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Dissertation

Presented in Partial Fulfillment of the Requirements for the 
Degree of Doctor of Philosophy in the Graduate School 
of The Ohio State University

by

Cecil Heyward Johnson, Jr., B.S., M.Ag.Ed.

*********

The Ohio State University
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Considerable investments are being made to research, develop, and refine various types of educational innovations applicable to vocational agricultural education. However, vocational agricultural education, like other segments of education, has been plagued by the theory-practice gap -- the lag between the time improved methods and procedures are developed and finally used in the appropriate school setting.

The most recent example of the theory-practice gap which exists in vocational agricultural education is the effort of national and state leaders in the field of agricultural education in consort with industry and other groups to promote the establishment of programs in off-farm agricultural occupations in the vocational agriculture departments of the nation. The need for such programs was further underscored by the passage of the 1963 Vocational Education Act which stated that funds authorized by the Act may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupation involves work of the farm or of the farm home, and such education may be provided without directed or supervised practice on a farm.¹

Prior to the passage of this legislation, vocational agriculture programs had been confined to production agriculture or as the Smith-Hughes Act states...that such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon the work of the farm or of the farm home.2

As a result of the emphasis on programs in off-farm agricultural occupations, leaders in vocational agriculture undertook an extensive research and development program in 1962 to identify workers who required a knowledge of agriculture to perform their jobs successfully and to identify the major agricultural competencies needed. As a result of several research projects, course outlines in ornamental horticulture, agricultural machinery, agricultural supply, and agricultural chemicals technology were developed by a national task force at The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio.3 These outlines and supporting program development materials were formulated to assist state and local vocational education leaders in developing programs to prepare youth and adults for employment and advancement in off-farm agricultural occupations.

In order to disseminate these materials to state and local leaders, a national conference on off-farm agricultural

2 U.S. Congress; Smith-Hughes Act. Public Law 64-347, 1917, Sec. 10.
3 Robert E. Taylor, A Determination of Needed Adjustments and Extensions in the Curricular Patterns of Vocational Education in Agriculture (Columbus, Ohio: The Center for Vocational and Technical Education, The Ohio State University, 1966).
occupations was held at The Ohio State University from May 4th, 1965. The primary purposes of the conference were:

1. To present to personnel from the respective states an outline for developing new programs in off-farm agricultural occupations.

2. To show a nationwide need for such programs.

3. To present the preliminary materials pertaining to development of such programs as well as illustrative curricular materials already developed by project personnel.

4. To plan five area meetings which would focus on the development of pilot programs.4

The national conference focused attention on responsibilities and activities in which local school administrative officers, local boards, vocational coordinators, vocational teachers, representatives of industry, and lay personnel could engage in to determine the needs for initiating such programs at the local level. Following the national conference five area meetings were conducted in New York, Chicago, Pullman, Atlanta, and Denver. The primary purpose of the area meetings was to focus attention on the responsibilities and activities of local administrators, school boards, teachers, employers and the general public in initiating programs in off-farm agricultural occupations.5

In 1967, two years after the planned dissemination program was completed, a follow-up study was conducted to assess

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4 Ibid., p. 27.
5 Ibid., p. 28.
the acceptance of the curricular materials. This study indicated that 109 of 297 teachers surveyed were using the off-farm agricultural occupations materials. While this was an adoption rate of 36 percent of those ordering the materials, these 109 teachers represented approximately one percent of the total number of vocational agriculture teachers in the United States.

As a part of this study, an attempt was made to determine the dissemination activities conducted by state vocational agriculture leaders to acquaint local agriculture teachers with the availability of the off-farm agricultural occupations materials. Analysis of the data indicated that state activities such as special programs during the state agriculture teachers conference, special conferences for teachers conducting pilot programs, district or area conferences, summer school workshops, and educational TV programs were conducted on the state level in several states to inform local teachers of the availability of the off-farm agricultural occupations materials.

In view of the many activities conducted to inform teachers of the availability of the materials, why, then, did adoption occur at such a slow pace?

