for this study.

Itulya (18) studied the professional competencies essential for beginning Extension agents in Arizona in 1973. The 74 Extension workers in Arizona were asked to rate 57 competencies from not essential to extremely essential on a five-point scale. They were instructed to assume that they were a beginning Extension agent and base their judgments on the premise that they were well qualified in technical subject matter. Using the chi square test, he concluded that 53 of the competencies were considered essential to be possessed by beginning Extension agents in Arizona. His findings were grouped into four categories: Advising or Teaching; Public Relations Communication; Administration or Organization; and Facilitating, Program Planning, and Evaluation. His list of competencies consisted of knowledge and ability statements.

Itulya (18) concluded that the agents can identify the professional competencies essential for their peers to possess, but he questioned whether the values placed on the competencies are the same as that which their supervisors would choose. He recommended that:

A similar study should be done to determine whether or not there is any relationship between the competencies considered as essential by Extension agents in Arizona and those considered as essential for Extension agents by their supervisors and the professors in the Department of Agricultural Education (p. 82).

A more recent study regarding competencies needed by Extension workers was piloted in Mississippi by researchers, under the direction of Dr. Ronald A. Brown (1), in the Department of Agriculture Education at Mississippi State University. It was an outgrowth of the work underway by a national committee which is interested in the development of a curriculum for training of Extension 4-H Youth Agents. The pilot study consisted of 157 tasks which were categorized into 8 groups as follows: Administrative, Communication, Evaluation, Program Execution, Program Planning, Resource Development, Staffing and Teaching. There were two parts to the instrument. The first part had to do with rating each task on the degree of necessity for a successful county 4-H program. In part two the respondents were asked to indicate whether each task should be performed by the 4-H Youth Agent or by the volunteer 4-H leader.

Volunteer 4-H leaders, youth agents, county leaders, state and area specialists, and administrative personnel were included in the population of the study. After analysis of the data, it was determined to reduce the task list to 75 competencies and only ask the respondents in a national sample to rate the degree of necessity of each competency on a five-point scale. Another question included in the

pilot study had to do with when the competencies should be learned: possess before job, graduate program, or in-service. This question was dropped according to Dr. Brown (2) because it appeared that the respondents in the pilot study answered on the basis of when they had learned the competency rather than when it should be learned. Valid findings to that question would have been very helpful to this researcher.

Ronald A. Brown (3) pointed out in his address to the Fourth National Seminar for Professional Youth Workers in January 1977, that:

. . . the competency approach to the identification of curriculum content provides relevant and significant behavior that can be practiced by the learner--practice which includes changes in ways of thinking, acting, and feeling (p. 11).

At the time this dissertation was written, no results of that national study had been released. Nevertheless, the findings of the pilot study provided some guidance for the development of the competency list used in this research.

## CHAPTER III

### PROCEDURE AND DESIGN OF THE STUDY

The design of the study was dictated by the purposes and objectives cited in Chapter I. Briefly, they are: (1) determine the state of the art of Extension education nationally, (2) determine and compare the levels of competency desired and possessed as perceived by Extension employers and educators and (3) propose a curriculum based upon the findings.

#### Background

Before any decisions on what to study were made the researcher designed a preliminary questionnaire to explore the interest and information available nationwide on the state of the art of Extension education. A letter and the questionnaire were sent to the Cooperative Extension Staff Development Specialists in each of the 50 states (see Appendix A). That schedule was mailed on February 18, 1977. It included five questions having to do with (1) interests in results of a nationwide study of the status of pre-professional Extension education, (2) whether the university offers a course or more having to do with Extension to undergraduate students, (3) any knowledge of surveys or research related to the subject, (4) any research relating to Extension education curricula, and (5) who would be the appropriate person in the state to be included in a study if one were to be undertaken.

Replies from 43 states all indicated favorable interest in the results of such a nationwide study. Based on this response the researcher decided to proceed with a state of the art study. Very little response was received to the question about knowledge regarding surveys or research studies completed or in progress related to the status of Extension pre-professional education programs. A study completed by Itulya, the work being done by Dr. Arlin Etling in Arizona and the National 4-H Curriculum Study were the only ones cited in the responses to the question about known research related to the development of Extension education undergraduate studies and curricula.

#### Population Selection

The preliminary survey mentioned previously asked, "Who in your state would be the appropriate one to respond to a survey regarding the status of Extension education pre-professional curricula and the factors related to the development of a curriculum?" Forty-three names were received by that survey for the educators population group. In order to get a more complete response from as many states as possible for the state of the art portion of the study, the name of the person listed in the 1976 State Staff Development Directory as being the most likely to be knowledgeable about undergraduate Extension education in each state was selected and asked to respond for the states that had not answered the first survey.

The effort to secure a population for the Extension employer phase of the research started with writing to the State Extension Personnel Officers on April 1, 1977 (see Appendix A). They were asked to supply the researcher with the names and addresses of people in their state



Extension organization who were involved in hiring new Extension workers. A follow-up thank you letter was sent on May 23 to those who had responded promptly. On June 7, another letter was sent to the Personnel Officer in the states from which no response had been received. Ultimately a population of 316 Extension employers from 38 states and territories were included in the study. Six of the eight states that were involved in the National Performance Appraisal Project asked to be excluded from the study; namely, New Mexico, South Carolina, New Hampshire, Washington, Texas and Pennsylvania. No responses were received from seven states and thus were not included in the study. The numbers of people included in the sample ranged from one to twenty-eight per state.

### Questionnaire Design

#### State of the Art

The state of the art portion of both questionnaires (the one for the employers and the one for the educators included in Appendix B) were designed to gather information that could be used to describe the status of Extension education courses, majors, and degree programs in the Land-Grant universities. The employers were asked whether there was a degree program in Extension education offered in the state and if there were, where it was located. They were also asked where their new Extension workers originated with regard to the type of university and the department in which they majored. Questioning as to the degree required for new Extension workers gave indication to the researcher as to the possible extent to which the Extension Service in the respective states depend upon undergraduate or graduate education emphasis to

prepare prospective Cooperative Extension workers for employment. The employers were also asked the extent to which they thought the present pre-service Extension education for new workers was adequate.

The Extension educators were asked whether the university offered a major or degree in Extension education at the undergraduate level. They were also asked to indicate the areas in which courses were offered at the undergraduate level and in what colleges or departments the major or degree is offered. In order to get a picture of the extent to which Land-Grant universities were educating future Extension workers, they were asked to give the current enrollment and how many graduates they had in 1977. The educators were also asked the percentage of their graduates who are employed in Cooperative Extension positions in the state and out-of-state. The purpose of this question was to ascertain whether the university was providing future workers for their own state only or whether they were serving as a feeder state to other state Cooperative Extension organizations. The respondents were also asked to indicate the number of full-time equivalents that were assigned to Extension education at the undergraduate level. Besides those questions they were asked to send brochures, curriculum lists, catalog pages or any other material that would describe their program, if they had one.

### Competencies

The design of the competency portion of the instrument began with a synthesis of the competency lists developed by Itulya (18) and the one used for the 4-H Youth Development Worker's Curriculum Project and other recommendations and suggestions made by various people with regard to Extension education undergraduate curricula referred to in the

review of literature. The author had previously developed a report (9) in which he created a chart to help visualize the ideas regarding curriculum content that had been espoused each decade since 1930 (see Appendix C). By viewing the topics relative to an undergraduate Extension education curricula in that manner it was possible to see a logical categorization of the tasks into groups of what the author calls subject areas. He decided that there were nine such subject area categories in which the synthesized list of competencies best fitted. They are: Leadership; Adult Education; Teaching Methods; Extension Organization, Philosophy, Objectives; Youth Education; Program Planning; Evaluation; Communications; and Management, Supervision, and Administration.

After studying, collecting and matching the task lists used in previous studies, it was decided that the lists developed would serve as sound bases for the creation of a list of competencies to be used in this study. All of the integrated items were put into competency statements that would complete the statement, "Beginning Extension workers should be able to . . ." The major difference in this study and the other studies done in this area, was that instead of asking agents and other Extension personnel what they considered to be the relative importance of the competencies, this researcher studied the perceived level of competence possessed by new Extension workers and the level desired of them by their employers. The employers' perceptions were compared to what the educators thought to be the possessed level of competence upon graduation and what they desired of students upon completion of coursework. It was felt that the difference between what is possessed and what would be desirable, but realistic, would be an indication of the need for refinement and/or expansion of Extension

education curricula, if warranted.

A total of 102 competencies were initially proposed to a panel of experts. The panel of experts consisted of five Extension workers in Oklahoma. Those involved were a District Director, a member of the State 4-H Staff who was also a member of the National 4-H Youth Development Worker's Curriculum Project, an Extension faculty member in the Agricultural Education Department, the former State Cooperative Extension Personnel Director, and the Associate Director of the Oklahoma Cooperative Extension Service.

Each of the panel members was asked to scrutinize the list for: (a) completeness, (b) clarity of terms and statements, (c) discreteness of the items, (d) any duplication of items, (e) appropriateness of the items to pre-service education needs, (f) the categorization or grouping of the items, and (g) the terminology (whether the items were stated in performance terms that could be used as curriculum objectives). Their responses were consolidated into a revised list based on their recommendations. Each competency item was re-analyzed to see that it was consistent in terminology and was actually a competency statement.

The educators were asked to rate the level of competency possessed by beginning Extension personnel and the level of competency desired of beginning personnel on a five-point scale (none, low, medium, high, very high). The Extension educators were asked to rate each of the same 89 competencies on the same scale as to the level of competence possessed by students who complete courses compared to the level of competence desired of students who complete courses relating to Extension education. A five-point scale was used because it provided the necessary range of choices needed to differentiate the degree of

competence perceived by the respondents. This type of scale is referred to as a standard scale by Hoppe and Parsons (14). It is actually a Likert type scale using five points rather than seven.

After the questionnaire was completed it was reduced in size so that it would fit on two pages printed back to back. The employers' questionnaire was printed on yellow paper to differentiate it from the educators' version which was printed on green paper. Before the cover letter was prepared, the questionnaire was tested on two of the Agricultural Education Department members for ease in reading and clarity of instructions. It was found in both cases that the directions given were communicating the intended message and creating the desired response. Only minor changes were made in wording following the tests.

#### Analysis of Data

Analysis of state of the art data was accomplished using descriptive statistics; namely, frequency counts, percentages, and cross tabulation of various items. Crosstabs included a comparison by states with the responses to the question on the adequacy of pre-service training of new Extension workers, with the percentages of new Extension workers from different kinds of higher education institutions and the different colleges or departments, and with the required degrees for entry into Extension employment.

In treating the competency portion of the study, the means of all of the responses by each of the groups of respondents were used as the measure of the level of competence either possessed or desired. The following value ranges determined into which the category the means fit: 0-1.49, none; 1.50-2.49, low; 2.50-3.49, medium; 3.50-4.49, high;

and 4.50-5.0, very high.

A paired samples t-test was utilized to determine the statistical significance of the differences in means between the possessed and the desired level of competence for each of the 89 competencies. This test was appropriate because a comparison was being made between the two responses given by the same individual for each competency (26).

To compute the 't' for paired samples, the paired difference variable  $D = X_1 - X_2$  is formed . . . The sample mean and variance ( $\bar{d}$  and  $s_d^2$ ) are computed, and then

$$t = \frac{\bar{d} - \delta}{s_d}$$

$df = n - 1$  where  $n$  is the number of pairs, and

$$s_d^2 = \sqrt{(s_1^2 + s_2^2 - \frac{2EX_1X_2}{n-1})/n}$$

$(EX_1X_2)/(n - 1)$  is the co-variance between  $X_1$  and  $X_2$  (26, p. 270).

The t-test was used to determine if there was any significant difference in group means between the level of possessed competency perceived by the two groups (employers and educators) of independent samples. The same t-test between groups was used for the means of responses for the desired levels of competency.

"Given populations with unequal variances, 't' cannot be computed for the difference in sample means. Instead, an approximation to 't' may be computed," according to the authors of the SPSS computer program used to make this analysis (26, p. 269). The formula used is

$$t = \frac{(\bar{x}_1 - \bar{x}_2)(u_1 - u_2)}{s_1^2/n_1 + s_2^2/n_2}$$

The null hypotheses for the study given in Chapter I were tested at the .05 level of significance. To reject the null hypothesis

required that the t-tests showed a significance level higher than .05. Rejection of the null hypothesis would mean that there was a significant difference in the means of the responses (beyond that expected by chance) given for possessed and desired levels of competence for the paired t-tests and a significant difference in means of the two groups of respondents for the possessed and desired levels of competence for each competency.

The total list of competencies was ranked by the means for the possessed and desired levels of competence and by the differences in means between the desired and possessed levels according to the responses of both groups. Then they were ranked within each of the nine subject categories. Grand means were also calculated for each group of competencies so that the subject categories could be ranked.

## CHAPTER IV

### PRESENTATION AND ANALYSIS OF DATA

#### Introduction

The presentation and analysis of data will be done in relationship to the objectives of the study. The first objective of this study was to determine and describe what has been and is being done in terms of pre-service Cooperative Extension education in the United States. The findings that follow are based on the responses of 205 Extension employees from 25 states and the Virgin Islands and 47 Extension educators from 46 states and the Virgin Islands (Figure 1).

The largest group of employer respondents were district or area directors or agents (Figure 2) and the majority of educator respondents were Cooperative Extension administrators and staff development coordinators (Figure 3).

Responses to the employer instrument ranged from 1 to 23 per state. No questionnaires were sent to 13 states, because of a lack of response from the personnel director to the request for names and addresses of potential respondents.

