Opinion Leadership Among Teachers of Agricultural Science in Texas

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Change is an aspect of life that all individuals face. Rarely does change from a familiar means of operation occur without resistance and, in some cases, open rebellion. Bennis, Benne, and Chin (1976) stated that "resistance (to change) can be expected when different people will see different meanings in the proposed change" (p. 544). In times of change, many individuals turn to others whom they perceive as having knowledge, in order to seek clarity. Studies have revealed that one of the strongest factors of influence is the opinion held by individuals who are considered to be knowledgeable. These individuals, who are looked to for advice, are those who Hansel and Johnson (1969) defined as opinion leaders. Blanton, Hull, and Russell (1971) defined opinion leaders among vocational agriculture teachers as persons who "have the potential as agents of change in school systems" (p. ix). Their study identified the following characteristics, which might have an effect on the change process, pertaining to the selection of opinion leaders among vocational agriculture teachers:

> Teachers of vocational agriculture named as opinion leaders were older, had more years of teaching experience, had more earned college credit, and had attended a greater number of workshops than their peers.
>
> Supervisors and other teachers of vocational agriculture were chosen most frequently as sources of information and advice.
>
> The teacher's readiness and willingness to discuss a program was the single most important reason for the nomination of an opinion leader by peers. The second most important reason was the performance of his students. (pp. 41-42)

Opinion leadership is an elusive, sometimes unrecognized quality, yet it is very real. The influence of another's opinion affects our lives on a daily basis, whether it be in our business or personal decisions. Rogers, Daley, and Wu (1982), in researching the diffusion of microcomputers, stated the following:

> Of the two-thirds of our respondents who got experience with a home computer before purchase, 40% received some experience at a friend's home. Friends influenced the decision to adopt in 46% of the cases, and influenced the brand purchased in 43% of the cases. In addition, recommendations by friends influenced the place of purchase in 13% of the cases. (p. 56)

Hansel and Johnson (1969) stated the following concerning the use of opinion leaders among vocational agriculture teachers in the change process:

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> The identification of opinion leaders may be the first step toward an understanding of the change process in vocational education. In attempting to create change and increase the adoption of approved educational innovations, the state supervisory staff should be able to identify opinion leaders. By identifying these opinion leaders and focusing their efforts on creating change in these individuals, supervisors could reap benefits from the interaction effect whereby individuals who have adopted an innovation may influence others to do so. (p. 47)

Changes in the agricultural science curriculum in Texas are taking place at a rapid rate. Teachers are being forced to change from a familiar curriculum to one that is vastly different (Christensen, 1987; Ratliff-Reuwer, 1987). Teachers of agricultural science (vocational agriculture) are influenced by opinion leaders just as are others in our society (Blanton et al., 1971; Hensel & Johnson, 1969). These facts suggest the need for this study.

Because the beliefs of opinion leaders are important to those being affected by change, the identification of opinion leaders can be of benefit in helping to implement proposed changes with a minimum of resistance. By developing an understanding of the similarities and differences between opinion leaders and their followers, those involved in the change effort would be able to identify individuals who can influence the adoption rate of the general population. It was not known who those opinion leaders were among teachers of agricultural science in Texas.

Purpose and Objectives

The purpose of this study was to identify and describe opinion leaders and their followers among Texas teachers of agricultural science. The study was purposely delimited to agricultural science teachers, excluding state staff members, teacher educators, and others who might influence change. State staff members, teacher educators, and others were assumed to be change agents (Rogers, 1982) outside of, and not opinion leaders within, the social system comprised of teachers of agricultural science. Specific objectives were as follows:

1. Identify opinion leaders in the program areas of supervised occupational experience programs, curriculum, facilities, leadership, agricultural business, agricultural mechanics, horticulture, agricultural judging contests, young/adult farmer programs, and the FFA organization.

