

Professional Competencies Needed by Extension  
Agents in the Pennsylvania  
Cooperative Extension Service

*I. Miley Gonzalez*

*Assistant Professor  
Agricultural Education  
Iowa State University*

*David L. Howell*

*Department of Occupational  
Education  
University of New Hampshire*

*William I. Lindley*

*Department of Agricultural  
Education  
Pennsylvania State University*

Since its inception in 1914, the basic mission of the Cooperative Extension Service has been one of education -- the education of people, both youth and adults, using a nonformal approach designed to help them improve the quality of their lives, develop problem-solving techniques, become competent consumers, conserve and use natural resources, increase agricultural production, and build better communities. The emphasis has been one of helping people help themselves.

Today, Cooperative Extension is characterized by a multiplicity of programs consisting of program objectives, educational methods, delivery modes, evaluation techniques, and a diversity of client needs and clientele groups. With rapid economic, ecological, and technological changes occurring, educational programs in Extension must continue to make adjustments in order to keep abreast of new developments. These program changes can be more easily facilitated by well-qualified, competent professional personnel employed at the county level. According to a report based on an Evaluation of the Economic and Social Consequences of Cooperative Extension Programs (1980), the county agent has been identified as the fundamental strength of the Extension system.

Entry-level programs, graduate programs, and continuous in-service training for county Extension staff are indispensable for successful transition and progress by Extension. The identification of professional competencies needed by Extension agents, in concert with the professional competencies needed by vocational agriculture teachers, can provide the foundation for a coordinated and articulated professional program for the preparation of agricultural educators. Previous studies have identified the need for the development and implementation of educational programs that more effectively provide for the training and development needs of county Extension personnel (Findlay, 1969; Itulya, 1973; and Price, 1960). The present study (Gonzalez, 1982) was designed to add to the research findings in the area of Extension education and to provide a basis for continued pro-

professional improvement of Extension personnel in Pennsylvania. Professional competencies were defined as those skills, knowledge, and attitudes Extension agents should possess in order to effectively perform their roles as educators, exclusive of technical subject matter competence.

### Purpose of the Study

The major purpose of the study was to identify and verify the professional competencies needed by Extension agents in Pennsylvania and when the competencies should be learned by Extension agents. The specific objectives of the study were:

1. To identify and verify the professional competencies needed by Extension agents in Pennsylvania as perceived by Extension agents and state staff members.
2. To determine when the professional competencies should be learned as perceived by Extension agents and state staff members.
3. To identify and describe selected demographic characteristics of Extension agents.
4. To compare the perceptions of Extension agents with those of state staff regarding the competencies needed by Extension agents.
5. To analyze the effects of selected demographic and experience factors on the professional competencies needed by Extension agents.

### Procedures

One-hundred and forty-four professional competencies were included in a questionnaire. These competencies were divided into nine categories that included:

1. administration,
2. program planning,
3. program execution,
4. teaching,
5. communication,
6. understanding human behavior,

7. maintaining professionalism,
8. evaluating, and
9. 4-H Youth.

The research instrument was developed using the list of competencies from a study conducted in Florida (Beeman, Cheek, McGhee, & Grygotis, 1979). The design of the instrument used was adapted from the study: Development of a Curriculum for Professional Youth Workers in Mississippi (Sappington, et. al., 1977). A five-point Likert-type scale was used for rating each competency statement, with five considered high in measuring the need for the competency. Cronbach's Alpha was used to provide a measure of reliability of the Likert scales. The reliability coefficients ranged from .90 to .99 for the nine categories. The modified instrument was validated by a jury of selected county, regional, and state Extension staff members as well as faculty members in the Pennsylvania State Department of Agricultural and Extension Education.

Demographic data collected from the Extension agents were used to gain a more in-depth view of the participants in this investigation. The data included: region, county, age, sex, race, position title, organization rank, major area of responsibility, percent of 4-H time, tenure, educational level, size of county staff, place reared, years of 4-H membership, and work experience before joining the Extension Service. A complete packet that included the questionnaire, a cover letter, and a self-addressed stamped envelope was mailed to a random sample of 89 Extension agents and 27 state staff members.

The target population used in this study consisted of county, multi-county, and regional agents in the Pennsylvania Cooperative Extension Service. From this population, a stratified random sample of Extension agents in agriculture and natural resources, family living, 4-H, and community development in the nine administrative regions of Extension was selected. To achieve even greater representatives of the above strata, a proportional sampling technique was used. A random sample of state staff members was also selected. There were approximately 350 individuals from which the random samples were drawn.

Descriptive statistics were used to analyze the data obtained from Extension agents for the demographic section of the questionnaire and for the section regarding the time when a competency should be learned. Regression analysis was used to test the hypotheses identified for the study. This procedure, as described by Cohen and Cohen (1975) has the capability for assessing unique variance as well as the closely related measures of partial correlation and regression coefficients. This is perhaps its most important feature, especially for nonexperimental studies. An alpha value of .05 was used.