Three hundred sixteen questionnaires were sent to the employer group. Two hundred five were returned for a sixty-five percent return. Since no names were asked for on the questionnaire, the researcher had no way of knowing who had not responded. One follow-up letter to all of those in the study asking for a quick return and thanking those who



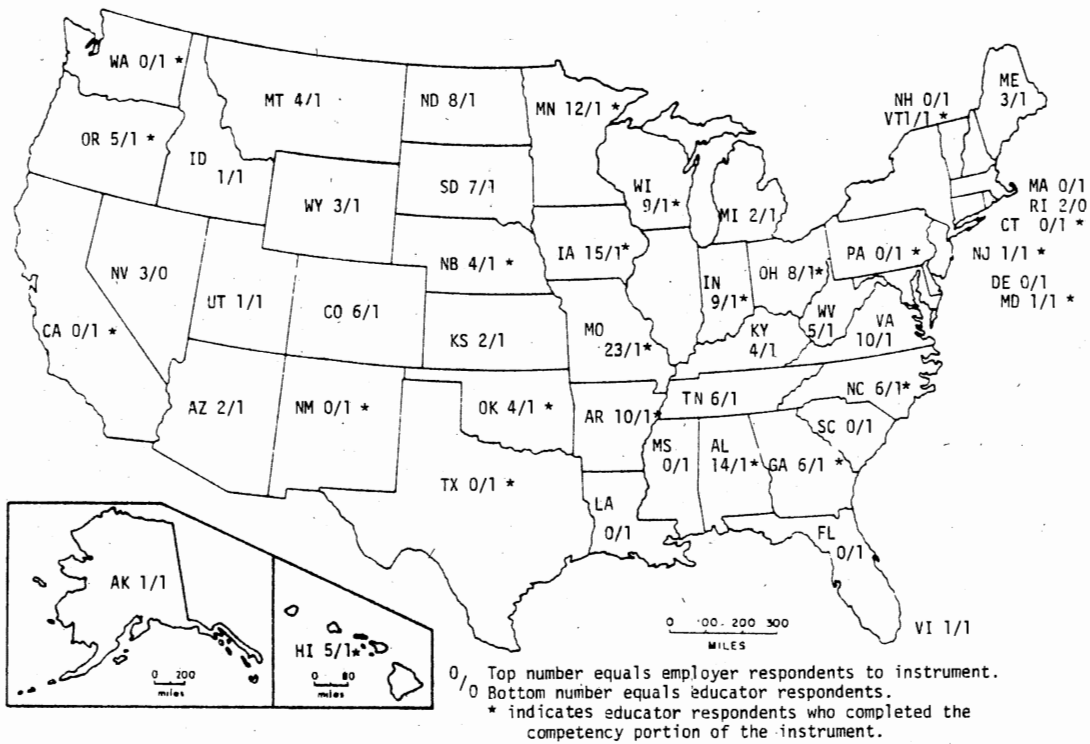


Figure 1. Distribution of Respondents by Type and State.

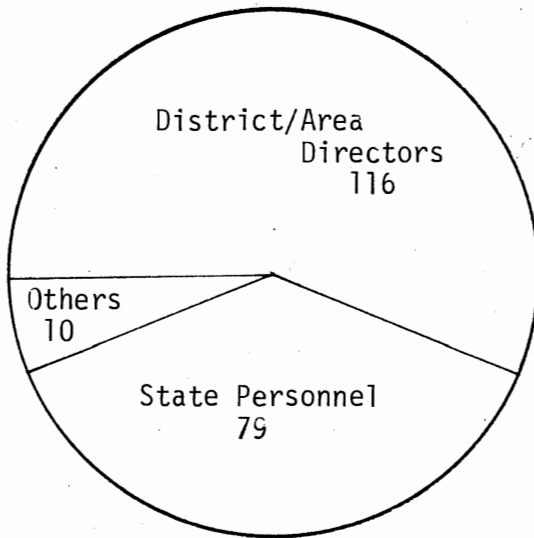


Figure 2. Distribution of Extension Employer Respondents

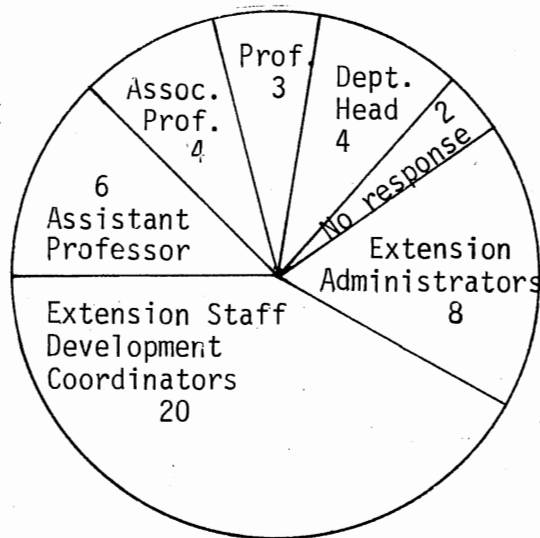


Figure 3. Distribution of Extension Educator Respondents

had already responded was sent. It also served to explain the question regarding why the study did not cover subject matter competence and that the study was limited to undergraduate education. (See Appendix A for a copy of the letter.)

Only one educator per state was asked to respond based on the names provided in the responses to the preliminary survey. Of those, 47 who were asked to fill out the educator version of the instrument, 23 replied with a completed questionnaire. Twenty-four respondents only completed the first seven questions on the questionnaire. These response patterns resulted in state of the art data from 46 states plus the Virgin Islands. Only the states of Illinois, Nevada, New York and Rhode Island were not represented in the data collected from the educators' sample, although letters from the representatives of Illinois and New York gave some information which is included. No evidence was found in the literature to indicate that any of the four states have an Extension education degree program.

## Findings

### State of the Art

According to the responses, there are undergraduate Extension education programs in the states of Arizona, Georgia, Maryland, Mississippi, New Mexico, Florida and Wisconsin. In four other states, some of the employer respondents felt that there is a degree program in Extension education. This may be due to lack of clarity of the question since it didn't specify undergraduate and/or because there are undergraduate courses relating to Extension, but not a major or degree program according to the educators in those states. One other state yielded an

overwhelming yes response to the question, but since that state requires a Master of Science degree, their responses were accepted as correctly reflecting the situation even though there is no undergraduate degree or major. That state does have a graduate program which serves as a pre-service education program.

The responses to the question as to the degree required of new Extension workers showed that 27 states and the Virgin Islands only require a Bachelor of Science degree for initial employment as an Extension agent. Eight states require a Master of Science degree. These include Alaska, Idaho, Missouri, Nebraska, Nevada, New Jersey, Ohio, and Rhode Island. None of these states has an undergraduate Extension education program.

Replies to the question, "To what extent do you think the present pre-service Extension education for new Extension workers is adequate?" resulted in an overall mean of 1.47. On a scale of 1.0 to 1.49 = not adequate and 1.50 to 2.49 = adequate that would indicate that pre-service Extension education is not adequate. More district or area directors and respondents in state positions felt that pre-service education is not adequate (see Table I).

Analysis was also made of the responses by the employer group for each state. The responses were averaged. In terms of adequacy of pre-service Extension education by states, according to the employers, the research shows that in 19 states the pre-service education is not adequate, and in 17 states, it is adequate. Means of state ratings ranged from 1.0 to 1.78, bearing in mind that in 8 states there was only one employer respondent.

Results regarding colleges and departments as the source of new

TABLE I

RESPONSES TO THE ADEQUACY OF PRE-SERVICE  
EXTENSION EDUCATION BY POSITION

Position Type	Number of Responses			Means
	Not Adequate(1)	Adequate(2)	Very Adequate(3)	
Dist/Area Director	55	51	1	1.495
State Position	42	30	1	1.438
Others	4	4		1.500
Totals	101	85	2	1.473

Extension workers showed that 75 percent are regarded as coming from the land grant universities with 18 percent coming from state universities. The other seven percent came from other institutions of higher education. The percentages ranged from 15 to 99 for the land grant universities with a mode of 30 percent. The percentages for the state universities ranged from 1 to 95 with a mode of 28. All others ranged from 1 to 55 percent with a mode of 10.

Forty-six percent of the new Extension workers have majored in Agriculture or Home Economics subject fields with a range of 1 to 99 percent and a mode of 40. The next highest source of new workers according to the employer respondents is Home Economics education with a mean percentage of 24. The range was 4 to 90 with 30 percent and 20 percent having the highest frequencies, respectively.

Agricultural education was the fourth ranked source of new

Extension workers with 17 percent of the new workers coming from those departments. The means of the other categories were: other, 6 percent; education, 5 percent; and Extension education, 4 percent.

In comparison, the educators reported that of those states having a degree or major program in Extension education, that six are located in the college of agriculture and one is an intercollege program between agriculture and home economics. Of the six that are in the college of agriculture, four are in the department of Agricultural Extension, one is in the Agricultural Education department, and one is in the Continuing and Vocational Education Department. The other one is co-sponsored by the Agriculture and Home Economics Education departments.

The full-time equivalents assigned to undergraduate Extension education totaled 13. Responses ranged from one-tenth to one and a half F.T.E.'s. Wisconsin, Maryland, and Mississippi each reported one and a half. Twenty-one responses by the educator group said that some portion of the faculty time was assigned to undergraduate Extension education. The other states that replied to the F.T.E. question were: Arizona, Connecticut, Idaho, Iowa, Kentucky, Louisiana, Minnesota, Missouri, Montana, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, West Virginia, and Wyoming.

The states that had a degree program in Extension education (with the exception of Georgia) at the undergraduate level indicated a total enrollment of 268. They reported 79 graduates last year. Kentucky, Texas, and South Dakota also reported enrollment and graduate figures. In some cases these state figures included the total departmental enrollment; therefore, the accurate figures for Extension education students could not be given. Thirty-seven universities were found to offer

course work in at least one of the nine course categories studied. Colorado and Ohio responded as having course work in all nine categories, even though they did not have a major or degree program as such. Only one of the respondents that professed to having an Extension education program said that their university offered course work in all nine categories; namely, Arizona.

Table II shows the response to the courses in relation as to whether the state had an undergraduate Extension education program.

TABLE II  
DEGREE OR MAJOR AND IDENTIFIED STUDY AREAS  
OFFERED BY 37 STATES

University	Degree or Major	Areas in Which Course Work is Offered*								
		1	2	3	4	5	6	7	8	9
Arizona	Yes	X	X	X	X	X	X	X	X	X
California	No				X		X	X	X	X
Colorado	No	X	X	X	X	X	X	X	X	X
Connecticut	No	X						X		
Florida	Yes					X	X			
Georgia	Yes	X	X	X			X	X		
Idaho	No		X					X		
Illinois	No	X		X	X	X				
Iowa	No	X	X	X	X					
Kansas	No	X	X							
Kentucky	No	X								
Louisiana	No	X	X				X	X	X	

TABLE II (CONTINUED)

University	Degree or Major	Areas in Which Course Work is Offered*								
		1	2	3	4	5	6	7	8	9
Maryland	Yes	X	X	X			X	X	X	X
Michigan	No							X		
Minnesota	No	X	X	X					X	
Mississippi	Yes	X	X	X			X	X	X	
Missouri	No							X		
Montana	No							X	X	
Nebraska	No			X		X	X	X	X	X
New Hampshire	No			X						
New Jersey	No	X		X	X			X	X	X
New Mexico	Yes	X	X			X	X	X		
North Dakota	No	X		X				X		
Ohio	No	X	X	X	X	X	X	X	X	X
Oklahoma	No			X		X			X	
Oregon	No	X	X	X		X		X	X	
Pennsylvania	No		X	X		X	X	X	X	X
Rhode Island	No	X								
South Carolina	No								X	
South Dakota	No	X	X		X	X		X	X	
Tennessee	No	X								
Texas	No	X								
Utah	No	X	X	X	X					
Virginia	No			X						
West Virginia	No		X			X	X	X	X	X

TABLE II (CONTINUED)

University	Degree or Major	Areas in Which Course Work is Offered*								
		1	2	3	4	5	6	7	8	9
Wisconsin	Yes	X	X	X	X	X	X	X	X	X
Wyoming	No	X								
	Totals	24	18	19	10	13	14	21	18	9

- \* 1. Extension Organization, Philosophy, Objectives  
 2. Extension Teaching  
 3. Program Planning  
 4. Program Evaluation  
 5. Leadership  
 6. Youth Education  
 7. Communication Skills  
 8. Adult Education  
 9. Management, Supervision, Administration

A description of the programs of the other universities identified by this study as having Extension education undergraduate curricula is necessary to complete the state of the art portion of the findings. The Georgia, New Mexico, Florida, and Wisconsin programs were explained in the review of the literature based on current catalogs and information. That leaves Mississippi, Maryland, and Arizona to be described.

Mississippi State University (5) offers an Agriculture and Extension Education degree at the undergraduate level. Four options are available, three of which comply with the state teacher certification requirements and one which is a non-teaching option. Sixteen undergraduate courses are offered by the department of Agriculture and Extension Education. Twenty-four hours of course work are required under the teaching options and the Directed Teaching hours are exempted from the



non-teaching option. There are fifteen hours allowed for free electives under all options. It appears to the author that an aspiring Extension worker could build a good undergraduate program under any of the options by including the Supervised Field Experience with a combination of the available courses based upon their interest.

The University of Maryland (36) has an Extension education option in their Agriculture and Extension Education department. In addition to the core curriculum which includes a course in Teaching Materials and Demonstrations, the Extension Education majors take courses in Social Psychology, Developing Youth Programs, Directed Experience in Extension Education, Program Planning in Extension Education, Extension Education, and Extension Communications. Beyond this, the students can choose the Agricultural Science option or the Youth Development option.

The University of Arizona Extension Education curriculum is new and has not been included in the college catalog yet. The information the researcher received came directly from Dr. Arlin Etling (11) in December 1976. The University offers the following courses for Extension education students in the Department of Agriculture Education: Introduction to Agriculture Teaching and Extension, Freshman and Sophomore seminars, Youth Leadership Development, Philosophy and Organization of Extension, Community Relations in Vocational Extension Education, Program Planning in Extension Supervised Field Experience, Workshop in Extension Office Skills, Community Communications Media, Visual and Auditory Aids in Teaching, and a one- to three-credit Individual Study Course. All of these courses are built around the list of competencies researched by Itulya (18). The courses are cross-listed in the Colleges of Agriculture, Home Economics and Education.

## Competencies

The second objective of this study was to synthesize and categorize a list of non-technical subject matter (professional) competencies for beginning Extension workers. This objective was accomplished during the development of the research instrument as described in Chapter III. The list of eighty-nine competencies included on the instruments (see Appendix B) for both the employers and educators were grouped into nine subject categories by the researcher for analysis as shown in Tables III and IV.

The third objective considered stated that the study would determine and compare the desired and possessed levels of competence for the selected list of competencies as perceived by selected Cooperative Extension employers and selected Extension educators. Two hundred and five responses by employers and twenty completed instruments from the educators provided the data for the following analysis. Four null hypotheses were tested for this objective.

The first null hypothesis tested read: "There is no difference between the level of competency possessed by new Extension workers as perceived by employers and the level of competence possessed by students who complete courses as perceived by the Extension educators in each of the selected competencies." The researcher chose to test the hypothesis at the .05 level of significance. The actual probability level is shown for the t-test of each competency in Appendix E. Thirty-five competencies were considered to have a significant difference (see those marked with an asterisk in Table III in possessed level difference column) leaving fifty-four competencies that did not show a significant difference. The null hypothesis is rejected for those competencies

that did have a significant difference.