2. Describe those persons identified as opinion leaders with respect to selected characteristics.

3. Describe those who are followers of individuals perceived as being opinion leaders.

4. Determine if differences in personal characteristics exist between opinion leaders and other respondents.

5. Describe the five teachers named most often as opinion leaders in each of the 10 program categories.

6. Determine if differences in personal characteristics exist among opinion leaders in each of the ten program areas.

7. Describe the respondents' perceptions of their own opinion leadership.

Research Hypotheses

To guide the accomplishment of Objectives 4 and 6, two research hypotheses were formulated for testing ($p<.05$):

1. There are significant differences between the personal characteristics of followers and those of opinion leaders.

2. Across the 10 program areas, there are significant differences in the personal characteristics of opinion leaders.

Procedures

In order to identify opinion leaders, a mailed survey was conducted. The population consisted of agricultural science teachers in Texas during the 1986-87 school year (approximately 1,400 teachers). Texas is divided into 10 supervisory areas, each with its own teacher organization, competitive contests, and FFA officer team. To insure equal representation of each area, a stratified random sample of 300 teachers was taken from the population, with 30 teachers randomly selected from each supervisory area (Borg & Gall, 1983; Herren & Cole, 1984; Krejcie & Morgan, 1970).

The questionnaire used for this study was adapted from Hensel and Johnson's (1969) identification of opinion leaders among vocational agriculture teachers in South Carolina. The survey instrument consisted of two parts. Section 1 asked the respondents to list one opinion leader (a teacher of agricultural science, which could include the respondent) for each of the program areas identified in the first objective of the study. Section 2 asked the respondents to provide personal data concerning their age, the year they began teaching, the number of years that they had taught agricultural science, the number of schools in which they had taught, the number of years they had taught at their present school, the semester hours of college work completed since beginning to teach, and the highest level of education they had achieved.

Each instructor received a cover letter explaining the purpose of the study and how the information would be used. A pre-addressed, postage-paid return envelope was included with each questionnaire. Three weeks after the first mailing, all non-respondents received a reminder postcard. A second letter and questionnaire were mailed to the remaining non-respondents six weeks after the initial mailing.

Because of the low response rate (41%, $N = 123$), a telephone survey was conducted of 10% ($N = 18$) of the non-respondents (all questions asked on the mailout survey instrument were included) to see if their responses differed from those of the initial respondents. No significant differences were detected between the respondents and the non-respondents (telephone respondents); the two groups were pooled for analysis purposes.

Opinion leaders were ranked by the number of times each person was named. This procedure was done for each of the specific program areas of the agricultural science program. The five most often named opinion leaders in each area were then surveyed by telephone to determine their characteristics (identical to those collected regarding respondents in Section 2 of the questionnaire). The top five opinion leaders were selected because a natural break existed at this point between those named frequently as opinion leaders and others who were only selected once or twice.

Descriptive statistics were used to describe the respondents and those identified as opinion leaders. T-tests were used to determine if significant differences existed between opinion leaders and other teachers. A one-way analysis of variance was employed to determine if differences existed among opinion leaders from each of the program areas.

Results

A total response of 142 (47%) was achieved after two mailings and telephone contact with non-respondents. The respondents identified opinion leaders in each of the 10 program areas. However, fewer opinion leaders were reported in some program areas than in others. The number of opinion leaders identified in each program area is shown in Table 1. The respondents identified more opinion leaders in the areas of judging contests, leadership activities, FFA, SOEP and agricultural mechanics than they did in the areas of curriculum, young/adult farmer programs, facilities, agri-business, and horticulture.

Table 1

Number of Opinion Leaders Identified Per Program Area, Texas Secondary Programs of Agricultural Science, 1987

Program Area	Number Identified (1 vote or more)	Average Number of Votes for Top 5 Opinion Leaders
Judging Contests	83	4.0
Leadership	79	4.2
FFA	75	5.0
SOEP	73	2.0
Agricultural Mechanics	66	4.0
Curriculum	59	3.8
Young/Adult Farmers	53	3.6
Facilities	46	2.2
Agri-Business	37	2.6
Horticulture	31	4.4

Table 2 was developed using the mean scores of the seven questions concerning the respondents' and opinion leaders' personal characteristics. This represents a composite description of the group of respondents for the study, as well as that of the opinion leaders identified.