## Findings

This study identified and investigated the importance of competencies needed by Extension agents. The findings are summarized as follows:

While all 144 competencies were rated 3.0 or above, respondents from both groups recognized that Extension agents needed a high degree of competence (mean score of 4.0 to 4.4) in performing 61 of the 144 competencies and a very high degree of competence (mean score of 4.5 or above) for eight of the competencies. The following competencies were the top three in each of the nine categories:

**a) Administration**

1. manage time effectively
2. maintain staff morale
3. delegate responsibility and authority

**b) Program Planning**

1. determine needs of clientele for Extension programs
2. establish program priorities
3. determine objectives of Extension programs

**c) Program Execution**

1. develop rapport with clientele
2. provide leadership for program planning and execution
3. develop problem solving skills in clientele

**d) Teaching**

1. select nonformal teaching methods and techniques
2. employ principles of learning and teaching
3. identify and use procedures in teaching adults and youth

**e) Communication**

1. communicate orally to groups
2. communicate orally to individuals
3. possess listening skills

**f) Understanding Human Behavior**

1. apply principles of motivation
2. ability to influence people to accept change
3. identify factors influencing people to become involved

**g) Professionalism**

1. maintain professional competence
2. establish and maintain a professional philosophy
3. identify opportunities for professional improvement

**h) Evaluation**

1. evaluate your performance as a Extension agent
2. evaluate the effectiveness of a county or multi-county extension program
3. evaluate the results of an Extension event or activity

**i) 4-H Youth**

1. recruit and train volunteer 4-H leaders
2. maintain a working relationship among volunteer 4-H staff
3. assist volunteer leaders in organizing 4-H clubs

The two groups of respondents indicated that of the 144 professional competencies, 26 should be learned before entering the job, six during graduate studies, and the remaining 112 through inservice and on the job. Table 1 summarizes these data. As can be seen, nearly all of the competencies to be learned before entering the job are in the categories of teaching, communication, and understanding human behavior.

The null hypothesis -- there is no significant difference between the perceptions of Extension agents and state staff regarding the importance of the professional competencies, as measured by nine competency categories, was not rejected. Both groups placed nearly equal emphasis on the importance of the professional competencies. The competence category labeled program execution was the only one that approached significance ( $t = -1.94$ ;  $p < .06$ ) with the county staff rating it as less important.

The combined demographic factors (age, sex, etc.) showed a significant effect only for the competency categories labeled teaching ( $F = 2.19$ ;  $p < .03$ ) and program planning ( $F = 2.13$ ;  $p < .05$ ) in the regression analysis. Individual predictor variables such as age,

educational level, and years of 4-H membership also showed a significant effect in the case of the categories 4-H youth, program execution, and administration. There was no significant effect of the combined demographic variables on the competency categories labeled administration, program execution, communication, evaluation, understanding human behavior, professionalism, and 4-H youth.

Table 1

*Combined Distribution of Respondent's Choice of Times for Learning Competencies in the Nine Categories. (n=94)*

Competency category	Number of competencies			Total items per category
	Before the job	Graduate program	On the job/ inservice	
Administration	1	0	25	26
Program planning	0	0	10	10
Program execution	0	0	12	12
Teaching	12	1	7	20
Communication	8	0	11	19
Understanding human behavior	5	1	5	11
Maintaining professionalism	0	0	5	5
Evaluation	0	4	14	18
4-H youth	0	0	23	23
Totals	26	6	112	144

### Conclusions and Recommendations

1. A curriculum established to prepare Extension agents at the preservice level and/or to provide graduate and inservice programs should focus on those competencies identified in this study.
2. In designing preservice programs, competencies included in the teaching, communication, and understanding human behavior categories should form a key component of the courses or programs.
3. The competencies identified are appropriate to the role of the Extension agent regardless of whether he or she is in agriculture, family living, 4-H youth, or community development.

4. Teaching and program planning are important categories of competence for Extension agents to possess.
5. A training program, based on selected competencies, should be implemented for new Extension personnel who have not had previous 4-H experience, hold only a bachelor's degree, and/or have limited knowledge about the philosophy and goals of Cooperative Extension.
6. Persons who have a career interest in Cooperative Extension should be encouraged to follow an educational program that will help them develop the professional competencies needed to function successfully as Extension agents.
7. Those persons responsible for hiring and training personnel and administering Cooperative Extension programs should be made aware of the results of this study.

#### Recommendations for Further Research

1. If this study should be replicated, the item labeled "on-the-job/in-service" should be changed to obtain accurate information for each component in this section.
2. Because of high multicollinearity found in the demographic factors used, further studies should be very selective in the use of these items as predictors of variance in the dependent variable.
3. Since a number of variables approached significance, it is recommended that a larger number of respondents be used in future studies.

#### References

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