The subject area with the greatest difference in the possessed level of competence between the employers and educators is Extension Organization, Philosophy and Objectives. All four of the competencies put in this category by the author showed a difference of over one point (low to medium level of competence). In other words, the educators feel that the beginning Extension workers are much more competent in this area than the employers do. Both of the adult education competencies also showed a significant difference although the differences were lower than the Extension organization group. Twelve of the fifteen competencies in the program planning category showed a significant difference in regard to the possessed level of competence. Differences ranged from .24 to .94 between the employers and educators group means with the educators' ratings all being higher than those of the employers.

The educators perceived the possessed level of competence as being higher than did the employers in all but twelve of the competencies although only one competency was significantly different at the .05 level; namely, "strike up a conversation with anyone." The number of competencies with significant differences and their identification numbers by categories are as follows: Leadership, two (1 and 6); Teaching Methods, five (9, 12, 14, 17, 21); Youth Education, two (33 and 35); Program Evaluation, three (51, 57, 58); Communication Skills, four (69, 73, 74, 75); Management, Administration, Supervision, no significant differences.

The second hypothesis under objective three read: "There is no difference between the level of competence desired of new Extension workers as perceived by employers and the level of competence desired by

educators of students who complete courses related to Extension work." The .05 level of significance was the criteria for acceptance of the null hypothesis again. Table III presents the competency-by-competency findings related to this hypothesis. Only three (those marked by an asterisk) had a significant difference. Two of the three competencies that had a significant difference for the desired level of competence were also significantly different between the employers and educators for the possessed levels.

Competency number 25 (describe the accepted role of an Extension Agent and Specialist) showed a mean difference on the possessed criteria between the perceived levels of the employers and educators of 1.046 while the difference in means of desirability was .447. Competency 46 (describe the program planning process and apply it to an expressed problem) had a mean difference for the possessed level of 1.175 and .435 for the desired level of competence. The educators indicated a slightly lower level of desirability for forty-three competencies as indicated by minus signs in front of the difference in means, but nevertheless there is general agreement on eighty-six of the competencies.

The third hypothesis stated in the objectives read, "There is no difference between the means of the possessed level and desired level of each of the selected competencies as perceived by Extension employers." Table III contains data related to this hypothesis. To be considered as showing a significant difference at the .05 level, a t value of more than 1.645 is required. All of the eighty-nine competencies had a significant difference. Therefore, the null hypothesis is rejected in all instances.

The fourth hypothesis read: "There is no significant difference

between the level of competence possessed by students who complete Extension related courses and the level of competency desired of students who complete the courses for each of the selected competencies as perceived by Extension educators." Table III also illustrates the findings that relate to this hypothesis under the educators column heading. The t value of significance at the .05 level for this hypothesis is 2.093 at 19 degrees of freedom, so any t value over that is significant.

All but eight of the 89 competencies showed a significant difference; namely, competencies 10, 11, 18, 23, 26, 27, 74, 75. Eighty-four competencies had a greater difference as evaluated by the employers. The other five were evaluated as more different by the educators; namely, competencies 31, 59, 68, 72, and 73. Three of them were in the communication skills category.

Combined means were calculated for each test (desired levels, possessed levels and the difference) on each competency, and presented in Table III. This was done by totaling the scores of all respondents and dividing by the total number of respondents. The author felt that such a mean would best represent the combined thinking of the employers and educators. He also concluded that the combined mean would be most generalizable to the whole population based on the premise that each group of respondents represents a nearly equal proportion (40%) of the whole population. The combined means were used as the basis of recommendations given in Chapter V.

The fourth objective was to establish the relative importance of the competencies for beginning Extension workers. The method for accomplishing this objective was to use the computer to rank the means of the possessed and desired levels of the eighty-nine competencies as

TABLE III

COMPARING RATING MEANS OF POSSESSED AND DESIRED LEVELS OF COMPETENCE  
OF NEW EXTENSION WORKERS FOR SELECTED COMPETENCIES AS  
PERCEIVED BY EMPLOYERS AND EDUCATORS

Subject Category	Competency Number (1)	Means of Possessed Levels of Competence				Means of Desired Levels of Competence				Difference Between Possessed and Desired Means		
		Employers Ratings(2)	Educators Ratings(3)	Difference of Employers and Educators Ratings	Combined Ratings	Employers Ratings(2)	Educators Ratings(3)	Difference of Employers and Educators Ratings	Combined Ratings	Employers Ratings(2)	Educators Ratings(3)	Combined Ratings
Leadership	1	2.32	2.90	.58*	2.37	3.55	3.55	.00	3.55	1.23*	.65*	1.18
	2	2.20	2.63	.43	2.24	3.62	3.90	.28	3.64	1.41*	1.26*	1.40
	3	2.99	3.26	.27	3.01	4.00	4.05	.05	4.00	1.01*	.79*	.99
	4	2.74	2.68	-.06	2.73	3.17	3.00	-.17	3.16	.44*	.32*	.43
	5	2.35	2.68	.33	2.38	3.80	3.84	.04	3.80	1.44*	1.16*	1.42
	6	2.28	2.80	.52*	2.33	3.77	3.85	.08	3.78	1.47*	1.05*	1.43
Adult Education	7	2.31	3.15	.84*	2.39	3.56	3.65	.09	3.57	1.25*	.50*	1.18
Teaching Methods	8	2.62	3.15	.53*	2.67	3.77	3.80	.03	3.77	1.14*	.65*	1.10
Teaching Methods	9	2.32	3.10	.78*	2.39	3.62	3.75	.13	3.63	1.30*	.65*	1.24
	10	2.85	3.05	.20	2.87	3.71	3.37	-.34	3.58	.86*	.32	.81
	11	2.97	2.89	-.08	2.96	3.52	3.05	-.47	3.48	.56*	.16	.153
	12	2.22	3.00	.78*	2.29	3.67	3.85	.18	3.69	1.46*	.85*	1.40
	13	2.74	3.05	.31	2.77	3.65	3.40	-.25	3.62	.91*	.35*	.86
	14	2.42	3.16	.74*	2.48	3.74	3.74	.00	3.74	1.31*	.58*	1.25
	15	2.92	2.84	-.08	2.91	3.69	3.32	-.37	3.66	.77*	.47*	.75
	16	2.37	2.53	.16	2.39	3.31	3.21	-.10	3.30	.93*	.68*	.91
	17	2.35	2.95	.60*	2.40	3.49	3.58	.09	3.50	1.14*	.63*	1.10
	18	2.85	2.74	-.11	2.84	3.45	2.95	-.50	3.41	.60*	.21	.57
	19	2.72	3.21	.49	2.76	3.85	3.74	-.11	3.84	1.14*	.53*	1.09
	20	2.80	3.21	.41	2.84	3.95	3.89	-.06	3.95	1.14*	.68*	1.10
	21	2.04	2.44	.40*	2.07	3.32	3.37	.05	3.33	1.28*	.94*	1.25
	22	2.78	3.00	.22	2.80	3.60	3.35	-.25	3.58	.82*	.35*	.78
	23	2.64	2.58	-.06	2.63	3.11	2.84	-.27	3.09	.47*	.26	.45
	Extension Organization, Philosophy, Objectives	24	1.97	3.15	1.18*	2.08	3.32	3.70	.38	3.35	1.35*	.55*
25		2.15	3.20	1.05*	2.25	3.40	3.84	.44*	3.43	1.24*	.63*	1.18
26		2.05	3.20	1.15*	2.15	3.30	3.55	.25	3.32	1.25*	.35	1.17
27		1.90	2.95	1.05*	1.99	3.06	3.30	.24	3.09	1.17*	.35	1.10
Youth Education	28	2.72	3.05	.33	2.75	3.61	3.50	-.11	3.60	.89*	.45*	.85
	29	2.49	3.00	.52	2.53	3.45	3.55	.10	3.46	.96*	.55*	.92

TABLE III (CONTINUED)

Subject Category	Competency Number (1)	Means of Possessed Levels of Competence				Means of Desired Levels of Competence				Difference Between Possessed and Desired Means		
		Employers Ratings(2)	Educators Ratings(3)	Employers and Educators Ratings	Combined Ratings	Employers Ratings(2)	Educators Ratings(3)	Employers and (4) Educators Ratings	Combined Ratings	Employers Ratings(2)	Educators Ratings(3)	Combined Ratings
	30	2.71	2.85	.14	2.72	3.62	3.40	-.22	3.60	.91*	.55*	.88
	31	2.49	2.74	.25	2.51	3.13	3.63	.50	3.17	.65*	.89*	.66
	32	2.69	3.15	.46	2.73	3.71	3.75	.04	3.72	1.03*	.60*	.99
	33	2.26	2.84	.58*	2.31	3.54	3.58	.04	3.54	1.28*	.74*	1.23
	34	2.40	2.80	.40	2.43	3.49	3.45	-.04	3.49	1.09*	.65*	1.05
	35	2.36	2.95	.59*	2.41	3.62	3.68	.06	3.62	1.27*	.74*	1.22
Program Planning	36	2.02	2.75	.73*	2.09	3.80	3.90	.10	3.81	1.78*	1.15*	1.72
	37	2.37	3.05	.68*	2.43	3.74	3.95	.21	3.76	1.37*	.89*	1.33
	38	2.45	3.20	.75*	2.52	3.67	3.90	.23	3.69	1.22*	.70*	1.17
	39	2.02	2.85	.83*	2.10	3.55	3.75	.20	3.56	1.52*	.90*	1.46
	40	2.04	2.70	.66*	2.10	3.42	3.40	-.02	3.41	1.38*	.70*	1.32
	41	1.95	2.58	.63*	2.01	3.63	3.58	-.05	3.62	1.68*	1.00*	1.62
	42	2.07	2.74	.67*	2.13	3.57	3.58	.01	3.57	1.50*	.84*	1.44
	43	2.31	2.84	.53*	2.35	3.50	3.53	.03	3.50	1.20*	.68*	1.15
	44	2.01	2.65	.64*	2.07	3.37	3.55	.18	3.39	1.37*	.90*	1.32
	45	2.07	2.55	.48	2.11	3.42	3.45	.03	3.42	1.35*	.90*	1.31
	46	2.01	2.95	.94*	2.09	3.46	3.90	.44*	3.50	1.45*	.95*	1.41
	47	2.13	2.55	.42	2.17	3.60	3.75	.15	3.62	1.48*	1.20*	1.45
	48	2.51	2.79	.28	2.53	3.45	3.58	.13	3.46	.95*	.79*	.93
	49	2.11	2.63	.52*	2.16	3.36	3.47	.11	3.37	1.25*	.84*	1.21
	50	2.42	3.05	.63*	2.48	3.63	3.70	.07	3.64	1.22*	.65*	1.17
Program Evaluation	51	1.93	2.55	.62*	1.98	3.34	3.65	.31	3.37	1.41*	1.10*	1.38
	52	2.03	2.50	.47	2.08	3.57	3.95	.38	3.61	1.54*	1.42*	1.53
	53	1.97	2.37	.40	2.01	3.39	3.53	.14	3.40	1.41*	1.16*	1.39
	54	2.15	2.53	.38	2.18	3.60	3.79	.19	3.62	1.46*	1.26*	1.44
	55	2.17	2.42	.25	2.19	3.27	3.47	.20	3.29	1.11*	1.05*	1.10
	56	2.33	2.79	.46	2.37	3.45	3.58	.13	3.46	1.12*	.79*	1.09
	57	2.48	2.89	.41*	2.52	3.70	3.84	.14	3.71	1.22*	.95*	1.19
	58	2.13	2.58	.45*	2.17	3.58	4.00	.42	3.62	1.45*	1.42*	1.45
	59	2.26	2.37	.11	2.27	3.33	3.47	.14	3.34	1.08*	1.11*	1.08
	60	2.19	2.21	.02	2.19	3.66	3.32	-.34	3.63	1.48*	1.11*	1.44

TABLE III (CONTINUED)

Subject Category	Competency Number (1)	Means of Possessed Levels of Competence				Means of Desired Levels of Competence				Difference Between Possessed and Desired Means		
		Employers Ratings(2)	Educators Ratings(3)	Difference of Employers and Educators Ratings (4)	Combined Ratings	Employers Ratings(2)	Educators Ratings(3)	Difference of Employers and Educators Ratings (4)	Combined Ratings	Employers Ratings(2)	Educators Ratings	Combined Ratings
Communication Skills	61	2.60	3.10	.50	2.65	3.73	3.40	-.33	3.70	1.13*	.30*	1.06
	62	2.64	2.95	.31	2.67	3.68	3.40	-.28	3.65	1.03*	.45*	.98
	63	2.45	2.80	.35	2.48	3.63	3.45	-.18	3.62	1.19*	.65*	1.14
	64	2.81	3.05	.24	2.83	3.86	3.80	-.06	3.85	1.04*	.75*	1.02
	65	2.84	2.85	.01	2.84	3.98	3.80	-.18	3.96	1.14*	.95*	1.12
	66	2.90	2.85	-.05	2.89	3.88	3.60	-.28	3.86	.98*	.75*	.96
	67	2.72	2.85	.13	2.73	3.87	3.75	-.12	3.86	1.14*	.90*	1.12
	68	3.02	2.79	-.23	3.01	3.49	3.37	-.12	3.48	.46*	.58*	.47
	69	2.29	2.70	.41*	2.32	3.80	3.80	.00	3.80	1.52*	1.10*	1.48
	70	2.91	2.95	.04	2.92	4.08	3.95	-.13	4.07	1.17*	1.00*	1.16
	71	2.63	2.80	.17	2.64	3.62	3.45	-.17	3.61	1.00*	.65*	.96
	72	2.96	2.72	-.24	2.94	3.83	3.72	-.11	3.82	.87*	1.00*	.87
	73	3.13	2.72	-.41*	3.10	3.73	3.39	-.34	3.70	.59*	.67*	.60
	74	2.48	2.95	.47*	2.52	3.35	3.35	.00	3.35	.88*	.40	.83
	75	2.49	3.16	.67*	2.55	3.45	3.50	.05	3.46	.96*	.32	.90
	76	2.36	2.50	.14	2.38	3.12	2.95	-.17	3.10	.76*	.45*	.73
	77	2.83	2.95	.12	2.84	3.62	3.55	-.07	3.62	.79*	.60*	.77
Management, Administration, Supervision	78	2.54	2.84	.30	2.57	3.67	3.74	.07	3.67	1.13*	.89*	1.11
	79	2.87	2.95	.08	2.87	3.83	3.63	-.20	3.81	.97*	.68*	.94
	80	2.54	2.68	.14	2.55	3.88	3.63	-.25	3.85	1.34*	.95*	1.31
	81	2.56	2.63	.07	2.57	3.51	3.32	-.19	3.50	.96*	.68*	.94
	82	2.75	2.85	.10	2.76	4.07	3.90	-.17	4.06	1.32*	1.05*	1.29
	83	2.45	2.58	.13	2.46	3.85	3.89	.04	3.86	1.40*	1.32*	1.40
	84	2.75	2.79	.04	2.75	3.71	3.58	-.13	3.70	.97*	.79*	.95
	85	2.93	2.84	-.09	2.92	3.96	3.58	-.38	3.93	1.04*	.74*	1.01
	86	1.99	2.11	.12	2.01	3.06	2.90	-.16	3.05	1.06*	.79*	1.04
	87	2.50	2.37	-.13	2.49	3.41	3.11	-.30	3.38	.90*	.74*	.89
	88	2.55	2.53	-.02	2.55	3.41	3.11	-.30	3.39	.86*	.58*	.84
	89	3.06	3.16	.10	3.07	4.29	4.21	-.08	4.28	1.23*	1.05*	1.21

1. Competency number refers to competencies listed in the instruments found in Appendix B.
  2. The number of employer respondents for each competency ranged from 198-203.
  3. The number of educators respondents for each competency ranged from 18-20.
  4. The difference is based upon the educators rating means compared to the employers mean ratings.
- (\*) indicates there is a significant difference at the .05 level



perceived by the employers and educators. Table IV displays the overall ranks of the competencies and ranks of the competencies within each subject category. The overall ranks of the combined means are also displayed.