Activities, such as those just described, have been developed on the premise that the state staff personnel who

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7 Ibid., p. 36.
provide the leadership in planning these programs understand how teachers become aware of educational innovations and how teachers may be convinced that specific innovations should be incorporated into their instructional programs. This process of change is generally accepted to follow along the lines of the adoption process — the mental process through which an individual passes from first hearing about an innovation to final adoption.8 This process is generally considered to consist of five distinct stages:

1. The awareness stage -- the individual is exposed to the innovation but lacks complete information about it.

2. The interest stage -- the individual becomes interested in the new idea and seeks additional information about it.

3. The evaluation stage -- the individual mentally applies the innovation to his present and anticipated future situation, and then decides whether or not to try it.

4. Trial stage -- the individual uses the innovation on a small scale in order to determine its utility in his own situation.

5. The adoption stage -- the individual decides to continue the full use of the innovation.9

It should be pointed out that the fifth stage could also be called the rejection stage if the individual decides not to continue full use of the innovation.

Many of the activities conducted by state leaders to disseminate the off-farm agricultural occupations materials tended

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9 Ibid., pp. 81-86.
to be wholesale in nature — designed to reach a large number of teachers in a short period of time. Also, it was evident that the activities were primarily designed to create an awareness of the availability of materials on the part of the local teacher. As previously stated, awareness of an innovation is considered to be the first stage of the adoption process. Considering the slow rate of adoption which resulted, it is apparent that creating awareness on the part of teachers did not speed up the adoption process.

This isolated example of the theory-practice gap is not peculiar to vocational agricultural education. It is a problem which has existed throughout education. Mort reports that "early studies indicated that change in the American school system comes about through a surprisingly slow process and follows a predictable pattern. Between insight into a need and the introduction of a way of meeting the need that is destined for general acceptance, there is typically a lapse of a half-century. Another half-century is required for the diffusion of the adaptation. During that half-century of diffusion, the practice is not recognized until it has appeared in 3% of the systems of the country. By that time, fifteen years of diffusion have elapsed. Thereafter, there is a rapid rate of diffusion, accompanied by much fanfare, and then a long period of slow diffusion through the last small percentage of school systems."10

Recent evidence of the slowness of schools to adopt educational innovations is provided by Anderson when he stated that an innovation in education has been estimated to take 30 years before widespread adoption, and 10 to 15 years for the first 3 percent of schools to make a significant change.\(^\text{11}\) Even though the adoption of educational innovations has increased in recent years, the time span required for a large number of schools to incorporate an innovation into the school program continues to be lengthy.

Considering the low rate of adoption of educational innovations, state leaders in vocational agricultural education should give consideration to the investigation of any viable method of communication which would spread the use of innovations found to be useful in program development or improvement. Perhaps educational leaders have placed too much emphasis in the past on the effectiveness of wholesale methods of communication designed to create awareness of new developments. Culbertson and Hencley state that the most telling indication of the status of educational research in regard to dissemination is the identification of the primary medium for the process of dissemination . . . the printed word.\(^\text{12}\)

This position implies that a more viable media than the printed word should be identified and utilized. An investiga-


tion of other fields of endeavor, in which attempts have been made to employ the findings of research to affect practices, leads to the conclusion that a much more dynamic mechanism for the dissemination of educational innovations is necessary.

The diffusion model employed by the Agricultural Extension Service represents a planned program of change. This model usually consists of five distinct steps. Briefly these are:

1. The Agricultural Extension Service has access to experimental stations in which agronomists and other basic researchers in the field of agriculture may carry out the experiments which problems in the field indicate ought to be pursued.

2. The researcher, far from talking directly to the farmer, talks instead to a university-based extension specialist.

3. The extension specialist talks to county agents.

4. The county agents deal primarily with a selected group of farmers in their counties who may be thought of as local innovators or cosmopolites.

5. These innovators in turn act as demonstration agents for the remainder of the farmers in the district. Only at this stage does the large mass of farmers come in contact with the ideas that were originally developed in the agronomists' laboratory.13

Guba indicates that a similar agency is needed in education to close the theory-practice gap. Guba states that "the fundamental differences between agriculture and education are obvious and the mechanism to close the gap in education may be different from the one so successful in agriculture. Nevertheless,

there can be no doubt that some kind of mechanism is needed and we obviously need to start now to conceptualize and to build such mechanisms. "14

Vocational and technical education dissemination efforts approach the model employed by the Agricultural Extension Service. New ideas and innovations are developed by researchers, either university or research center-based, and made available to state leaders (supervisors and teacher educators). These state leaders then attempt to influence high school teachers to incorporate these ideas and innovations into the local program of vocational and technical education. However, as previously noted, most efforts by teacher educators and supervisors designed to influence teachers to adopt these ideas or innovations are conducted on a wholesale basis — group meeting, conferences, workshops, graduate classes, newsletters, and magazine articles.

