

**A Three Year Longitudinal Study of the
Perceived Needs for Assistance as Ranked
by Vocational Agriculture Instructors**

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Recent studies have been conducted in areas relating to time priorities, teacher dropout, and competencies needed by vocational agriculture teachers. Shippy (1981) found that vocational agriculture teachers and program supervisors in Delaware rated those competencies high in areas related to program management, planning content of lessons, grading systems, and maintaining working relationships. In Missouri, Goode and Stewart (1981) found that teachers gave high priorities to teaching day classes, activities of the Future Farmers of America, supervised occupational experience programs, planning instruction, and effective public relations. Hillison (1977) found that first year teachers were concerned about responsibilities such as completing state department reports, planning lessons, and ordering materials for their department.

General agreement is that the above areas are time consuming, which may have contributed to the fact that Moore and Camp (1979) found the number one reason teachers left the profession in Indiana to be long hours. Teacher dropout has been identified as a concern by a number of leaders in the profession. It has also been generally perceived that a very critical time in a teacher's career is the first two years.

Program planners have long been concerned with conducting in-service activities that would increase both the effectiveness and efficiency of all vocational agriculture teachers, including those who are beginning their careers. However, do we have a situation where "one size fits all" or do teachers at different stages in their careers perceive their needs for assistance differently? Longitudinal studies to ascertain if a teacher's perceived needs for assistance change from the time an individual graduates through a time early in the second year of their teaching were not found.

Purpose

The purpose of this study was to ascertain whether or not the perceived needs for assistance are different at the following times during an individual's career as a vocational agriculture teacher: completion of the professional semester, early during the first year of teaching, and early during the second year of teaching.

Procedures

A descriptive study was conducted using survey methodology to determine the needs for assistance as perceived by individuals at specific stages of their career as vocational agriculture instructors. The "Beginning Teachers' Needs Questionnaire" (BTNQ), a researcher-designed instrument, was developed as a result of a review of the literature and in consultation with a panel of experts composed of teacher educators at the University of Missouri-Columbia and all supervisors of vocational agriculture in the Missouri State Department of Elementary and Secondary Education.

The BTNQ was divided into nine areas as follows:

1. Technical Expertise--agricultural mechanics, agricultural management, plant science, animal science, agribusiness, horticulture, and vocational agriculture contests.
2. Human Relations--discipline, student rapport, fellow teachers, counselor, and community.
3. FFA--membership, activities, policies, and contests.
4. Adult-Young Farmers--organizing, conducting, and maintaining.
5. Program Development and Planning--curriculum development, teaching calendar, long-range plan, advisory committee, needs identification, summer schedule, philosophy, and objectives.
6. Instruction--motivation, grading, references, materials, teaching aids, and resource development.
7. Determining Priorities and Managing Time--professional and personal.
8. Program Administration--local and state forms and reports, program expansion, public information, inventory manage-

ment, security, budgeting, equipment and facility management, and placement and follow-up.

9. Supervised Occupational Experience Program-type of programs, requirements, visitation, placement, and sources.

Respondents were requested to rank the areas one through nine based on their perceived needs for assistance.

The BTNQ was administered to all students at the University of Missouri-Columbia completing the professional semester in Agricultural Education during the fall of 1979 and winter semester of 1980. The individuals accepting teaching positions were administered the same instrument in October 1980. Those individuals accepting their second teaching contract were again administered the BTNQ in October of 1981. Control of extraneous variables due to environmental or social change over time are inherent when using a longitudinal study according to Kerlinger (1973). Kerlinger adds that longitudinal studies are well suited for making qualitative determinations about change occurring in a group of subjects over time.

Since the same subjects were surveyed three times during their careers, data were analyzed by a form of the rank-order analysis of variance, the Friedman Test (Kerlinger, 1973). This nonparametric analysis of variance concentrates on differences between the time intervals and ignores the differences between the subjects.

The formula given by Friedman is:

$$Xr^2 = \frac{12}{kn(n+1)} \sum R^2 - 3k(n+1)$$

where $Xr^2 = \chi^2$ (chi square)
k = number of rankings (3)
n = number of subjects being ranked (15)
R = the sum of the ranks in each column
 $\sum R^2$ = the sum of these squared sums

A χ^2 table was utilized to check the value of each perceived need at a .05 level of significance. The table indicated that where $df = n$ (number of ranks) - 1 or 3 - 1 = 2, the .05 level for a value was 5.99 or greater. Values for all nine perceived needs were performed independently by reassigning relative ranking of each perceived need by time interval. The R of each need is shown in Table 1.

Table 1

*The Sum of Ranks (R) for Time Intervals
and Chi Square Values for the Nine
Perceived Needs*

	Seniors	Beginning teachers	Teachers with one year of experience	Chi Square (χ^2)
Technical expertise	28	35	27	2.63
Human relations	39	25	26	8.23*
FFA	28.5	29.5	32	.52
Adult/young farmers	22	36	32	.02
Program development and planning	31.5	27.5	31	7.72*
Instruction	36	27	27	3.69
Determining priorities and managing time	31	24.5	43.5	3.53
Program administration	21.5	30.5	38	9.19*
Supervised occupational experience program	35.5	29	25.5	3.53

*Significant at $p < .05$.

Findings

Table 1 reports the findings of the study. It should be noted that these findings are based on statistical tests which are meant only to verify qualitative interpretations of the data. The subjects surveyed in this longitudinal study changed their rankings of perceived needs for assistance to some degree in all areas except FFA and Program Development and Planning. Technical expertise, instruction, determining priorities and managing time, and supervised occupational experience programs had higher chi square values yet the change was not significant. The chi square value of 8.3 for human relations, 7.3 for adult/young farmers, and 9.19 for program administration were each found to be greater than the 5.99 value for level of significance at .05. The perceived need for assistance in human relations dramatically increased. The lower R's indicate higher rankings. The need for organizing, conducting, and maintaining adult/young farmers decreased over the years as did the need for assistance in program administration.

Discussion

Most of the changes in perceived needs appear to be logical; they are much of what would be expected, especially needs related to program administration. As one becomes more experienced with forms, reports, inventories, and general management, the easier the task becomes. It should be noted, however, that program administration was rated highest as measured by R for all seniors and lowest for all teachers with one year of experience. By far the most drastic change in needs occurred with this area, as indicated by the high chi square.

Another interesting point is the marked change in ranking for human relations. It becomes clear that our more experienced teachers see a need for assistance in developing discipline, student rapport, community, and peer relations. Seniors do not perceive as great the need for human relations. It was ranked lowest of all by seniors but was second highest in priority for experienced teachers.

The organizing, conducting, and maintaining of adult/young farmer programs is seen as a high priority by seniors. However, little assistance is perceived as needed by teachers with one year of experience. Perhaps this is due to the emphasis placed on the importance of working with adult programs at the preservice level. Thus, the higher perceived need for assistance; however, many beginning teachers are not involved with adult programs and, therefore, may not have a need for assistance in this area.

Clearly, patterns of inservice assistance develop as the experience of agriculture teachers grow. These patterns change with the maturity and professional development of teachers. Program planners cannot assume that an outstanding preservice program is sufficient nor can they assume that the inservice needs for first year teachers are the same as the inservice needs of second year teachers.

References

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