The following list presents the fifty top ranked competencies according to the combined desired means. Those marked with an asterisk (\*) are the ones for which the combined means of the difference between the desired and possessed levels ranked in the top fifty also. The numbers in parentheses are the number of the competency on the instrument (Appendix B).

- \*1. (89) Work as a team member.
- \*2. (70) Attain and maintain healthy and positive communications with other members on the staff and administrators.
- \*3. (82) Make good use of own time.
4. ( 3) Work effectively with youth and adult groups.
- \*5. (65) Write well-constructed personal letters.
- \*6. (20) Use proper teaching procedures in presenting information.
7. (85) Handle calls and correspondence efficiently and effectively.
- \*8. (67) Recall specific details essential to a discussion or presentation for future use (listening skill).
9. (66) Explain directions and information effectively and efficiently.
- \*10. (83) Delegate work that could and should be done by others.
- \*11. (80) Relate to county and state government sponsors in order to maintain strong support for Cooperative Extension.
12. (64) Prepare and present a speech effectively.
13. (19) Plan, organize, and conduct and educational event.

TABLE IV

OVERALL AND CATEGORICAL RANKING OF SELECTED COMPETENCIES ACCORDING TO POSSESSED AND DESIRED LEVELS OF COMPETENCE AS PERCEIVED BY EMPLOYERS AND EDUCATORS OF NEW EXTENSION WORKERS

Subject Category Number	Competency	Possessed Levels of Competence					Desired Levels of Competence					Difference = Desired Rank - Possessed Ranks				
		Overall Ranks			Rank in Category		Overall Ranks			Rank in Category		Overall Ranks			Rank in Category	
		Employers	Educators	Combined	Employers	Educators	Employers	Educators	Combined	Employers	Educators	Employers	Educators	Combined	Employers	Educators
Leadership	1	57	34	58	4	2	53	52	54	5	5	36	58	36	4	5
	2	66	69	67	6	6	40	11	34	4	2	15	4	15	3	1
	3	4	1	3	1	1	4	2	4	1	1	61	36	59	5	4
	4	22	65	24	2	5	84	85	85	6	6	89	84	89	6	6
	5	54	64	56	3	4	18	17	17	2	4	14	7	12	2	2
	6	62	49	61	5	3	19	15	19	3	3	9	16	11	1	3
Adult Education	7	59	13	54	2	1/2	52	36	52	2	2	32	73	35	1	2
	8	31	12	28	1	1/2	20	19	20	1	1	44	57	48	2	1
Teaching Methods	9	58	14	53	13	4	43	26	36	8	3	27	56	28	3	5
	10	12	17	12	3	5	27	73	30	4	9	78	83	78	10	12
	11	5	35	5	1	10	56	84	62	10	13	86	89	86	14	15
	12	65	24	64	14	8	31	14	29	6	2	10	33	14	1	2
	13	21	20	19	7	6	35	67	39	7	7	71	82	74	9	11
	14	47	7	45	10	3	22	30	22	3	5	26	66	27	2	7
	15	8	45	9	2	11	29	77	32	5	11	81	74	81	12	9
	16	50	78	55	11	14	81	81	82	14	12	70	50	69	8	4
	17	55	32	52	12	9	61	43	59	11	6	47	63	49	6	6
	18	13	59	16	4	12	66	87	70	12	14	84	88	85	13	14
	19	25	3	21	8	2	13	29	13	2	4	48	72	52	7	8
	20	17	2	14	5	1	7	10	6	1	1	46	49	47	5	3
	21	77	83	83	15	15	79	72	80	13	8	29	25	26	4	1
	22	18	23	18	6	7	48	75	50	9	10	79	81	79	11	10
	23	29	72	32	9	13	87	89	87	15	15	87	87	88	15	13
Extension Organization, Philosophy and Objectives	24	85	11	81	3	3	80	33	77	2	2	23	71	25	1	2
	25	69	6	66	1	2	72	16	67	1	1	34	62	34	3	1
	26	76	5	74	2	1	82	51	81	3	3	31	80	38	2	4
	27	89	25	88	4	4	88	80	88	4	4	43	79	50	4	3
Youth Education	28	23	19	22	1	2	45	57	48	4	6	74	75	75	7	8
	29	41	22	38	5	3	67	50	65	7	5	67	70	68	5	7

TABLE IV (CONTINUED)

Subject Category	Competency Number	Possessed Levels of Competence				Desired Levels of Competence				Difference=Desired Rank-Possessed Rank						
		Overall Ranks			Rank in Category	Overall Ranks			Rank in Category	Overall Ranks			Rank in Category			
		Employers	Educators	Combined	Employers	Educators	Employers	Educators	Combined	Employers	Educators	Combined	Employers	Educators		
	30	26	38	27	2	5	44	66	49	3	8	72	69	73	6	6
	31	40	58	43	4	8	85	38	84	8	3	83	31	83	8	1
	32	27	10	26	3	1	26	25	23	1	1	60	64	60	4	5
	33	63	44	63	8	6	55	42	55	5	4	28	44	29	1	3
	34	49	48	49	6	7	59	62	60	6	7	54	55	55	3	4
	35	53	31	51	7	4	42	35	40	2	2	30	43	30	2	2
Program Planning	36	81	56	80	12	8	17	8	16	1	3	1	9	1	1	2
	37	51	16	50	4	2	21	5	21	2	1	20	30	19	8	8
	38	44	4	41	2	1	33	7	28	3	2	37	47	37	13	12
	39	80	37	77	11	5	54	24	53	8	5	4	26	5	3	5
	40	78	62	78	10	10	69	70	69	13	15	19	48	21	7	13
	41	87	71	87	15	13	38	49	38	5	10	2	20	2	2	3
	42	75	57	75	9	9	51	48	51	7	9	6	35	8	4	10
	43	60	43	60	5	6	58	56	56	9	12	40	53	41	14	14
	44	83	67	84	14	11	74	54	72	14	11	21	29	20	9	7
	45	74	77	76	8	15	68	65	68	12	14	22	28	22	10	6
	46	82	30	79	13	4	62	13	58	10	4	12	24	13	6	4
	47	72	76	72	6	14	46	28	45	6	6	7	6	6	5	1
	48	37	52	39	1	7	63	47	64	11	8	69	40	67	15	11
	49	73	68	73	7	12	75	61	75	15	13	33	34	32	11	9
	50	48	18	47	3	3	37	34	35	4	7	38	61	39	12	15
Program Evaluation	51	88	5	89	7	4	77	37	76	8	5	17	13	18	6	7
	52	79	82	82	5	6	50	6	46	5	2	3	2	3	1	2
	53	86	87	86	2	9	73	55	71	7	7	16	8	17	5	4
	54	70	80	70	6	5	47	23	42	3	4	11	5	10	3	3
	55	68	84	69	4	7	83	60	83	10	9	53	15	46	9	8
	56	56	55	59	9	2	65	46	63	6	6	52	39	51	8	10
	57	42	36	42	10	1	28	18	24	1	3	39	23	33	7	9
	58	71	74	71	8	3	49	3	41	4	1	13	1	7	4	1
	59	64	86	65	3	8	78	59	79	9	8	55	11	53	10	6
	60	67	88	68	1	10	34	79	37	2	10	8	10	9	2	5

TABLE IV (CONTINUED)

Subject Category	Competency Number	Possessed Levels of Competence					Desired Levels of Competence					Difference=Desired Rank-Possessed Ranks				
		Overall Ranks			Rank in Category		Overall Ranks			Rank in Category		Overall Ranks			Rank in Category	
		Employers	Educators	Combined	Employers	Educators	Employers	Educators	Combined	Employers	Educators	Employers	Educators	Combined	Employers	Educators
Communications	61	32	15	30	12	2	23	69	26	8	10	50	86	54	6	17
	62	28	29	29	10	7	30	68	33	10	13	59	77	61	8	14
	63	45	51	46	15	12	36	64	44	11	12	41	60	42	2	10
	64	16	21	17	8	3	11	22	12	5	4	57	42	57	7	7
	65	14	42	15	6	10	5	21	5	2	3	49	21	44	5	4
	66	10	41	10	5	9	8	41	9	3	7	63	41	63	10	6
	67	24	40	25	9	8	10	27	8	4	5	45	27	43	4	5
	68	3	54	4	2	13	60	74	61	14	15	88	68	87	17	12
	69	61	63	62	17	16	16	20	18	7	2	5	12	4	1	1
	70	9	28	8	4	6	2	4	2	1	1	42	19	40	3	3
	71	30	50	31	11	11	41	63	47	13	11	62	59	62	9	9
	72	6	61	6	3	15	15	32	14	6	6	76	18	72	13	2
	73	1	60	1	1	14	24	71	27	9	14	85	54	84	16	8
	74	43	27	40	14	5	76	76	78	16	16	75	78	77	12	15
	75	39	9	37	13	1	64	58	66	15	9	68	85	70	11	16
	76	52	81	57	16	17	86	86	86	17	17	82	76	82	15	13
	77	15	26	13	7	4	39	53	43	12	8	80	65	80	14	11
Management, Administration, Supervision	78	35	47	34	8	5	32	31	31	8	4	51	32	45	5	15
	79	11	33	11	3	2	14	40	15	6	6	65	52	65	9	11
	80	36	66	35	9	7	9	39	11	4	5	24	22	23	2	4
	81	33	70	33	6	8	57	78	57	9	9	66	51	66	10	10
	82	19	39	20	4	3	3	9	3	2	2	25	17	24	3	3
	83	46	73	48	11	9	12	12	10	5	3	18	3	16	1	1
	84	20	53	23	5	6	25	45	25	7	8	64	38	64	8	7
	85	7	46	7	2	4	6	44	7	3	7	58	46	58	7	9
	86	84	89	85	12	12	89	88	89	12	12	56	37	56	6	6
	87	38	85	44	10	11	71	83	74	11	11	73	45	71	11	8
	88	34	79	36	7	10	70	82	73	10	10	77	67	76	12	12
	89	2	8	2	1	1	1	1	1	1	1	35	14	31	4	2

14. (72) Remember peoples' names.
15. (79) Maintain an orderly, warm, and efficient office atmosphere.
- \*16. (36) Identify, recruit, utilize, and involve advisory groups in the process of identifying local problems (needs), setting priorities, planning educational programs to solve problems, conducting and evaluating effectiveness of the programs.
- \*17. ( 5) Recruit volunteers to serve in leadership roles in Extension programs.
- \*18. (69) Effectively inform local officials, constituents, and general public of program purposes, goals, and results.
- \*19. ( 6) Allow and nurture clientele to take leadership roles.
- \*20. ( 8) Identify available resources and utilize in the conduct of educational programs.
- \*21. (37) Design the educational experiences that are appropriate and directed at the objectives of the clientele groups and/or individuals.
- \*22. (14) Use motivation appropriately in educational programs.
23. (32) Develop and maintain a cooperative working relationship among people involved in the youth program.
24. (24) Describe the organizational structure, laws, objectives, philosophy, and policies that govern the Cooperative Extension Service and relate to own area of responsibility.
25. (84) Keep accurate records of work done.
26. (61) Write news articles and feature stories for newspapers.
27. (73) Strike up a conversation with anyone.
- \*28. (38) Utilize available and reliable sources of information to determine needs of people.
- \*29. (12) Recognize, identify, and be cognizant of the social action (diffusion and adoption) process at work in a community.
30. (10) Develop basic instructional materials.

- \*31. (78) List and describe the factors essential for maintaining good human relations among office staff and constituents.
- 32. (15) Plan, prepare for, and conduct a demonstration.
- 33. (62) Write newsletters.
- \*34. ( 2) Design and implement an educational program for developing local leaders.
- \*35. (50) Identify those individuals who would constitute the target audience for an Extension program.
- \*36. ( 9) Identify techniques that may be employed to get different kinds of clientele involved in the teaching-learning process.
- \*37. (60) Prepare reports on the effectiveness of Extension programs and activities for local officials (county supervisors, commissioners, or judges) and district, state, and federal administration.
- \*38. (41) Write measurable and observable educational objectives in terms of behavioral change.
- 39. (13) Use audio-visual materials appropriately and effectively to supplement and compliment instructional programs (includes operation of audio-visual equipment).
- \*40. (35) Administer the program of work relating to the area of responsibility in cooperation with other staff.
- \*41. (58) Measure the impact of Extension activities in relation to the objectives.
- \*42. (54) Make effective use of evaluation information to make adjustments in learning experiences or future program planning.
- 43. (77) Introduce a speaker.
- \*44. (63) Prepare news releases for radio and television stations.
- \*45. (47) Provide leadership and necessary training to advisory groups involved in program planning in own area of work.
- 46. (52) Use appropriate evaluation techniques for educational programs.

47. (71) Effectively use direct mail in conduct of the area of responsibility.
48. (28) Work with all other professionals in similar work.
49. (30) Plan and conduct regular Extension youth activities.
50. (22) Use educational bulletins and fact sheets to best advantage.

