

**PERCEIVED QUALIFICATIONS AND PROFESSIONAL COMPETENCIES
NEEDED BY POSTSECONDARY AGRICULTURE TEACHERS**

*Thomas J. Lindahl
Chairman
Agri-Business
University of Minnesota Technical
College, Waseca*

and

*Harold R. Crawford
Professor and Head
Agricultural Education
Iowa State University*

What professional competencies and other qualifications should postsecondary teachers of agriculture possess? This question is asked by every administrator who employs a postsecondary agriculture instructor, by state teacher certification boards establishing certification standards, and teacher educators establishing curricula to prepare postsecondary agriculture instructors. This study identifies the qualifications and professional competencies perceived as needed by postsecondary teachers of agriculture in Iowa.

Answers to the following questions were sought:

1. What kind of educational and occupational background characteristics are possessed by present postsecondary agriculture instructors?
2. What educational and occupational characteristics are perceived as needed by postsecondary agriculture instructors?
3. What professional competencies as perceived by department heads, program coordinators, and instructors are needed by qualified postsecondary agriculture instructors?
4. Do instructors perceive their professional competency needs differently than do their department chairpersons?

Need for Study

The growth of postsecondary programs in agriculture has created a need for new and replacement instructors. In Iowa, for example, the first program began in 1965 at Muscatine Community College. Now there are fifty programs employing 71 instructors, 23 program coordinators, and 12 department heads in four program areas. Day (1974) suggests that information and research about the preparation and training of people being hired in community colleges and technical institutes is needed. Miller (1967) reported from a national research planning conference that a relevant research problem was to identify the characteristics of a

good technical teacher. This problem was also identified in the report of a regional research conference on agricultural education by Persons and Copa (1970).

There is an increasing need for additional postsecondary teachers of agriculture. And, in turn, there is a need to study the professional qualifications of these new postsecondary agriculture instructors. There is an apparent lack of indepth research pertaining to qualifications needed by postsecondary instructors in agriculture. This problem resulted in the study reported in this article.

Research Methodology

The population for this study consisted of fifteen agriculture department administrators and ninety-four instructors employed in the program areas of agricultural production, agricultural supplies and services, agricultural power and machinery, and horticulture.

A questionnaire was developed to identify the educational, occupational, and professional competency needs of qualified instructors as perceived by present instructors and their department chairpersons. Questions about educational and occupational characteristics and a list of professional competencies were primarily developed from information obtained through the review of literature. Questionnaires utilized by Kovach (1972) and Delzer (1972) were helpful in identifying questions which would determine educational and occupational needs. Lindahl (1971) and Erpelding developed lists which were used to identify needed professional competencies of vocational-technical instructors at the postsecondary level. A useful list of 117 characteristics and professional competencies needed by teachers of agriculture in two-year technical institutes or colleges in the United States was developed by Feck (1971). This list was very helpful in developing the questionnaire used in this study. Cotrell's (1971) professional competencies included in the performance requirement model developed for vocational and technical educators were selectively used also.

The questionnaire was reviewed by a jury of postsecondary agriculture instructors and agricultural educators. Based on suggestions made by the jury, the instrument was revised and a field test was conducted with postsecondary agricultural instructors in a neighboring state.

The final questionnaire consisted of three parts: (1) eight questions pertaining to current educational and occupational

characteristics of the instructors; (2) eleven questions identifying the educational and occupational characteristics of present instructors at the time of initial employment and the characteristics they perceived as necessary by instructors today; and (3) 105 professional competencies perceived as needed by beginning postsecondary instructors.

The questionnaire was administered during personal visits to each of the 15 area postsecondary agriculture schools in Iowa. All instructors and department administrators employed in Iowa postsecondary institutions in the four agricultural program areas completed the questionnaire.

Individuals responding to the professional competency section of the questionnaire indicated their agreement or disagreement with the need for each competency. The certainty of their rating was obtained on an eleven-point response scale. Respondents were also asked to rank the five most needed competencies in each of ten categories: instructional activities-planning, instructional activities-execution, instructional activities-evaluation, program planning, coordination on the job, area school-community relations, student activities, professional role, guidance and counseling, and job management.

Analysis of variance and Chi square tests were used to measure differences among groups. Mean scores were used in ranking the importance of the competencies.

Summary of Findings

A bachelor's degree was the most common educational degree possessed by currently employed instructors in Iowa postsecondary schools (53%). The remainder of the instructors possessed a masters degree or higher (27%) or less than a bachelor's degree (20%). Table 1 shows that more than one-half (56%) of all respondents were employed directly from agricultural industry. They had obtained an average of nine years of related employment experience and two and one-half years of secondary teaching experience. More than two-thirds (67%) of the current instructors indicated that new instructors should be employed directly from related business or industry.