It is at this point that typically the dissemination efforts by leaders in vocational and technical education depart from the model employed by the Agricultural Extension Service. Instead of working with selected individuals as does the extension Service, vocational and technical education leaders attempt to work with groups of individuals. The success of the Extension Service in disseminating new ideas with a rapid rate of adoption by farmers suggests that state vocational and technical education leaders give consideration to concentrating their efforts on a few selected individuals in addition to the

-14 Ibid.
efforts aimed at creating awareness of innovations on the part of all teachers.

The key factor in adapting the Extension Service diffusion model is the selection of the individuals who in effect become the "linkage" between the educational leaders and the teachers of the state. In the extension model these individuals are described as innovators or cosmopolites. However, rural sociologists indicate that the innovator may not be a respected leader of change ... thus, the innovator may not be identified as influential in his social system, but he may set the stage for change by demonstrating new ideas to local opinion leaders.\textsuperscript{15}

As the major criterion for the selection of individuals to provide linkage between vocational agriculture leaders and teachers is the degree to which they are able to influence other teachers to adopt new ideas and innovations, it is evident that innovators are not the most appropriate individuals for this vital position.

Sociologists and rural sociologists have studied opinion leaders and opinion leadership in a number of research efforts in the past. A majority of these research efforts studied opinion leadership from the standpoint of the personal influence of the opinion leader on the remaining members of the particular social order. The major hypothesis studied was called the two-step flow of communication which briefly is -- that influences stemming from mass media first reach opinion leaders who in turn pass on

\textsuperscript{15}Rogers, \textit{Diffusion of Innovations}, p. 193.
what they read and hear to those of their every-day associates with whom they are influential. Briefly, opinion leaders could be described as individuals who are influential with peers in approving or disapproving new ideas as compared to innovators who are defined as the first individuals to adopt innovations or new ideas.

The adoption of new ideas or innovations has been described as one type of decision-making. Generally, this decision-making or adoption process consists of five distinct steps as previously described. Rogers states that personal influence has been found to be an essential ingredient in all types of decision-making and that personal influence has relatively greater influence in certain situations than in others. These situations are:

1. Personal influence from peers is most important at the evaluation stage in the adoption process and less important at other stages;

2. Personal influence from peers is more important for relatively later adopters than for earlier adopters;

3. Personal influence from peers is more important in uncertain situations than clear-cut situations.

Rogers also states that personal influence performs certain functions at each stage of the adoption process. These functions are:

1. Awareness of an innovation may be created by personal influence from others;

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17 Rogers, *Diffusion of Innovations*, p. 77.
2. Once formed, opinions about an innovation are reinforced by interaction with others;

3. Norms on innovativeness are generally communicated to group members via personal influence networks;

4. A performance comparison of the innovation with existing ideas may be communicated from peers.\(^{19}\)

Lionberger lists two major functions of the opinion leader (to whom he refers as influentials). These functions are (1) communication, and (2) legitimization. In performing their communication function, the opinion leaders select and interpret the information they transmit and incorporate positive or negative recommendations with their messages to others. In their legitimization function, the opinion leaders put their stamp of approval on an idea or practice, and it is regarded as acceptable by most people, especially by those who are influenced by the opinion leader.\(^{20}\)

One implication for a strategy of change is for change agents to concentrate their efforts upon opinion leaders.\(^{21}\) The existence of opinion leaders in a social system offers change agents a "handle" whereby they can prime the pump from which new ideas flow through an audience via the "trickle-down" process.\(^{22}\) Briefly, this strategy for change implies that the change agent should locate opinion leaders and concentrate his promotional efforts on these individuals, allowing the new idea or innova-

\(^{19}\) Ibid., pp. 223-224.


\(^{21}\) Rogers, Diffusion of Innovations, p. 251.

\(^{22}\) Ibid., p. 282.
tion being promoted to spread via word-of-mouth channels from the opinion leader to the remainder of the change agent's audience.