Analysis of the previous list reveals that 8 of the 12 competencies in the management administration and supervision category are among the 50 top ranked on desired level of competence. Five of those were also ranked in the top 50 as to the difference between the combined desired and possessed levels of competence. In the communication skills category, 12 of the 17 competencies ranked in the top 50 on the combined desired levels, but only 5 of those 12 were also in the top 50 for the difference of means. It is also noteworthy that in the adult education, program planning and program evaluation categories all of the competencies ranked in the top 50 on desirability also ranked in the top 50 for the difference between desired and possessed level combined means.

The researcher calculated the grand means of the competencies and ranked them by responses from the employers and educators for the desired levels (Table V) and the differences between the desired and the possessed levels of competence (Table VI).

The results of this procedure indicate that, in terms of desirability, the subject category of management, supervision and administration ranked highest; with communication skills being second; adult education, third; leadership fourth; teaching methods, fifth; program planning, sixth; youth education, seventh; program evaluation, eighth; and Extension organization, philosophy and objectives, ninth.

TABLE V  
RANKING OF SUBJECT CATEGORY MEANS OF MEANS FOR DESIRED LEVEL OF  
COMPETENCIES

Subject	Employers		Educators		Combined	
	Mean	Rank	Mean	Rank	Mean	Rank
Leadership	3.65	4/5	3.70	2	3.66	4
Adult Education	3.67	3	3.73	1	3.67	3
Extension Teaching Methods	3.65	4/5	3.43	9	3.57	5
Extension Organization	3.27	9	3.60	5	3.30	9
Youth Education	3.52	7	3.57	6	3.52	7
Program Planning	3.54	6	3.67	3	3.55	6
Program Evaluation	3.49	8	3.66	4	3.51	8
Communications Skills	3.69	2	3.54	8	3.68	2
Management, Supervision, Administration	3.72	1	3.55	7	3.71	1

The most significant differences in the ranks of the categories between the employers and educators were for the management and communications subject areas. The rank for these categories for the employers' responses were first and second while the educators' ratings produced a seventh and eighth ranking. They were closest in their respective ratings for the leadership and adult education subject categories. Of course, it must be realized that there was only a .41 difference between the first and ninth combined means.

The rankings of the subject categories in respect to the differences between the desired and possessed levels of competence were more



TABLE VI  
RANK OF DIFFERENCE BETWEEN DESIRED AND POSSESSED LEVELS OF  
COMPETENCY BY SUBJECT CATEGORY

Subject Category	Mean of Means of Differences					
	Employers		Educators		Combined	
	Mean	Rank	Mean	Rank	Mean	Rank
Leadership	1.17	5	0.87	2/3	1.14	4/5
Adult Education	1.20	4	0.58	7	1.14	4/5
Extension Teaching Methods	0.98	8/9	0.51	8	0.94	9
Extension Organization	1.25	3	0.47	9	1.18	3
Youth Education	1.01	6/7	0.65	6	0.96	7
Program Planning	1.38	1	0.87	2/3	1.33	1
Program Evaluation	1.33	2	1.14	1	1.31	2
Communications Skills	0.98	8/9	0.68	5	0.95	8
Management, Supervision, Administration	1.10	6/7	0.86	4	1.08	6

in agreement for top two categories. Both groups of respondents felt that program planning and program evaluation had the highest difference in means. These categories are the farthest apart between the level of competency possessed and the level of competency desired of beginning Extension workers.

Another approach to the analysis of the competencies used by the researcher was to group the ranks of the desired levels of each competency into three categories (top, middle, and low thirds) according to each respondent group as shown in Table VII. Then the difference (by

TABLE VII

GROUPING AND COMPARISON OF COMPETENCIES ACCORDING TO THE RANKS  
OF THE MEANS FOR THE DESIRED LEVEL OF COMPETENCE

Competency Number	Employers			Educators			Ranks of Educators Compared to Employers				
	Top Third	Middle Third	Low Third	Top Third	Middle Third	Low Third	Same	+1	-1	+2	-2
1		X			X		X				
2		X		X				X			
3	X			X			X				
4			X			X	X				
5	X			X			X				
6	X			X			X				
7		X			X		X				
8	X			X			X				
9		X		X				X			
10	X					X					X
11		X				X			X		
12		X		X				X			
13		X				X			X		
14	X			X			X				
15	X					X					X
16			X			X	X				
17			X		X			X			
18			X			X	X				
19	X			X			X				
20	X			X			X				
21			X			X	X				
22		X				X			X		

TABLE VII (CONTINUED)

Competency Number	Employers			Educators			Ranks of Educators Compared to Employers				
	Top Third	Middle Third	Low Third	Top Third	Middle Third	Low Third	Same	+1	-1	+2	-2
	23			X			X	X			
24			X		X			X			
25			X	X						X	
26			X		X			X			
27			X			X	X				
28		X			X		X				
29			X		X			X			
30		X				X			X		
31			X		X			X			
32	X			X			X				
33		X			X		X				
34		X				X			X		
35		X			X		X				
36	X			X			X				
37	X			X			X				
38		X		X				X			
39		X		X				X			
40			X			X	X				
41		X			X		X				
42		X			X		X				
43		X			X		X				
44			X		X			X			
45			X			X	X				

TABLE VII (CONTINUED)

Competency Number	Employers			Educators			Ranks of Educators Compared to Employers				
	Top Third	Middle Third	Low Third	Top Third	Middle Third	Low Third	Same	+1	-1	+2	-2
	46			X	X						
47		X		X				X			
48			X		X			X			
49			X			X	X				
50		X		X				X			
51			X		X			X			
52		X		X				X			
53			X		X			X			
54		X		X				X			
55			X		X			X			
56			X		X			X			
57	X			X			X				
58		X		X				X			
59			X		X			X			
60		X				X			X		
61	X				X				X		
62	X					X					X
63		X				X			X		
64	X			X			X				
65	X			X			X				
66	X				X				X		
67	X			X			X				
68		X				X			X		
69	X			X			X				

TABLE VII (CONTINUED)

Competency Number	Employers			Educators			Ranks of Educators Compared to Employers				
	Top Third	Middle Third	Low Third	Top Third	Middle Third	Low Third	Same	+1	-1	+2	-2
	70	X			X			X			
71		X				X			X		
72	X				X				X		
73	X					X					X
74			X			X	X				
75			X		X			X			
76			X			X	X				
77		X			X		X				
78		X			X		X				
79	X				X				X		
80	X				X				X		
81		X				X			X		
82	X			X			X				
83	X		X			X					
84	X				X				X		
85	X				X				X		
86			X			X	X				
87			X			X	X				
88			X			X	X				
89	X			X			X				

direction, plus or minus) was visualized on the basis of the ranks of the educators' responses compared to the rank of the employers' responses.

An analysis of those competencies for which the employers and educators agreed revealed categorical agreement on 43 competencies, of which 19 were in the top third (3, 5, 6, 8, 14, 19, 20, 32, 36, 37, 57, 64, 65, 67, 69, 70, 82, 83, 89); 10 were in the middle third (1, 7, 28, 33, 35, 41, 42, 43, 77, 78); and 14 in the lower third (4, 16, 18, 21, 23, 27, 40, 45, 49, 74, 76, 86, 87, 88).

#### Summary

In this chapter, the researcher has presented the findings on the state of the art of pre-service Extension education in the United States. The employer and educator populations were described in detail. The results of the competency portion of the study were presented. The data was analyzed in order to achieve the objectives and hypotheses stated for the study. The means for each competency as perceived by the employers and educators were compared in terms of the possessed and desired levels of competence and the difference between the desired and possessed levels of competence.

Combined means and ranks were calculated for each competency to be used as the basis for fulfillment of the final objective of the study which is to recommend a pre-service competency based Extension education curriculum. That will be done in the following chapter.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to summarize the study, present conclusions that have been derived from the study, and offer recommendations for an undergraduate education curriculum for future Cooperative Extension workers.

#### Summary of Study

The purposes of the study were to: (1) determine and describe the state of the art of pre-professional Extension education, (2) determine and compare the differences in the level of competency possessed and that which is desired for the selected list of competencies, and (3) recommend a pre-service competency based Extension education curriculum.

To accomplish these purposes, two populations were chosen to be used in the research. One group of respondents consisted of employers of new Cooperative Extension workers and the other group were Extension educators--mostly Staff Development Coordinators. Each group furnished information to be used in describing the situation of Extension education in their states which collectively furnished data for the state of the art part of the study. They also rated the eighty-nine pre-selected competencies in terms of the level of competency possessed by new workers or graduates and the level of competency desired of them.

The study was keyed to the employer group of respondents which was

composed of district and state administrative personnel. The premise used was that they are the persons who hire and supervise new Extension workers and therefore are the "buyers" of the products (graduates) of higher education institutions. This concept was grounded on the suggestion by Mayhew (24) that curricular decisions should include consideration of the expectations of the users of the product of education. The educators in this study are the producers of the product (new Extension workers) as well as the subject matter specialists referred to by Tyler (31). An analogy to this discussion is the marketplace where supply and demand is the rule of business.

### Summary of Findings

#### State of the Art

1. Employers of new Cooperative Extension workers seem to feel, in general, that the pre-service preparation is not adequate. Of the seven states that have an undergraduate major program in Extension education, the employers in three of the states rated the pre-service education as adequate, but in one state it was rated less than adequate, and three were not evaluated by Extension worker employers.
2. The largest percentage (nearly half) of new Extension workers have majored in agriculture or home economics subject matter fields while the balance had degrees in home economics education, agriculture education, education and Extension education, and a small percentage in various other fields.
3. Seven states had an undergraduate program to prepare students for Extension work listed in their college catalogs. Six



programs were located in the Agriculture college and one was an inter-college program between Agriculture and Home Economics.

4. Only thirteen faculty full time equivalents are assigned to undergraduate Extension education nationally.
5. The course area of Extension Organization/Philosophy was offered by twenty-four of the respondent states. The next most popular subject area is Communication Skills which is available in twenty-one universities. The next three subjects in order to the number of states that offer them are: Program Planning by nineteen states; Teaching Methods and Adult Education, both offered by eighteen states. Youth Education is offered in fourteen states, a course in Leadership in thirteen states, Program Evaluation can be taken in ten states, and nine state universities offer a course in Management, Supervision, and Administration.
6. The universities with on-going Extension education programs have the following elements in common:
  - a. All of them offer a course relating to youth work.
  - b. Six of the seven are in the College of Agriculture and the other one is an inter-college venture between Home Economics and Agriculture.
  - c. Six of the seven offer courses in Extension Organization, Extension Teaching Methods, and Communications Skills.
7. Most of the universities that have an Extension education program require a practicum or field experience as a part of their curricula.

## Competencies

1. There was a significant difference between the employer and educator respondents in terms of how they perceive the possessed levels of competence for 35 of the 89 competencies studied.
2. Employers and educators only showed a significant difference of opinion for the desired level of competence on three of the competencies. Two of these competencies, namely; (number 25) "describe the accepted role of an Extension agent and specialist," and (number 46) "describe the program planning process and apply it to an expressed problem," also showed a significant difference for the possessed level of competence.
3. The differences in means between the desired and possessed levels of competence was significant beyond the .05 level for all of the 89 competencies as rated by the employer group of respondents.
4. The differences in means between the desired and possessed levels of competence as rated by the educators was significant for all but 8 of the competencies (numbers 10, 11, 18, 23, 26, 27, 74, 75) at the .05 level although the differences were not as large as was the case for the employers' ratings.
5. The ranking of the subject categories based on the combined means of the means for the desired level of competencies was as follows:
  1. Management, Supervision, Administration
  2. Communication Skills
  3. Adult Education
  4. Leadership

5. Teaching Methods
  6. Program Planning
  7. Youth Education
  8. Program Evaluation
  9. Extension Organization, Objectives, Philosophy
6. The ranks of the means of means of the subject categories in terms of the differences between the desired and possessed levels of competence as perceived by the employers is as follows:
1. Program Planning
  2. Program Evaluation
  3. Extension Organization, Philosophy, Objectives
  4. Adult Education
  5. Leadership
  6. Management, Supervision, Administration
  7. Youth Education
  8. Communication Skills
  9. Extension Teaching Methods

### Conclusions

Based on the results of the research conducted and described in this dissertation, the author came to the following conclusions.

1. Based upon the evaluation made by employer respondents in the study, it is concluded that the overall adequacy of pre-service education for Extension workers is not adequate and more has to be done to increase the competency of beginning Extension workers in the area of Extension methods.

2. There appears to be a trend toward interdisciplinary programming for individuals who are interested in Extension work.
3. Ironically, the subject area of Extension Organization, Philosophy and Objectives was the most offered course area and it is also the one group of competencies that showed the largest possessed level difference between the mean values perceived by the employers and the educators. The educators perceived all four competencies as being more than one point above the mean level perceived by the employer group. It also ranked lowest on the combined desired category mean, but third in terms of difference between the desired and possessed level of competence. This area, more than any other, needs to be evaluated as to cause and effect.
4. The employers and educators were in general agreement on the desired levels of competence for the list of competencies, but differed considerably on the possessed level of competence of new Extension workers. Therefore, there was a much greater difference between the desired and possessed levels of competence for all of the competencies in the opinion of the employers as compared to the opinions of the educators. It appears that the main reason that employers rated the adequacy of pre-service education less than adequate is found in the difference between the perceptions of employers and educators on the level of possessed competence. It seems that educators think that graduates have more competence in general than the employers of new Extension workers see.
5. Seven of the competencies should be given little, if any,

consideration in an Extension education curriculum, because of the consistent low ranking by both the employers and educators in terms of desirability and difference. They are: (New Extension workers should be able to. . .)

1. teach youth and adults to conduct meetings according to the rules of parliamentary procedure.
  2. design a self-learning exercise for developing a skill.
  3. plan, organize, and conduct a field trip.
  4. plan and conduct an educational contest.
  5. describe the communication process.
  6. take good quality photos and slides.
  7. prepare and maintain up-to-date mailing lists.
6. Eleven of the competencies should be given the highest priority in the development of courses and curriculum in Extension education, because of the consistently high rank given them by both the employers and educators. They are: (New Extension workers should be able to. . .)
1. work effectively with youth and adult groups.
  2. recruit volunteers to serve in leadership roles in Extension programs.
  3. allow and nurture clientele to take leadership roles.
  4. use proper teaching procedures in presenting information.
  5. identify, recruit, utilize, and involve advisory groups in the process of identifying local problems (needs), setting priorities, planning educational programs to solve problems, conducting and evaluating

effectiveness of the programs.