The personal characteristics of the teachers identified as opinion leaders were different from those of the respondents. Each of the characteristic differences described below was significant ($p<.05$) with the exception of the number of schools in which the teachers had taught. Therefore, the first research hypothesis that differences exist between opinion leaders and other teachers was accepted. The mean age of the opinion leaders (45.9) was nearly seven years higher than that of the respondents (39.0). Opinion leaders had more experience than their peers in both total years of teaching (20.9 vs. 13.9) and in tenure at their present school (16.0 vs. 10.3). Opinion leaders had taught in 2.3 school systems compared to fewer than two schools (1.9) for the

respondents; however, this difference was not statistically significant ($p>.05$). Since beginning to teach, the opinion leaders had received an average of 35.5 college credit hours, compared to 21.3 credit hours for the respondents. Opinion leaders had completed their master's degree and had hours above that degree, while the average respondent had not yet completed his/her master's degree.

Opinion leaders identified in this survey were older, had more teaching experience, had more tenure in their present school, had completed more hours of college credit since beginning to teach, and had attained a higher educational level than their peers who selected them. These findings were consistent with those of similar surveys by Hensel & Johnson (1969); Blanton et al. (1971); and Christiansen (1965).

Table 2

Characteristic Composite of Respondents and Opinion Leaders Among Texas Teachers of Agricultural Science, 1987

Characteristic	Mean Scores	
	Respondents n = 142	Opinion Leaders n = 50
Age	39.0	45.9*
Year in which they began teaching	1972	1965*
Total years of teaching experience	13.9	20.9*
Number of schools in which they have taught vocational agriculture	1.9	2.3
Number of years they taught in their present school	10.3	16.0*
Number of college semester hours they have acquired since beginning to teach	21.3	35.5*
Highest level of education[a]	2.7	3.5*

[a]Scale: 1 = B.S., 2 = B.S.+, 3 = M.S., 4 = M.S.+.

*Denotes significant difference existed between the mean scores of the respondents and opinion leaders at the .05 level.

Table 3 presents a breakdown of the average opinion leader identified in each of the program areas. This allows comparisons of opinion leaders between program areas.

No significant differences in characteristics ($p>.05$) were detected among those identified as opinion leaders in the 10 program areas. Therefore, the second research hypothesis that differences exist among opinion leaders in each of the 10 program areas was not supported. However, the opinion leaders in the areas of Agricultural

Business and SOEP exhibited some apparent or noticeable differences from those characteristics of opinion leaders in other areas. The teachers identified as opinion leaders in these two areas generally were older and had more years of teaching experience than did those named in other program areas. The agricultural business opinion leaders had the longest tenure (20.6) in years at their present school. This, however, was not the case for the opinion leaders in the SOEP area, who were average (16.0) in years of tenure. Another noticeable difference among the opinion leaders occurred with the number of college hours received by the teachers in the FFA area. The teachers identified as opinion leaders for FFA had received an average of 52.6 college credit hours since beginning to teach, while the next nearest group of opinion leaders had received nearly 11 hours less.

Table 3

Comparison of Opinion Leaders by Program Area, Texas Secondary Programs of Agricultural Science, 1987

	Variable					
Program Area	Age	Years of Teaching Ag. Sci.	Number of Schools in Which They Had Taught	Years of Teaching in Their Present School	College Hours Since Began Teaching	Highest Education Level Achieved[a]
Judging Contests	46.0	22.0	2.0	15.2	38.8	3.8
Horticulture	44.4	19.2	1.6	17.8	39.2	3.8
Ag Mechanics	44.4	20.6	2.6	15.4	32.0	3.4
Ag Business	53.4	28.6	2.2	20.6	32.8	3.4
Leadership	45.4	22.6	2.6	17.0	40.8	3.8
Facilities	43.8	20.0	2.2	12.8	25.8	3.6
Curriculum	44.4	20.2	2.4	13.0	41.8	4.0
SOEP	49.4	24.6	2.4	16.0	36.8	3.6
FFA	45.2	19.8	1.8	17.2	52.6	4.0
Young Farmers/ Adult Programs	42.6	19.8	1.4	19.0	33.0	3.2
Totals[b]	45.9	20.9	2.3	16.0	35.5	3.5
F Value	.82	.74	1.08	.49	.61	.89
Probability	.60	.67	.40	.87	.78	.54