In order to utilize this strategy in vocational agricultural education, the teachers who are regarded by their peers as opinion leaders must be identified. Do these individuals differ significantly from their peers in personal and social characteristics? Are they easily identifiable? Is an opinion leader in one area of vocational agriculture also the opinion leader in other areas? Do opinion leaders realize that they are regarded as opinion leaders by their peers? Only after these and other questions concerning the attributes of opinion leaders among teachers of vocational agriculture have been answered can appropriate procedures be designed to fully capitalize on the influence which these individuals exert on their peers.

**Purpose Of The Study**

The central purpose of this study was to gain some insight and understanding of the opinion leadership phenomenon as an element of a change strategy for agricultural education.

**Specific Objectives**

The following specific objectives were identified in order to facilitate the development of this study:

1. To develop a means of identifying opinion leaders among teachers of vocational agriculture.

2. To determine selected personal and social characteristics of opinion leaders among teachers of vocational agriculture.
Theoretical Bases For The Study

The following statements were set forth as being essential to the development of a theoretical base for the study undertaken and were the bases from which the working hypotheses were determined.

1. Innovations spread from sources of new ideas via relevant channels to opinion leaders and from them by way of personal communication channels to their followers.

2. Essential to the idea of a two-step flow of information is a distinction between opinion leaders and their followers.

3. All individuals do not exert an equal amount of influence on the adoption decisions of others.

4. Individuals often rely heavily upon personal influence of others when involved in decision-making situations.

5. Sources of personal influence vary according to the problem with which the individual is faced during the decision-making process.

6. A high degree of personal influence is concentrated in the hands of a relatively small portion of the total population of individuals.

7. The personal and social characteristics of the opinion leader are significantly different from those who do not exert a high degree of personal influence.

8. Opinion leaders can be identified by the persons upon whom they exert influence.
Hypotheses

From the theoretical bases established above, the null hypotheses to be tested were determined. The null and alternative hypotheses are listed below.

Hypothesis 1.

\( H_0: \) There is no significant correlation between the sociometric and self-designating techniques of identifying opinion leaders.

\( H_1: \) There is a significant positive correlation between the sociometric, and self-designating techniques of identifying opinion leaders.

Hypothesis 2.

\( H_0: \) There is no significant correlation between the sociometric and key informant techniques of identifying opinion leaders.

\( H_1: \) There is a significant positive correlation between the sociometric and key informant techniques of identifying opinion leaders.

Hypothesis 3.

\( H_0: \) There is no significant difference in the mean age of teachers of vocational agriculture who are opinion leaders and the mean age of teachers of vocational agriculture who are not opinion leaders.

\( H_1: \) Teachers of vocational agriculture who are opinion leaders are significantly older than teachers of vocational agriculture who are not opinion leaders.
Hypothesis 4.

$H_0$: There is no significant difference in the mean number of years of service in vocational agriculture of teachers of vocational agriculture who are opinion leaders and teachers of vocational agriculture who are not opinion leaders.

$H_1$: Teachers of vocational agriculture who are opinion leaders have significantly more years of service in vocational agriculture than do teachers of vocational agriculture who are not opinion leaders.

Hypothesis 5.

$H_0$: There is no significant difference in the number of different vocational agriculture teaching positions held by teachers of vocational agriculture who are opinion leaders and teachers of vocational agriculture who are not opinion leaders.

$H_1$: Teachers of vocational agriculture who are opinion leaders have held significantly more vocational agriculture teaching positions than teachers of vocational agriculture who are not opinion leaders.

Hypothesis 6.

$H_0$: There is no significant difference in the educational achievement level of teachers of vocational agriculture who are opinion leaders and the educational achievement of teachers of vocational agriculture who are not opinion leaders.

$H_1$: Teachers of vocational agriculture who are opinion leaders have attained a significantly higher educational level than teachers of vocational agriculture who are not opinion leaders.
Hypothesis 7.

$H_0$: There is no significant difference in the personal investments in professional improvement by teachers of vocational agriculture who are opinion leaders and the personal investments in professional improvement by teachers of vocational agriculture who are not opinion leaders.

$H_1$: Teachers of vocational agriculture who are opinion leaders have significantly larger personal investments in professional improvement than teachers of vocational agriculture who are not opinion leaders.

Hypothesis 8.