6. write well-constructed personal letters.
7. effectively inform local officials, constituents, and general public of program purposes, goals, and results.
8. attain and maintain healthy and positive communications with other members on the staff and administrators.
9. make good use of own time.
10. delegate work that could and should be done by others.
11. work as a team member.

#### Recommendations

The researcher makes the following recommendations based upon the findings of the study.

1. Educators and employers of Extension workers need to engage in in-depth discussion regarding the content of curricula aimed at preparing future Extension workers, because of the significant difference in perception of the possessed level of competence of beginning workers.
2. The findings of this study should be utilized in the development of new Extension Education programs or for the improvement of existing programs.
  - a. The desired level of competence as perceived by employers and educators together (combined means) should be used as one of the key considerations for development of new curricula in Extension Education.
  - b. The difference between desired and possessed levels of

competence should be used for re-evaluating and improving existing Extension education programs.

3. The competencies identified in this study should be used as learning objectives for courses in the order of their priority.
4. Undergraduate curricula in Extension education ought to be inter-college between agriculture, home economics, and education. Courses should be cross-referenced and prospective Extension workers (men and women) should have an opportunity to learn together before they go to work together as suggested by the Subcommittee on Pre-Service Training (27).
5. Based upon the overall findings of this study, the researcher recommends that any undergraduate student who aspires to become an Extension worker upon receiving a Bachelor of Science degree should have the opportunity and be advised to participate in learning experiences which encompass the top 50 ranked competencies listed in the findings on pages 57-63.
6. It is further recommended that these competencies be included in the following courses as an option or minor in conjunction with any subject matter field or education major. The minimal treatment might be accomplished as follows:
  - a. Include an introduction to Cooperative Extension as a part of an orientation course usually offered at the beginning of the third year.
  - b. Offer two Extension methods courses in sequence. The first course should include learning principles as applied to adults and youth, group dynamics, leadership, and program planning. The second unit would include

teaching methods as appropriate to Extension work which should include everything from individual counseling to group methods to mass media, and techniques of evaluating Extension educational efforts.

- c. Provide for a directed field experience in the senior year to be complimented by a seminar that includes principles of management and administration as it applies to Cooperative Extension work.

Design of these courses should be based upon the competencies identified as desired in this study in order of rank of the combined means.

7. Further study using the methodology of this study should be conducted in a state or region to more specifically determine the needs to be fulfilled by a curriculum. This is but one of the factors to be considered when developing a curriculum.



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APPENDIXES

APPENDIX A  
CORRESPONDENCE

## COOPERATIVE EXTENSION SERVICE

OKLAHOMA STATE UNIVERSITY

AGRICULTURE AND  
RURAL DEVELOPMENT PROGRAMS



DIVISION OF AGRICULTURE

STILLWATER, OKLAHOMA 74074

TO: State Training Officers for Cooperative Extension

FROM: Paul Czarniecki, Program Studies Specialist *PC*

DATE: February 18, 1977

SUBJECT: State of the Art of Undergraduate Extension  
Education Curricula

Oklahoma State University is studying the possibility of developing an undergraduate (pre-professional) education program for Cooperative Extension workers. We are having a difficult time finding much information on the "State of the Art" and in checking with Gordon Dowell at FES he informs us that they do not have much up to date information either. The latest information regarding undergraduate programs dates back to 1966.

We would like your help to get steered in the right direction by filling out the short enclosed questionnaire and returning it to me as soon as possible. We will certainly appreciate your help and share our findings with you. We also want your comments or suggestions in regard to this endeavor.

PC/sch

Enclosures (2)

## PRE-PROFESSIONAL EXTENSION EDUCATION SURVEY

1. Would it be of interest to you or your training staff to have the results of a nation-wide study on the status (state of the art) of pre-professional (undergraduate) Extension Education?

Yes  No Comments: \_\_\_\_\_

\_\_\_\_\_

2. Does your university offer a course(s) having to do with Extension Education that is open to undergraduate students?

Yes  No Comments: \_\_\_\_\_

\_\_\_\_\_

3. Do you know of any surveys or research studies related to the status of Extension pre-professional education programs? If so, please give the author, title, and state.

\_\_\_\_\_

\_\_\_\_\_

4. Do you know of any research studies that have been done on the development of an Extension Education undergraduate curriculum? If so, please give the author, title, and state.

\_\_\_\_\_

\_\_\_\_\_

5. Who in your state would be the appropriate one to respond to a survey (should we decide to do one) regarding the status of Extension Education pre-professional curricula and the factors related to the development of a curriculum?

\_\_\_\_\_

\_\_\_\_\_

Other comments or suggestions:

Return to: Paul Czarniecki, Program Studies Specialist, Oklahoma State University, 459 Ag Hall, Stillwater, Oklahoma 74074



# COOPERATIVE EXTENSION SERVICE

OKLAHOMA STATE UNIVERSITY

AGRICULTURE AND  
RURAL DEVELOPMENT PROGRAMS



DIVISION OF AGRICULTURE

STILLWATER, OKLAHOMA 74074

April 1, 1977

TO: STATE PERSONNEL OFFICER

FROM: Paul Czarniecki, Extension Program Studies Specialist *PEC*

Dear Sir:

We are planning to do additional analysis of the competencies needed by beginning Cooperative Extension workers. This information will be useful to us in recruiting and selecting new workers and also in developing an undergraduate curriculum in Extension education for men and women interested in a career in Extension.

We solicit your help in this study and hope that our categorization and descriptions of desired competencies will be of value to your state, too. This study is meant to dovetail with other similar studies such as the 4-H Youth Development Worker's Curriculum Project that was conducted by Mississippi State University and the work being done at the University of Arizona on a competency based Extension education curriculum by Dr. Arlen Etling.

If you and certain members of you Extension staff would be willing to participate in this project we would appreciate having a list of names and addresses of the people who are involved in the hiring of new Extension workers ( Personnel Officer, Program Directors or Leaders, Area and District Directors).

We will gladly share our findings with you as soon as our project is complete. I have enclosed an addressed envelope for your convenience in replying. I look forward to hearing from you soon.

**COOPERATIVE EXTENSION SERVICE**

OKLAHOMA STATE UNIVERSITY  
AGRICULTURE AND  
RURAL DEVELOPMENT PROGRAMS  
459 Ag. Hall



DIVISION OF AGRICULTURE  
STILLWATER, OKLAHOMA 74074  
(405) 624-5132

June 7, 1977

Dear

On April 1 I wrote to you asking for assistance by some of your Cooperative Extension staff with a study. We are conducting research on competencies for new Extension workers. Our goal is to propose a pre-service curriculum that will prepare future Cooperative Extension workers.

All that I need now are the names of some of your personnel who are involved in hiring of new employees. They will be asked to respond to each of about eighty competencies in terms of the desired level of competence and the present level of competence of new workers.

I am about ready to send out my survey instrument so I would appreciate your response in not more than ten days.

Sincerely,

A handwritten signature in cursive script that reads "Paul Czarniecki".

Paul Czarniecki  
Program Studies Specialist

PC/sch

## COOPERATIVE EXTENSION SERVICE

OKLAHOMA STATE UNIVERSITY  
 AGRICULTURE AND  
 RURAL DEVELOPMENT PROGRAMS



DIVISION OF AGRICULTURE  
 STILLWATER, OKLAHOMA 74074

June 13, 1977

Dear Colleague:

During the course of conducting a study on preservice education for beginning Cooperative Extension personnel your name was given to me by your personnel officer or state administrator as a person who has something to do with the employment of new Extension workers. We are now asking for your assistance in helping us to determine more precisely the difference between desired and actual levels of competency for beginning Extension workers.

The enclosed questionnaire lists eighty-nine competencies that have been synthesized primarily from previous studies done in Arizona and Mississippi. We need your opinion about the actual level of competence that new workers have in general and the level of competence you would like them to have for each of the items. Experience from our pretest indicates that your response should take about thirty to forty minutes to complete.

To our knowledge this is the first time that a study has been done with emphasis on the difference between desired and actual levels of competence for new Cooperative Extension personnel at the time of employment. The goal of this study is to develop a model preservice Extension Education curriculum. You can be assured that your help in this endeavor will guarantee you a personal copy of the summary with the findings and the proposed curriculum.

I have high hopes of having these questionnaires returned to me by July 8, 1977. A self addressed envelope is enclosed for your use.

Sincerely yours,

Paul Czarniecki  
 Program Studies Specialist

PC/sch

Enclosure

## COOPERATIVE EXTENSION SERVICE

OKLAHOMA STATE UNIVERSITY  
 AGRICULTURE AND  
 RURAL DEVELOPMENT PROGRAMS



DIVISION OF AGRICULTURE  
 STILLWATER, OKLAHOMA 74074  
 459 Agriculture Hall

June 27, 1977

Dear Colleague,

I thank you for your response to our questionnaire on Extension worker competencies if you are one of those who have already returned it.

A good question has been raised about the need of competency in subject matter or technical areas. I regret that I did not communicate my assumption that every new Extension worker needs competence in some subject matter. The study I am doing is confined to what is needed in addition to subject matter in order for an Extension worker (educator) to be effective in his/her respective position.

I also assume that most new employees come into the Extension Service as county workers, but I intentionally did not confine the study to them. I have let you be the judge of that when you answered the questionnaire. I appreciate your specifying the frame of reference you used.

I thought this explanation would clear up the concerns of not only those of you who raised the question, but also for those of you who have not responded yet. I look forward to the return of your questionnaire in the near future. Feel free to call me at FTS 728-4323 or 405-624-5132 if you want to discuss this matter.

Sincerely yours,

*Paul Czarniecki*  
 Paul Czarniecki  
 Program Studies Specialist

## COOPERATIVE EXTENSION SERVICE

OKLAHOMA STATE UNIVERSITY  
 AGRICULTURE AND  
 RURAL DEVELOPMENT PROGRAMS



DIVISION OF AGRICULTURE  
 STILLWATER, OKLAHOMA 74074  
 459 Agriculture Hall  
 405-624-5132

June 28, 1977

Dear Colleague,

We are in the process of conducting a study on pre-service education for Cooperative Extension personnel. This relates to the correspondence we had back in February. You indicated that you were interested in seeing a study done on the "state of the art" of pre-professional Extension education and that you offer courses that are related to it. That is what this letter is about.

Enclosed is a questionnaire that is like the one sent to Extension personnel who are involved in the hiring and supervising of new Extension workers. These competencies were synthesized from other studies done in this area, particularly the Itulya study done in Arizona and the 4-H Youth Development Workers Curriculum Project being done by the Department of Agriculture and Extension Education at Mississippi State University. It is assumed that Extension workers have competency in a subject area also.

We would like you and/or your colleagues to rate the eighty-nine competencies as to the levels of competency you believe that students have developed and that you wish they would develop upon completion of your courses or program. From this study we hope to draw conclusions that will serve as a basis for proposing a model undergraduate Extension education curriculum. The pre-test indicates that it will take thirty to forty minutes to complete the questionnaire.

You can be sure that you will be the first and most important people to know the findings and recommendations of this study. I hope you can return the instrument to me by July 15.

Sincerely,

Paul Czarniecki  
 Program Studies Specialist

PC/sch

APPENDIX B  
STUDY INSTRUMENTS

## COOPERATIVE EXTENSION SERVICE

OKLAHOMA STATE UNIVERSITY

DIVISION OF AGRICULTURE

456 Agriculture Hall



Stillwater, Ok. 74074

### QUESTIONNAIRE ON UNDERGRADUATE PREPARATION OF COOPERATIVE EXTENSION WORKERS

UNIVERSITY: \_\_\_\_\_ MY POSITION: \_\_\_\_\_

1. DOES THE UNIVERSITY OFFER A MAJOR OR DEGREE IN EXTENSION EDUCATION AT THE UNDERGRADUATE LEVEL?  YES  NO

If yes, please reply to all of the following questions.  
If no, disregard questions 3,4,& 5 and answer only questions 2,6, & 7.

2. CHECK THE AREAS IN WHICH YOU OFFER COURSES AT THE UNDERGRADUATE LEVEL.

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Extension Organization,<br>philosophy, Objectives. | <input type="checkbox"/> Program Evaluation | <input type="checkbox"/> Communication Skills                       |
| <input type="checkbox"/> Extension Teaching<br>Methods                      | <input type="checkbox"/> Leadership         | <input type="checkbox"/> Adult Education                            |
| <input type="checkbox"/> Program Planning                                   | <input type="checkbox"/> Youth Education    | <input type="checkbox"/> Management, Supervision,<br>Administration |

3. IN WHAT COLLEGE(S) AND DEPARTMENT(S) IS THE MAJOR OR DEGREE OFFERED?

COLLEGE(S) \_\_\_\_\_ DEP'T(S) \_\_\_\_\_

4. WHAT IS THE CURRENT ENROLLMENT IN THE PROGRAM? \_\_\_\_\_ students

5. HOW MANY GRADUATES DID YOU HAVE THIS YEAR (1977)? \_\_\_\_\_

6. WHAT IS THE PERCENTAGE OF EMPLOYMENT OF YOUR GRADUATES IN COOPERATIVE EXTENSION POSITIONS?

\_\_\_\_\_ IN STATE \_\_\_\_\_ OUT-OF-STATE

7. HOW MANY FACULTY FTE'S ARE ASSIGNED TO EXTENSION EDUCATION AT THE UNDERGRADUATE LEVEL? \_\_\_\_\_

Please send brochures, curriculum list, catalog pages (Xerox), and other material that describes the program.

level of competency possessed by students who complete courses					INSTRUCTIONS: Rate (x) the following list of competencies in terms of the level of competency you assume to be developed in students as a result of participation in available educational experiences (left column) and the level of competency you desire students to have upon completion of their undergraduate program. (right column)	level of competency desired of students who complete courses				
NONE	LOW	MEDIUM	HIGH	VERY HIGH		NONE	LOW	MEDIUM	HIGH	VERY HIGH
					Each competency is the completion of the following phrase. UPON COMPLETION OF AVAILABLE COURSES IN EXTENSION EDUCATION OR RELATED COURSES STUDENTS SHOULD BE ABLE TO . . . .					
					1. recognize the different types of leaders and leadership behavior that apply to different group situations.					
					2. design and implement an educational program for developing local leaders.					
					3. work effectively with youth and adult groups.					
					4. teach youth and adults to conduct meetings according to the rules of parliamentary procedure.					
					5. recruit volunteers to serve in leadership roles in Extension programs.					
					6. allow and nurture clientele to take leadership roles.					

