

**Analysis of the Inservice Needs of
Beginning Vocational Agriculture Teachers**

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Inservice education programs have been developed and conducted in many states to assist beginning vocational agriculture teachers in becoming established in their positions. The University of Missouri-Columbia has conducted such a program for several years for first- and second-year vocational agriculture teachers. The program had traditionally focused on assisting beginning teachers with program and curriculum development activities and included group discussions focusing on specific problems facing the participants. However, there existed a need to identify priority areas of program and curriculum development to be addressed in the limited time available for inservice activities with beginning vocational agriculture teachers.

Research studies conducted in the past have identified problems of beginning vocational agriculture teachers. Kahler (1974) identified 187 activities that teachers could be expected to perform in their job as vocational agriculture teachers. In the study, Iowa vocational agriculture teachers were asked to rate the degree of importance and difficulty of the 187 activities identified. Kahler concluded that the needs of beginning teachers were found to be somewhat different than those of experienced teachers. However, Kahler also concluded that all teacher groups placed high priority on and expressed much difficulty with the program areas entitled classroom teaching.

Scheid (1982) identified activities that were the most and least difficult for teachers to perform. Scheid concluded that administering adult programs and developing cooperative relationships with faculty, administrators and students as the two most difficult activities encountered by beginning vocational agriculture teachers.

Other studies have identified competencies needed by beginning vocational agriculture teachers. Witmer and Mortensen (1979) identified 107 professional education competencies that beginning vocational agriculture teachers should develop (Hawk, 1977; Moore and Bender, 1975). These competencies were suggested to be included in the preservice teacher education program. Competencies not acquired at the undergraduate level were to be addressed through inservice programs for beginning vocational agriculture teachers.

Hachmeister (1981) identified the needs of beginning vocational agriculture teachers in Kansas. Curriculum and lesson plan development, time management, building student rapport, handling discipline problems, and improving teacher-administrator relations were identified as inservice priorities for beginning vocational agriculture teachers.

These and other studies have provided an indication of the inservice needs of beginning vocational agriculture teachers. However, more information was necessary to identify specific topics to address in beginning teacher inservice programs. More importantly, it was necessary to ascertain the needs which could be fulfilled through an inservice program as perceived by beginning vocational agriculture teachers.

Purpose and Objectives

The central purpose of this study was to identify the inservice needs of beginning vocational agriculture teachers in Missouri. Conclusions and recommendations resulting from this effort were to be used to develop and conduct relevant inservice programs for beginning vocational agriculture teachers in future years.

Specific objectives developed to guide the activities of this study were outlined as follows:

1. To prioritize the inservice needs of beginning vocational agriculture teachers.
2. To identify relationships which may exist between perceived inservice needs and the personal and employment situational characteristics of beginning vocational agriculture teachers.
3. To identify activities which beginning teachers would like to add or eliminate from their job responsibility.

Procedures

Design

The population for this study consisted of all (N = 52) beginning vocational agriculture teachers in Missouri during the 1984-85 school year. Beginning teachers were defined as those individuals who were employed in their first or second year of vocational agriculture teaching during the time period specified above. Sampling procedures were not utilized since the entire population was surveyed.

Instrumentation

A survey instrument was developed asking beginning teachers to indicate their perceived need for assistance in 75 areas. Topics assessed were identified through a review of related research studies (Kahler, 1974; Scheid, 1982). Respondents were asked to rate their perceived need for inservice training using a nine-point Likert-type scale. A response of 1 indicated no need; 5 indicated average need; and 9 indicated absolute need for inservice in each of the 75 topic areas identified. Respondents were also asked to provide information regarding their personal and employment situational characteristics.

University of Missouri-Columbia agricultural education faculty members reviewed the instrument for face and content validity and made suggestions for improvement.

Data Collection

Survey instruments were completed by each teacher attending a beginning teacher class on the University of Missouri-Columbia campus in January, 1985. Beginning teachers not in attendance were mailed identical instruments and asked to return completed forms through the postal service.

Data Analysis

Completed instruments were numerically coded and entered into the University of Missouri-Columbia computer. Mean scores were computed for each of the 75 inservice topics identified in the instrument. Responses

for each of the topics were collapsed into eight subscale categories by the researchers prior to data analysis. Subscale labels and the number of items (in parentheses) in each subscale were identified as follows: Program Development (18), Teaching Methods (10), FFA Involvement (6), SOEP Supervision (7), Adult Instruction (8), Skill Development (12), Agricultural Mechanics (6) and Public Relations (8). Subscale category means were computed and used as a basis for subsequent data analysis.

A multivariate analysis of variance (MANOVA) procedure was employed to identify inservice topic subscale means (as dependent variables) which differed significantly among beginning teachers using selected personal and situational characteristics as independent variables. Inferential statistics were utilized under the assumption that respondents constituted a sample which was representative of past, present and, to a limited degree, future generations of beginning vocational agriculture teachers in Missouri. The a priori alpha level was established at the .05 level.

Results

Instrument reliability was analyzed following data collection by computing a Coefficient alpha and was found to be .955 for the entire instrument. Individual subscale reliabilities ranged from .748 for the skill development subscale to .868 for the program development subscale.