[a]Scale: 1 = BS, 2 = BS+, 3 = MS, 4 =MS+. [b]Adjusted for teachers named as opinion leaders in more than one category; these opinion leaders were included only once for calculation of group means.

In order to determine how the respondents perceived their own opinion leadership (Objective 7), the following seven questions were asked. The response rate follows each question.

1. During the past six months, have you told an ag-science teacher about some new educational practice or procedure (e.g., computer software, slide set) being used in agricultural education? YES--101; NO--40; No Indication--1

2. During the past six months, have you told an ag-science teacher about some new agricultural practice or procedure (e.g., seed variety, planting practice, equipment) being used in agricultural industry? YES--99; NO--42; No Indication--3

3. Compared to your circle of friends in agricultural science, are you more or less likely to be asked for advice about new practices in agricultural education? MORE--100; LESS--39; No Indication--3

4. Thinking back to your last discussion with ag-science teachers about new practices in agricultural education, were you asked for your opinion of the new practice or did you ask someone else? Was Asked--76; Asked Someone Else--56; No Indication--10

5. When you and your friends who teach ag-science discuss new ideas in agricultural education, what part do you play? Mainly Listen--85; Try to Convince Them of Your Ideas--49; No Indication--8

6. Which of these happens more often? You Tell Your Neighboring Agriculture Teachers About Some New Practice--78; They Tell You About Some New Practice--48; No Indication--16

7. Do you have the feeling that you are generally regarded by your fellow agriculture teachers as a good source of advice about new practices in agricultural education? YES--89; NO--41; No Indication--12

The respondents in this survey indicated that they perceived themselves to be opinion leaders for other agricultural science teachers. Over two-thirds of the respondents felt that they were opinion leaders. However, only 2 of the 142 respondents were actually identified as opinion leaders by peers. This may be explained by examining the response to Question 5. Although most of the respondents felt they were opinion leaders, 60% stated that they mainly listened the last time a new idea was discussed with other teachers of agricultural science. This would not be characteristic of a true opinion leader (Rogers, 1982).

Conclusions

Opinion leaders exist, and they can be identified within an organization. Opinion leaders in this and previous studies tended to be older, more experienced, longer in tenure at their present school, and to have received more college credit hours since beginning to teach than their peers who identified them.

Though surveys concerning opinion leadership among teachers of vocational agriculture had been done in other states, this was a timely undertaking for Texas when one considers the curricular changes taking place. This survey has made it possible to identify individuals who are looked to as opinion leaders by others.

The literature reviewed in preparation for this project stated that the opinion of others is many times the deciding factor used in accepting or rejecting a proposed change (Bennis et al., 1976; Blanton et al., 1971; Christiansen, 1965; Hensel & Johnson, 1969; Rogers et al., 1982). Results of this survey have indicated that it is possible to identify individuals who are viewed as opinion leaders. Therefore, opinion leaders should be identified as part of any proposed change effort.

Recommendations

Opinion leaders identified in this study need to be included in any change process in order to bring about the desired results. It is recommended that the state staff involved in agricultural education in Texas use the list of opinion leaders identified by this study to gain further support for the curriculum changes currently being implemented. These opinion leaders could be the link between the state staff members and the teachers in the field that is needed to bring about greater acceptance of the new curricula. Similarly, other states should use these or similar procedures in implementing curricular change.

Opinion leaders need to be identified and included in the change process whenever possible. While this study established differences between opinion leaders and peers that might help in the identification of persons likely to be opinion leaders, these characteristics may not be consistent with findings from other populations. Therefore, a survey similar to this would be suggested for others attempting to identify opinion leaders within their organization.

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