Level of competency possessed by students who complete courses					INSTRUCTIONS: Rate (x) the following list of competencies in terms of the level of competency you assume to be developed in students as a result of participation in available educational experiences (left column) and the level of competency you desire students to have upon completion of their undergraduate program.	level of competency desired of students who complete courses				
NONE	LOW	MEDIUM	HIGH	VERY HIGH		NONE	LOW	MEDIUM	HIGH	VERY HIGH
					Each competency is the completion of the following phrase.					
					UPON COMPLETION OF AVAILABLE COURSES IN EXTENSION EDUCATION OR RELATED COURSES STUDENTS SHOULD BE ABLE TO . . . .					
					7. determine the educational needs and constraints of adult learners.					
					8. identify available resources and utilize in the conduct of educational programs.					
					9. identify techniques that may be employed to get different kinds of clientele involved in the teaching-learning process.					
					10. develop basic instructional materials.					
					11. conduct farm and home visits.					
					12. recognize, identify, and be cognizant of the social action (diffusion and adoption) process at work in a community.					
					13. use audio-visual materials appropriately and effectively to supplement and compliment instructional programs (includes operation of audio-visual equipment).					
					14. use motivation appropriately in educational programs.					
					15. plan, prepare for, and conduct a demonstration.					
					16. design a self-learning exercise for developing a skill.					
					17. use effective questioning skills.					
					18. plan, organize, and conduct a field trip.					
					19. plan, organize, and conduct an educational event.					
					20. use proper teaching procedures in presenting information.					
					21. work with disadvantaged youth and adults,					
					22. use educational bulletins and fact sheets to best advantage.					
					23. plan and conduct an educational contest.					
					24. describe the organizational structure, laws, objectives, philosophy, and policies that govern the Cooperative Extension Service and relate to own area of responsibility.					
					25. describe the accepted role of an Extension agent and specialist.					
					26. explain the relationship of the county, the Land Grant University, and the U.S. Department of Agriculture in the conduct of the Cooperative Extension Service.					
					27. relate the significant historical background of the Cooperative Extension Service to present programs and situation.					
					28. work with all other professionals in similar work.					
					29. describe the purpose and organization of the youth phase of the Cooperative Extension Service program.					
					30. plan and conduct regular Extension youth activities.					
					31. manage youth program facilities.					
					32. develop and maintain a cooperative working relationship among people involved in the youth program.					
					33. recognize and take advantage of youth program opportunities that evolve from needs that are not being met otherwise.					
					34. assist leaders in recruiting participants in groups.					



level of competency possessed by students who complete courses					INSTRUCTIONS: Rate (x) the following list of competencies in terms of the level of competency you assume to be developed in students as a result of participation in available educational experiences (left column) and the level of competency you desire students to have upon completion of their undergraduate program.	level of competency desired of students who complete courses				
NONE	LOW	MEDIUM	HIGH	VERY HIGH		NONE	LOW	MEDIUM	HIGH	VERY HIGH
					Each competency is the completion of the following phrase. UPON COMPLETION OF AVAILABLE COURSES IN EXTENSION EDUCATION OR RELATED COURSES STUDENTS SHOULD BE ABLE TO . . . .					
					35. administer the program of work relating to the area of responsibility in cooperation with other staff.					
					36. identify, recruit, utilize, and involve advisory groups in the process of identifying local problems (needs), setting priorities, planning educational programs to solve problems, conducting and evaluating effectiveness of the programs.					
					37. design the educational experiences that are appropriate and directed at the objectives of the clientele groups and/or individuals.					
					38. utilize available and reliable sources of information to determine needs of people.					
					39. relate program planning process to the adoption process.					
					40. identify the characteristics of a balanced program at the county or area level.					
					41. write measurable and observable educational objectives in terms of behavioral change.					
					42. put objectives into a systematic annual plan of work.					
					43. write a teaching plan for each annual objective.					
					44. describe the role of Extension workers in relation to the program planning process and advisory groups.					
					45. perform a systematic needs assessment and inventory of characteristics of the county or area and the people.					
					46. describe the program planning process and apply it to an expressed problem.					
					47. provide leadership and necessary training to advisory groups involved in program planning in own area of work.					
					48. relate to other agencies and organizations and cooperate or coordinate programs with them.					
					49. identify the common factors which prevent or come in conflict with a planned program.					
					50. identify those individuals who would constitute the target audience for an Extension program.					
					51. describe the different types of evaluation that are necessary.					
					52. use appropriate evaluation techniques for educational programs.					
					53. create and administer an evaluation instrument or method.					
					54. make effective use of evaluation information to make adjustments in learning experiences or future program planning.					
					55. critique a written plan of work and teaching plan.					
					56. help learners recognize and measure their progress.					
					57. evaluate their own performance.					
					58. measure the impact of Extension activities in relation to the objectives.					
					59. evaluate the performance of those who work with or for them.					
					60. prepare reports on the effectiveness of Extension programs and activities for local officials (county supervisors, commissioners, or judges) and district, state, and federal administration.					

level of competency possessed by students who complete courses					INSTRUCTIONS: Rate (x) the following list of competencies in terms of the level of competency you assume to be developed in students as a result of participation in available educational experiences (left column) and the level of competency you desire students to have upon completion of their undergraduate program.  Each competency is the completion of the following phrase.  UPON COMPLETION OF AVAILABLE COURSES IN EXTENSION EDUCATION OR RELATED COURSES STUDENTS SHOULD BE ABLE TO . . . .	level of competency desired of students who complete courses				
NONE	LOW	MEDIUM	HIGH	VERY HIGH		NONE	LOW	MEDIUM	HIGH	VERY HIGH
					61. write news articles and feature stories for newspapers.					
					62. write newsletters.					
					63. prepare news releases for radio and television stations.					
					64. prepare and present a speech effectively.					
					65. write well constructed personal letters.					
					66. explain directions and information effectively and efficiently.					
					67. recall specific details essential to a discussion or presentation for future use (listening skill).					
					68. participate in scholarly discussions with fellow professionals.					
					69. effectively inform local officials, constituents, and general public of program purposes, goals, and results.					
					70. attain and maintain healthy and positive communications with other members on the staff and administrators.					
					71. effectively use direct mail in conduct of the area of responsibility.					
					72. remember peoples' names.					
					73. strike up a conversation with anyone.					
					74. describe the communication process.					
					75. recognize and interpret common forms of non-verbal communication.					
					76. take good quality photos and slides.					
					77. introduce a speaker.					
					78. list and describe the factors essential for maintaining good human relations among office staff and constituents.					
					79. maintain an orderly, warm, and efficient office atmosphere.					
					80. relate to county and state government sponsors in order to maintain strong support for Cooperative Extension.					
					81. fill out reports that are necessary to the conduct of work.					
					82. make good use of own time.					
					83. delegate work that could and should be done by others.					
					84. keep accurate records of work done.					
					85. handle calls and correspondence efficiently and effectively.					
					86. interview, hire, train, supervise, and counsel employees.					
					87. develop and operate within an office budget and keep accurate financial records.					
					88. prepare and maintain up-to-date mailing lists..					
					89. work as a team member.					
					90. _____					
					91. _____					
					92. _____					

## COOPERATIVE EXTENSION SERVICE

**OKLAHOMA STATE UNIVERSITY**

456 Agricultural Hall



**DIVISION OF AGRICULTURE**

Stillwater, Oklahoma 74074

### QUESTIONNAIRE ON PRE-SERVICE COMPETENCIES FOR COOPERATIVE EXTENSION WORKERS

STATE: \_\_\_\_\_

TYPE OF POSITION:  District/Area Director (Agent)  State Position  Other

IS THERE A DEGREE PROGRAM IN EXTENSION EDUCATION OFFERED IN THE STATE?

YES  NO IF SO, WHERE? \_\_\_\_\_

WHERE DO THE NEW EXTENSION WORKERS IN YOUR STATE OR AREA COME FROM?

(give approximate percentages)

LAND GRANT UNIVERSITY

AGRICULTURE EDUCATION

STATE UNIVERSITY (specify)

EXTENSION EDUCATION

\_\_\_\_\_

HOME ECONOMICS EDUCATION

OTHER: \_\_\_\_\_

EDUCATION

100 %

SUBJECT FIELDS (DAIRY, AGRONOMY, CLOTHING, FORESTRY, ETC.)

OTHERS: \_\_\_\_\_

100 %

WHAT DEGREE IS REQUIRED FOR NEW EXTENSION WORKERS?  B.S.  M.S.

TO WHAT EXTENT DO YOU THINK THE PRESENT PRE-SERVICE EXTENSION EDUCATION FOR NEW EXTENSION WORKERS IS ADEQUATE?  not adequate  adequate  very adequate

level of competency possessed by beginning personnel					INSTRUCTIONS: Rate (x) each competency listed below as to the level of competency presently possessed by most or a majority of beginning Cooperative Extension personnel in your state (left column). Also rate (x) as to the level of competency your would reasonably desire them to have when they begin employment (right column).  Each competency statement is the completion of the following phrase. BEGINNING EXTENSION WORKERS SHOULD BE ABLE TO . . . .	level of competency desired of beginning personnel				
NONE	LOW	MEDIUM	HIGH	VERY HIGH		NONE	LOW	MEDIUM	HIGH	VERY HIGH
					1. recognize the different types of leaders and leadership behavior that apply to different group situations.					
					2. design and implement an educational program for developing local leaders.					
					3. work effectively with youth and adult groups.					
					4. teach youth and adults to conduct meetings according to the rules of parliamentary procedure.					
					5. recruit volunteers to serve in leadership roles in Extension programs.					
					6. allow and nurture clientele to take leadership roles.					

level of competency possessed by beginning personnel					INSTRUCTIONS: Rate (x) each competency listed below as to the level of competency presently possessed by most or a majority of beginning Cooperative Extension personnel in your state (left column). Also rate (x) as to the level of competency you would reasonably desire them to have when they begin employment (right column).  Each competency statement is the completion of the following phrase. BEGINNING EXTENSION WORKERS SHOULD BE ABLE TO . . . .	level of competency desired of beginning personnel				
NONE	LOW	MEDIUM	HIGH	VERY HIGH		NONE	LOW	MEDIUM	HIGH	VERY HIGH
					7. determine the educational needs and constraints of adult learners.					
					8. identify available resources and utilize in the conduct of educational programs.					
					9. identify techniques that may be employed to get different kinds of clientele involved in the teaching-learning process.					
					10. develop basic instructional materials.					
					11. conduct farm and home visits.					
					12. recognize, identify, and be cognizant of the social action (diffusion and adoption) process at work in a community.					
					13. use audio-visual materials appropriately and effectively to supplement and compliment instructional programs (includes operation of audio-visual equipment).					
					14. use motivation appropriately in educational programs.					
					15. plan, prepare for, and conduct a demonstration.					
					16. design a self-learning exercise for developing a skill.					
					17. use effective questioning skills.					
					18. plan, organize, and conduct a field trip.					
					19. plan, organize, and conduct an educational event.					
					20. use proper teaching procedures in presenting information.					
					21. work with disadvantaged youth and adults.					
					22. use educational bulletins and fact sheets to best advantage.					
					23. plan and conduct an educational contest.					
					24. describe the organizational structure, laws, objectives, philosophy, and policies that govern the Cooperative Extension Service and relate to own area of responsibility.					
					25. describe the accepted role of an Extension agent and specialist.					
					26. explain the relationship of the county, the Land Grant University, and the U.S. Department of Agriculture in the conduct of the Cooperative Extension Service.					
					27. relate the significant historical background of the Cooperative Extension Service to present programs and situation.					
					28. work with all other professionals in similar work.					
					29. describe the purpose and organization of the youth phase of the Cooperative Extension Service program.					
					30. plan and conduct regular Extension youth activities.					
					31. manage youth program facilities.					
					32. develop and maintain a cooperative working relationship among people involved in the youth program.					
					33. recognize and take advantage of youth program opportunities that evolve from needs that are not being met otherwise.					
					34. assist leaders in recruiting participants in groups.					

level of competency possessed by beginning personnel					INSTRUCTIONS: Rate (x) each competency listed below as to the level of competency presently possessed by most or a majority of beginning Cooperative Extension personnel in your state (left column). Also rate (x) as to the level of competency your would reasonably desire them to have when they begin employment (right column).  Each competency statement is the completion of the following phrase. BEGINNING EXTENSION WORKERS SHOULD BE ABLE TO . . . .	level of competency desired of beginning personnel				
NONE	LOW	MEDIUM	HIGH	VERY HIGH		NONE	LOW	MEDIUM	HIGH	VERY HIGH
					35. administer the program of work relating to the area of responsibility in cooperation with other staff.					
					36. identify, recruit, utilize, and involve advisory groups in the process of identifying local problems (needs), setting priorities, planning educational programs to solve problems, conducting and evaluating effectiveness of the programs.					
					37. design the educational experiences that are appropriate and directed at the objectives of the clientele groups and/or individuals.					
					38. utilize available and reliable sources of information to determine needs of people.					
					39. relate program planning process to the adoption process.					
					40. identify the characteristics of a balanced program at the county or area level.					
					41. write measurable and observable educational objectives in terms of behavioral change.					
					42. put objectives into a systematic annual plan of work.					
					43. write a teaching plan for each annual objective.					
					44. describe the role of Extension workers in relation to the program planning process and advisory groups.					
					45. perform a systematic needs assessment and inventory of characteristics of the county or area and the people.					
					46. describe the program planning process and apply it to an expressed problem.					
					47. provide leadership and necessary training to advisory groups involved in program planning in own area of work.					
					48. relate to other agencies and organizations and cooperate or coordinate programs with them.					
					49. identify the common factors which prevent or come in conflict with a planned program.					
					50. identify those individuals who would constitute the target audience for an Extension program.					
					51. describe the different types of evaluation that are necessary.					
					52. use appropriate evaluation techniques for educational programs.					
					53. create and administer an evaluation instrument or method.					
					54. make effective use of evaluation information to make adjustments in learning experiences or future program planning.					
					55. critique a written plan of work and teaching plan.					
					56. help learners recognize and measure their progress.					
					57. evaluate their own performance.					
					58. measure the impact of Extension activities in relation to the objectives.					
					59. evaluate the performance of those who work with or for them.					
					60. prepare reports on the effectiveness of Extension programs and activities for local officials (county supervisors, commissioners, or judges) and district, state, and federal administration.					