Instructors and department chairpersons agreed with some certainty that beginning postsecondary instructors should possess 96 of the 105 professional competencies included in this study. Building rapport with students was clearly indicated (Mean=10.2) as the most important competency required of qualified instructors. Department heads were significantly more certain ($p = .05$) than the

Table 1

MOST RECENT FULL-TIME EMPLOYMENT OF INSTRUCTORS PRIOR TO EMPLOYMENT AS AN INSTRUCTOR IN IOWA POSTSECONDARY VOCATIONAL-TECHNICAL SCHOOLS BY STAFF TITLE AND PERCENTAGE

Type of employment experience	Instructors	Program Coordinators	Department Heads	Percentage
Business or industry related to present position	65.7	47.8	26.7	56.6
Business or industry non-related to present position	8.6	4.3	0.0	2.8
College instructor	2.9	0.0	13.3	3.7
Graduate student related to present position	2.9	4.3	0.0	2.8
Secondary school teaching related to present position	15.7	39.1	33.3	23.1
Area school teaching related to present position	4.3	0.0	20.0	5.6
Extension education	0.0	4.3	0.0	0.9
Total Percentage	64.8	21.3	13.9	100.0

instructors that newly qualified instructors should possess the professional competencies included in the survey. Instructors with more than three years of teaching experience perceived a greater need ($p = .05$) for qualified instructors to be able to perform the professional competencies than did instructors with less than three years of experience. Seventy percent of all the instructors suggested that supervised teaching experience should be required of new teachers.

When respondents were asked to rank the professional competencies in each of the ten categories, twenty competencies were identified as having the greatest overall importance. Table 2 contains the listing of these competencies by mean and by rank.

Profiles of qualified instructors were developed for each program area, as well as a composite profile for a qualified instructor teaching in any program area.

A qualified postsecondary agriculture instructor, based upon findings of this study, should possess the following:

1. A bachelor's degree or higher before employment as an instructor.
2. Three years of directly related business or industry experience prior to employment.
3. Thirty or more quarter credit hours of technical agriculture.
4. Professional education courses as a part of his/her professional studies.
5. Eleven or more quarter credit hours of professional agriculture education courses.
6. Supervised teaching experience prior to employment.
7. Two years of secondary vocational agriculture teaching experience prior to employment.
8. Teaching experience in a postsecondary school, if at all possible, before permanent employment.

The most important professional competencies suggested by the respondents as needed by qualified instructors at initial employment were:

1. To develop and maintain rapport with students.
2. To work cooperatively with individuals and business and industry in the community.
3. To recruit and interview students for agricultural programs.
4. To select, utilize, and maintain an agricultural program advisory committee.
5. To assist administrators in developing and maintaining the agricultural program.

Table 2

MEAN AND STANDARD DEVIATIONS OF RANK AND OF THE TWENTY HIGHEST RANKED PROFESSIONAL COMPETENCIES INDICATED AS IMPORTANT BY ALL RESPONDENTS FROM IOWA POSTSECONDARY VOCATIONAL-TECHNICAL SCHOOLS

No.	Competency	Mean S.D.	Rank
1	Develop and maintain rapport with students	<u>10.20</u> 1.17	1
2	Work cooperatively with individuals and business and industry in the community	<u>9.90</u> 1.40	2
3	Maintain effective learning procedures	<u>9.84</u> 1.48	3
4	Develop and implement safety procedures	<u>9.75</u> 1.63	4
5	Utilize a variety of instructional methods	<u>9.70</u> 1.49	5
6	Develop real laboratory experiences as an integral part of the instructional program	<u>9.67</u> 1.93	6
7	Maintain liason with agricultural employment agencies and potential employers	<u>9.67</u> 1.55	6
8	Maintain safe, orderly, and clean program facilities and equipment	<u>9.64</u> 1.77	7
9	Develop and communicate rules, procedures, and acceptable standards of student behavior	<u>9.61</u> 1.48	8
10	Employ a variety of individual and group motivational techniques	<u>9.59</u> 1.45	9
11	Develop and maintain a positive working relationship with the administration	<u>9.59</u> 1.48	9
12	Develop good working relationships with area school personnel and staff	<u>9.57</u> 1.55	10
13	Inform students of the nature & requirements of specific agricultural occupations	<u>9.57</u> 1.47	10
14	Select appropriate instructional method(s)	<u>9.56</u> 2.01	11
15	Select appropriate textbooks and instructional resources	<u>9.52</u> 1.93	12
16	Relate personal experiences and events to agricultural occupational instruction	<u>9.52</u> 2.16	12
17	Assist students in evaluating their progress	<u>9.51</u> 1.87	13
18	Employ a variety of instructional resources	<u>9.49</u> 1.84	14
19	Identify students in need of guidance and counseling	<u>9.49</u> 1.65	15
20	Purchase appropriate equipment and materials	<u>9.46</u> 1.87	16

Recommendations for Teacher Education

This study identified the educational and occupational characteristics and professional competencies needed by qualified instructors of agriculture in postsecondary schools of Iowa. Findings of the study should be of interest to aspiring postsecondary agriculture teachers, state supervisors of agricultural education, teacher educators in agriculture, and administrators employing postsecondary agriculture instructors. Teacher educators should consider the following when developing programs to prepare postsecondary teachers of agriculture:

1. New instructors need professional competencies to be qualified. Therefore, programs should be developed to provide these competencies for aspiring instructors.
2. Because it appears that new instructors will primarily be employed from business or industry to teach in postsecondary programs, new delivery methods should be developed to provide competencies to new instructors.
3. Supervised internship or teaching experiences should be a recommended part of postsecondary preparation programs for instructors.

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