Fifty-two beginning vocational agriculture teachers provided usable responses which resulted in a 100% rate of return. Beginning teachers reported average program enrollments of nearly 60 students and FFA membership totaling approximately 55 students. The average age of beginning teachers was reported to be 25.3 years. Fifteen beginning teachers reported having responsibility for Young Farmer program supervision which averaged slightly over 22 members each. It was also revealed that 73% of the beginning teachers were employed in a single teacher department, with 51.9% having a bachelor's degree, 28.8% a bachelor's degree plus 15 hours and 19.3% a master's or higher.

Other findings which were felt to be useful in interpreting results are included in Table 1. When asked to identify work responsibilities in addition to secondary teaching, beginning teachers reported that three (5.8%) were supervising Farm Business Management Analysis programs, five (9.6%) were coaching athletics, six (11.5%) taught junior high school pre-vocational classes, 11 (21.2%) were advising Young Farmer chapters, 14 (26.9%) conducted some type of adult education, 22 (42.3%) were involved in the instruction of special needs students, 35 (67.3%) were responsible for supervision of SOEP placement programs, and 43 (82.7%) had an active advisory committee. Each of the beginning teacher respondents reported involvement as the advisor to the local FFA or PAS chapter.

One indicator of beginning teacher job satisfaction was revealed as 53.8% of the respondents reported they did not wish to eliminate any activities from their current responsibilities. Some beginning teachers (19.2%) reported the desire to add young farmer instruction to their responsibilities, while 30.8% did not wish to add to their current duties. Activities which beginning teachers desired to add or eliminate are provided in Table 2.

Composite means were computed for each of the eight subscales previously identified. Table 3 presents rank order composite means and standard deviations for each subscale. Composite means calculated for each subscale were found to be within one standard deviation of the

Table 1

Number and Percentage of Beginning Teachers Reporting Responsibility for Selected Activities

Activity	Response			
	Yes		No	
	n	%	n	%
Utilize an advisory committee	43	82.7	9	17.3
Junior high pre-vocational teaching	6	11.5	46	88.5
Young farmer classes	11	21.2	41	78.8
Adult farmer activities	14	26.9	38	73.1
SOEP placement coordination	35	67.3	17	32.7
Instructing special needs students	22	42.3	30	57.7
Coaching athletics	5	9.6	47	90.4
Advising FFA or PAS chapter	52	100.0	0	0.0
Farm business management analysis program supervision	3	5.8	49	94.2

Table 2

Number and Percent of Beginning Teachers Wishing to Add or Eliminate Activities from Their Employment Responsibilities

Activity	n	%
Add		
No activities identified	16	30.8
Young farmer activities	10	19.2
College or university teaching	7	13.5
Junior high/pre-vocational teaching	7	13.5
Adult farmer classes	4	7.7
FBMA program supervision	3	5.8
SOEP placement coordination	2	3.8
Coaching athletics	2	3.8
Secondary vocational agriculture classes	1	1.9
Totals	52	100.0
Eliminate		
No activities identified	28	53.8
Instructing special needs students	5	9.6
Other activities	5	9.6
Adult farmer classes	4	7.7
Coaching athletics	4	7.7
Junior high/pre-vocational teaching	3	5.8
SOEP placement coordination	2	3.8
Young farmer chapter activities	1	1.9
Totals	52	100.0

midpoint of the scale. Subscales for Skill Development and FFA Involvement produced the highest composite means whereas the Public Relations and Teaching Methods subscales produced the lowest composite means.

Table 3

Composite Means for Inservice Topic Subscales

Subscale	N	\bar{X}	S.D.
Skill Development	52	5.34	1.10
FFA Involvement	52	5.21	1.30
Agricultural Mechanics	52	5.18	1.56
Program Development	52	5.15	1.19
SOEP Supervision	52	5.13	1.43
Adult Activities	52	4.80	1.52
Public Relations	52	4.51	1.28
Teaching Methods	52	4.41	1.28

The MANOVA procedure revealed three inservice topic subscales which differed significantly for certain personal and situational characteristics of beginning teachers. Results of the MANOVA procedures are reported in Table 4. The need for inservice education in the areas of FFA involvement and agricultural mechanics was significantly greater for teachers employed in single teacher departments. Beginning teachers employed in postsecondary institutions reported significantly less need for inservice education in the area of FFA involvement than those employed in comprehensive high schools. Beginning teachers reporting responsibility for adult education perceived a greater need for inservice in FFA involvement. First year teachers reported significantly greater need for inservice in the area of adult activities.

Each of the 75 possible inservice topics were ranked by mean score from high to low. Table 5 reveals five items which produced means greater than 6.0 and seven items which produced means less than 4.0. All other topics produced response means between 4.0 and 6.0. Those items which were rated highest (above 6.0) included using a microcomputer in the classroom, developing skills in agribusiness and electricity, training contest teams, and assisting students with SOEP records. Items which produced means below the 4.0 level included operating audiovisual equipment, participating in vocational education and other professional education activities, planning and conducting field trips, participating in civic organizations, completing reports for local administrators, and teaching day classes.