Level of competency possessed by beginning personnel					INSTRUCTIONS: Rate (x) each competency listed below as to the level of competency presently possessed by most or a majority of beginning Cooperative Extension personnel in your state (left column). Also rate (x) as to the level of competency your would reasonably desire them to have when they begin employment (right column).  Each competency statement is the completion of the following phrase. BEGINNING EXTENSION WORKERS SHOULD BE ABLE TO . . . .	Level of competency desired of beginning personnel				
NONE	LOW	MEDIUM	HIGH	VERY HIGH		NONE	LOW	MEDIUM	HIGH	VERY HIGH
					61. write news articles and feature stories for newspapers.					
					62. write newsletters.					
					63. prepare news releases for radio and television stations.					
					64. prepare and present a speech effectively.					
					65. write well constructed personal letters.					
					66. explain directions and information effectively and efficiently.					
					67. recall specific details essential to a discussion or presentation for future use (listening skill).					
					68. participate in scholarly discussions with fellow professionals.					
					69. effectively inform local officials, constituents, and general public of program purposes, goals, and results.					
					70. attain and maintain healthy and positive communications with other members on the staff and administrators.					
					71. effectively use direct mail in conduct of the area of responsibility.					
					72. remember peoples' names.					
					73. strike up a conversation with anyone.					
					74. describe the communication process.					
					75. recognize and interpret common forms of non-verbal communication.					
					76. take good quality photos and slides.					
					77. introduce a speaker.					
					78. list and describe the factors essential for maintaining good human relations among office staff and constituents.					
					79. maintain an orderly, warm, and efficient office atmosphere.					
					80. relate to county and state government sponsors in order to maintain strong support for Cooperative Extension.					
					81. fill out reports that are necessary to the conduct of work.					
					82. make good use of own time.					
					83. delegate work that could and should be done by others.					
					84. keep accurate records of work done.					
					85. handle calls and correspondence efficiently and effectively.					
					86. interview, hire, train, supervise, and counsel employees.					
					87. develop and operate within an office budget and keep accurate financial records.					
					88. prepare and maintain up-to-date mailing lists.					
					89. work as a team member.					
					90. _____					
					91. _____					

APPENDIX C  
SUMMARY OF VIEWS ON UNDERGRADUATE EXTENSION  
EDUCATION NEEDS

**SUMMARY OF VIEWS ON UNDERGRADUATE EXTENSION EDUCATION NEEDS**

Developed by Paul Czarniecki

W. W. Clark	Joint committee Report on Extension	Subcommittee on Pre-service Educ.	George Hyatt, Jr.	Itulya @ Arizona competency numbers	Extension Education Related Subject Categories
Knowledge of natural sciences	Basically grounded in physical sciences				
Introduction to subject matter			Knowledge of subject matter in field of work.		
Introduction to economics					
Experience in writing and speaking			Principles of communication	22,23,24,25,26,27,28,60	Communication Skills
Introduction to Sociology	Basically grounded in social sciences	How people organize their lives	Structure and dynamics of human society	35	
Acquaintance with English, history, and cultural arts					
Background in adult education	Problems & procedures of adult educ.			10, 12, 46, 62	Adult Education
Knowledge of and experience with Extension organization and methods	Background, philosophy, objectives, policies and organization of Extension	Extension Worker as a professional and The Cooperative Extension Service	Objectives, organization and relationship of Extension to Land Grant University	6,7,29,30,31,32	Extension Organization, Philosophy, Objectives
	Familiarity with reliable sources of information and ability to interpret, organize, and present data			48	
	Skilled in application of psychology and education to Extension teaching, supervision, and administration.	Extension teaching methods and materials	Principles of learning and teaching and human development process and human relations	1,2,3,8,9,10,13,14,15,16,18,19,20,21,34,50,58,59,61,62	Extension Teaching Methods
	Organization and leadership development of people	Leadership in Extension		37,38,62,63	Leadership Skills
	Program planning process	Identifying Local needs-Plan of Work	Principles and process of programming	4,5,9,11,12,35,42,43,45,47,49,51,52,53,54,55,56,57	Program Planning
	Techniques and process of program evaluation	Need for evaluation in Extension	Principles and techniques of evaluation	2,40,44	Program Evaluation
	Problems and techniques for out-of-school youth education			10,38,41,46	Youth Education
			Principles of Management, supervision, and administration	17,33,34,36,39	Management, Supervision, Administration



APPENDIX D  
TYPOLOGY OF ROLE BEHAVIORS OF COUNTY  
COOPERATIVE EXTENSION AGENTS

## A TYPOLOGY OF ROLE BEHAVIORS OF COUNTY COOPERATIVE EXTENSION AGENTS

J. Paul Leagans

1. Cooperative Extension System--Understands the nature of the Cooperative Extension Service as a public educational system and adheres to its structure, processes, and evolution within a hierarchy of systems, with emphasis on performance at the level of complex adaptive systems.
2. Development of a Philosophy--Understands and influences the variables relevant to the process whereby individuals place value on objects, qualities, and evidence within the environment and establish beliefs and values as guides to system relationship and the behaviors relative to the evaluation of differences.
3. Development of Systems--Understands the evolvement of individual systems and promotes their growth toward structural, cognitive, and effective maturity through adaptation and adjustment to environmental variables.
4. Professionalism--Understands the meaning of behavior associated with professionals, acquires and exercises this behavior, including the sequence of acts or responses which have professional orientation and may be understood as assigned goals and purposes.
5. Learning Process--Understands general theories and conditions of learning and cognitions central to individual growth and development, and adjusts them to environmental conditions.

6. Motivation of Client Systems--Understands the process of motivation, involving a meaningful set, and exercises a disposition to incorporate new material into the cognitive structure essential to meaningful receptive learning.
7. Programming--Understands and executes the process of purposeful change and the related processes of problem-solving, situational, directional, and strategy analyses.
8. Learning Experiences--Understands and executes the process of purposeful learning, including the selection of desirable learning outcomes and means to achieve them.
9. Diffusion of Knowledge--Understands and executes the process of imparting, exchanging, or transferring factual information in the form of knowledge, skills, values, ideas, concepts, and principles in system development, control, and maintenance of system viability.
10. Adoption of Innovation--Understands and executes the process of influencing adoption of innovation, including the stages and techniques associated with influencing behavioral change in client systems and the elements, conditions, methods, and guidelines associated with teaching and purposeful learning involving learning situations, communication media, technological content, and guides to effective educational influence.
11. Appraisal of Innovation--Understands and executes the factors and stages in the process of evaluating the adoption of innovation by the client system, involving such major elements as instructional media, variability, measurement, transfer, need, motive, and value.
12. Management of Resources--Understands and performs the management or administrative functions and processes through which systems maintain viability and affect developmental change.

APPENDIX E  
T-VALUES AND PROBABILITY LEVELS

## t-VALUES AND PROBABILITY LEVELS FOR TESTS OF SIGNIFICANT DIFFERENCE

Competency Number	Possessed Levels Between Groups		Desired Levels Between Groups		Difference Between Desired and Possessed Levels	
	t Value	Prob. Level	t Value	Prob. Level	Employers t-Value (1)	Educators t-Value (2)
1	2.79	.010	0.01	.990	25.05	4.33
2	1.73	.100	1.06	.300	26.07	4.61
3	1.09	.290	0.22	.830	19.14	3.75
4	0.29	.770	0.92	.350	7.39	2.88
5	1.34	.196	0.18	.860	23.51	4.97
6	2.38	.027	0.30	.760	25.35	3.94
7	3.54	.002	0.55	.580	23.49	2.94
8	2.34	.029	0.16	.870	19.45	3.32
9	3.53	.002	0.80	.430	21.76	2.94
10	1.15	.252	1.37	.190	15.25	1.84
11	0.25	.805	1.94	.067	8.17	0.68
12	4.85	.000	1.04	.300	23.76	3.66
13	1.79	.074	1.22	.240	14.71	2.33
14	2.83	.000	0.00	.990	21.80	2.80
15	0.28	.781	1.44	.167	13.19	4.02
16	0.83	.405	0.34	.740	16.39	3.64
17	2.50	.020	0.34	.740	19.47	2.58
18	0.47	.640	1.91	.070	10.51	1.29
19	1.87	.070	0.38	.700	19.79	2.73
20	1.88	.070	0.33	.740	18.91	3.64
21	2.45	.015	0.17	.870	20.90	4.27
22	1.28	.203	1.47	.140	13.41	2.67
23	0.31	.760	1.28	.200	6.92	1.56
24	4.21	.000	1.77	.080	19.11	2.24

Competency Number	Possessed Levels Between Groups		Desired Levels Between Groups		Difference Between Desired and Possessed Levels	
	t Value	Prob. Level	t Value	Prob. Level	Employers t-Value (1)	Educators t-Value (2)
25	4.15	.000	2.15	.030	18.61	2.72
26	4.23	.000	1.24	.210	18.68	1.79
27	3.90	.000	1.15	.250	18.87	1.93
28	1.85	.066	0.62	.540	14.22	2.27
29	2.19	.040	0.43	.670	15.19	2.24
30	0.59	.560	0.80	.430	14.92	2.98
31	1.07	.298	2.53	.010	9.88	3.14
32	1.87	.076	0.16	.870	16.14	2.70
33	2.34	.031	0.17	.860	20.35	3.24
34	1.85	.078	0.18	.860	17.04	3.58
35	3.00	.003	0.26	.790	19.58	3.68
36	2.86	.010	0.50	.620	27.39	3.93
37	2.59	.018	1.10	.270	23.18	4.16
38	3.10	.005	1.00	.330	21.40	3.62
39	3.65	.002	1.11	.270	26.20	3.21
40	3.12	.005	0.09	.930	21.83	4.27
41	2.21	.039	0.25	.800	22.59	3.63
42	2.49	.022	0.05	.960	21.90	3.28
43	2.14	.045	0.14	.920	18.73	3.64
44	2.30	.032	0.98	.330	21.31	4.41
45	1.92	.069	0.12	.900	20.69	3.45
46	3.72	.001	2.37	.020	24.02	3.38
47	1.92	.068	0.55	.580	24.24	4.86
48	1.45	.147	0.57	.570	15.04	4.82
49	2.08	.051	0.41	.680	20.41	3.83

Competency Number	Possessed Levels Between Groups		Desired Levels Between Groups		Difference Between Desired and Possessed Levels	
	t Value	Prob. Level	t Value	Prob. Level	Employers t-Value (1)	Educators t-Value (2)
50	2.63	.016	0.30	.770	19.75	3.32
51	2.60	.017	1.51	.130	20.26	3.80
52	2.04	.055	1.93	.060	22.61	5.52
53	1.67	.110	0.67	.500	20.36	4.51
54	1.44	.166	0.67	.510	21.73	4.44
55	1.01	.324	1.11	.270	17.91	5.41
56	1.81	.086	0.51	.610	18.46	3.34
57	2.31	.022	0.50	.620	17.88	4.87
58	2.73	.007	1.60	.120	24.36	5.52
59	0.60	.550	0.51	.620	16.45	4.85
60	0.12	.900	1.21	.240	22.26	4.19
61	1.89	.074	1.28	.220	20.48	2.85
62	1.24	.229	1.06	.300	17.13	2.93
63	1.53	.140	0.77	.450	21.09	3.90
64	0.97	.340	0.19	.850	17.07	3.29
65	0.05	.960	0.59	.560	18.85	5.15
66	0.19	.850	1.01	.330	17.89	4.68
67	0.61	.548	0.46	.650	18.17	4.72
68	1.24	.215	0.67	.500	7.33	3.01
69	2.61	.010	0.01	.990	25.48	5.08
70	0.24	.813	0.54	.600	18.01	4.16
71	0.74	.465	0.65	.520	16.05	3.90
72	1.52	.130	0.37	.720	13.83	5.05
73	2.37	.019	1.44	.170	10.22	3.69
74	2.76	.006	0.01	.990	14.44	2.03

Competency Number	Possessed Levels Between Groups		Desired Levels Between Groups		Difference Between Desired and Possessed Levels	
	t Value	Prob. Level	t Value	Prob. Level	Employers t-Value (1)	Educators t-Value (2)
75	3.78	.000	0.22	.830	15.71	1.84
76	0.62	.539	0.90	.370	11.22	2.65
77	0.68	.496	0.32	.750	12.32	3.94
78	1.70	.090	0.35	.730	16.74	4.46
79	0.35	.728	0.74	.470	14.63	5.12
80	0.57	.578	0.75	.460	18.96	3.66
81	0.35	.726	0.68	.500	14.44	3.37
82	0.57	.572	0.63	.530	20.87	5.29
83	0.76	.450	0.16	.870	22.50	5.72
84	0.24	.812	0.51	.610	15.34	4.02
85	0.37	.710	1.30	.210	17.40	3.68
86	0.47	.640	0.68	.490	14.52	4.37
87	0.73	.460	1.08	.290	14.10	4.38
88	0.14	.890	1.09	.290	12.15	3.64
89	0.54	.590	0.30	.770	18.02	5.04

(1) Number of employer respondents ranged from 198-203.

(2) Number of educator respondents ranged from 18-20.



VITA

Paul Edward Czarniecki

Candidate for the Degree of

Doctor of Education

Thesis: AN APPRAISAL OF THE STATE OF THE ART OF EXTENSION EDUCATION AND OF SELECTED COMPETENCIES FOR BEGINNING COOPERATIVE EXTENSION WORKERS IN THE U.S.

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Plymouth, Wisconsin, February 21, 1936, the son of Harry and Bernice Czarniecki.

Education: Graduated from Plymouth High School, Plymouth, Wisconsin, in June, 1954; received the Bachelor of Science degree from the University of Wisconsin-River Falls in June, 1958, with a major in Agriculture Education; received the Master of Science degree from the University of Wisconsin-Madison in January, 1969, in Cooperative Extension Education; enrolled in the doctoral program at Oklahoma State University in 1974 and attended as a part-time student until the summer of 1976 when a full-time program was undertaken; completed the requirements for a Doctor of Education degree at Oklahoma State University in December, 1977.

Professional Experience: Vocational Agriculture and chemistry instructor at Bear Creek High School, Bear Creek, Wisconsin, from July, 1958, to August, 1960; Cooperative Extension Rural Development Agent in Vilas County, Eagle River, Wisconsin, from August, 1960, to September, 1962; Extension 4-H Youth Agent in Marinette County, Marinette, Wisconsin, from September, 1962, to September, 1970; Oklahoma State Tourism Development Specialist at Stillwater from September, 1970, to August, 1976; Research Assistant in the O.S.U. Community Education Center in September, 1976; Extension Program Studies Specialist at Stillwater, Oklahoma, from October, 1976, to present.