Beginning teachers also appeared to perceive inservice needs which were unique to the individual respondent. Sixty-six of the 75 inservice items produced responses from both extremes of the nine-point scale indicating a wide variation among the inservice priorities of respondents.

Table 4

Significantly Different Inservice Topic Subscale Means for Selected Characteristics of Beginning Teachers

Characteristic	FFA Involvement Subscale		
	\bar{X} ^a	F	P
<hr/>			
Number of teachers in department			
Single	5.43		
Multiple	4.59	4.54	.038
Postsecondary teaching			
No	5.40		
Yes	3.40	13.12	.001
Adult farmer classes			
No	4.96		
Yes	5.87	5.35	.025
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		Agricultural Mechanics Subscale	
Number of teachers in department			
Single	5.48		
Multiple	4.36	5.83	.019
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		Adult Activities Subscale	
Years of Teaching experience			
First Year	5.54		
Second Year	4.11	5.26	.003

^aResponses were coded 1 = no need, 5 = average need, 9 = absolute need.

Conclusions

The following conclusions are based on the findings of this study.

1. Subscale categories labeled skill development, FFA involvement, agricultural mechanics, program development and SOEP supervision were perceived to be inservice areas most needed by beginning teachers (composite subscale means greater than 5.0).

2. Five inservice topics were identified as relatively high priority (topic means above 6.0) and seven inservice topics were identified in the lowest priority category (topic means below 4.0).

Table 5

Inservice Topics with Scale Value Means Above 6.0 and Below 4.0

Inservice Topic	\bar{X}	S.D.
<u>Above 6.0</u>		
Using a microcomputer in the classroom	6.65	2.27
Developing skills in agribusiness management	6.63	1.69
Developing skills in electricity	6.19	2.22
Training teams for vocational agriculture and FFA contests	6.09	1.68
Assisting students with SOEP records	6.01	2.28
<u>Below 4.0</u>		
Operating audio-visual equipment	2.28	1.83
Participating in professional vocational activities	3.40	2.09
Participating in professional education activities	3.40	2.23
Planning and conducting student field trips	3.40	1.89
Participating in local civic organizations	3.52	2.01
Completing reports for local administrators	3.79	2.19
Teaching local day classes	3.98	2.17

3. There is a lack of consensus among beginning vocational agriculture teachers concerning inservice needs as responses to individual topics varied widely. The inservice needs of beginning teachers appeared to be as varied as the situations in which the teacher respondents found themselves. Therefore, individualized inservice activities and assistance may be more appropriate to meet the needs of beginning teachers.

4. Beginning teachers in single teacher departments perceived greater need for inservice in FFA advising and agricultural mechanics than did those from multiple teacher programs.

5. Respondents who reported responsibilities for adult instruction perceived a greater need for inservice in the area of FFA advisement.

6. First-year teachers perceived a greater need for inservice in the area of adult education activities than was perceived by second year teachers.

7. Using the mean cutoff of 6.0 on a scale of 9.0, the greatest need for inservice appeared to be in:

- a. Using a microcomputer in the classroom
- b. Developing skills in agribusiness management.
- c. Developing skills in electricity.
- d. Training contest teams for vocational agriculture and FFA.
- e. Assisting students with SOEP records.

Recommendations

The recommendations which follow are based upon the findings and conclusions generated from this study.

1. Inservice programs for beginning teachers should focus on skill development, FFA involvement, agricultural mechanics, program development and SOEP supervision.

2. Inservice programs should be provided which emphasize skill development in the following areas for beginning teachers.

- a. Using a microcomputer in the classroom.
- b. Developing skills in agribusiness management.
- c. Developing skills in electricity.
- d. Training contest teams for vocational agriculture and FFA.
- e. Assisting students with SOEP records.

3. Inservice programs should refrain from emphasizing the following topics:

- a. Operating audio-visual equipment.
- b. Participating in professional vocational education activities.
- c. Participating in professional activities.
- d. Planning and conducting student field trips.
- e. Participating in local civic organizations.
- f. Completing reports for local administrators.
- g. Teaching local day classes.

4. Future programs of inservice for first-year teachers should incorporate instruction about adult education activities.

5. Inservice programs should be designed for beginning teachers in single teacher departments which focus on the areas of FFA advising and agricultural mechanics. Assistance in these areas may take the form of small group or individualized instruction, depending on the number of teachers involved.

6. Teacher educators should examine the possibility of strengthening preservice programs to provide instruction in the following areas:

- a. Using a microcomputer in the classroom.
- b. Developing skills in agribusiness management.
- c. Developing skills in electricity.
- d. Training contest teams for vocational agriculture and FFA.
- e. Assisting students with SOEP records.

Previous studies concerning inservice needs of beginning vocational agriculture teachers identified priority needs in the areas of classroom teaching (Kahler, 1974), managing adult programs and developing cooperative relationships with co-workers (Scheid, 1982), and classroom management (Hachmeister, 1981). Findings which emerged from this study identified other areas of high priority for inservice assistance. Inservice coordinators should, therefore, periodically monitor the needs of beginning teachers as they change over time and provide assistance based upon current needs.

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