$H_0$: There is no significant difference in the salary of teachers of vocational agriculture who are opinion leaders and the income from teaching of teachers of vocational agriculture who are not opinion leaders.

$H_1$: Teachers of vocational agriculture who are opinion leaders have a significantly higher income from teaching than do teachers of vocational agriculture who are not opinion leaders.

Hypothesis 9.

$H_0$: There is no significant difference in the number of offices in educational organizations held by teachers of vocational agriculture who are opinion leaders and the number of offices in educational organizations held by teachers of vocational agriculture who are not opinion leaders.
Hypothesis 10.

$H_0$: There is no significant difference in the cosmopoliteness of teachers of vocational agriculture who are opinion leaders and the cosmopoliteness of teachers of vocational agriculture who are not opinion leaders.

$H_1$: Teachers of vocational agriculture who are opinion leaders are significantly more cosmopolite than teachers of vocational agriculture who are not opinion leaders.

Hypothesis 11.

$H_0$: There is no significant difference in the sources of information used by teachers of vocational agriculture who are opinion leaders and the sources of information used by teachers of vocational agriculture who are not opinion leaders.

$H_1$: Teachers of vocational agriculture who are opinion leaders use significantly more impersonal, non-local sources of information from outside the field of agricultural education which are more costly in time and money than do teachers of vocational agriculture who are not opinion leaders.

Hypothesis 12.

$H_0$: There is no significant difference in the number of professional education and technical agriculture publications read
by teachers of vocational agriculture who are opinion leaders and
the number of professional education and technical agriculture
publications read by teachers of vocational agriculture who are
not opinion leaders.

H₃: Teachers of vocational agriculture who are opinion lead­
ers read a significantly greater number of professional education
and technical agriculture publications than do teachers of voca­
tional agriculture who are not opinion leaders.

Hypothesis 13.

H₀: There is no significant difference in the social parti­
cipation of teachers of vocational agriculture who are opinion
leaders and the social participation of teachers of vocational
agriculture who are not opinion leaders.

H₁: Teachers of vocational agriculture who are opinion lead­
ers have a significantly greater degree of social participation
than teachers of vocational agriculture who are not opinion lead­
ers.

Hypothesis 14.

H₀: There is no significant difference in the job satisfac­
tion of teachers of vocational agriculture who are opinion lead­
ers and the job satisfaction of teachers of vocational agricul­
ture who are not opinion leaders.

H₁: Teachers of vocational agriculture who are opinion lead­
ers are significantly more satisfied with their jobs than are
teachers of vocational agriculture who are not opinion leaders.
Hypothesis 15.

\[ H_0: \text{There is no significant difference in the innovativeness of teachers of vocational agriculture who are opinion leaders and the innovativeness of teachers of vocational agriculture who are not opinion leaders.} \]

\[ H_1: \text{Teachers of vocational agriculture who are opinion leaders are significantly more innovative than teachers of vocational agriculture who are not opinion leaders.} \]

Hypothesis 16.

\[ H_0: \text{There is no significant difference in conformity to social system norms on innovativeness by teachers of vocational agriculture who are opinion leaders and the conformity to social system norms on innovativeness of teachers of vocational agriculture who are not opinion leaders.} \]

\[ H_1: \text{Teachers of vocational agriculture who are opinion leaders conform significantly more closely to social system norms on innovativeness than do teachers of vocational agriculture who are not opinion leaders.} \]

Basic Assumptions

The fundamental assumptions accepted by the investigator at the outset of this study were as follows:

1. Teachers of vocational agriculture were capable of identifying other teachers from whom they would seek advice and information.
2. Those teachers of vocational agriculture designated by other teachers as the source of their advice and information were teachers validly identified.

3. In determining innovativeness, it was assumed that innovations in agriculture education existed which were generally applicable to teachers of vocational agriculture and that the normal curve adopter categorization established by the various research traditions were applicable to teachers of vocational agriculture.

**Delimitations Of The Study**

This study was limited to the 272 teachers of vocational agriculture in the state of South Carolina who were teaching in the Spring of 1968.

In determining the relative innovativeness of individual teachers it was decided to restrict this study to the professional aspects involving educational innovations useful in improving the instructional program of the individual teacher's program. This decision was made because of the variation in agriculture from one area of the state to another which would have caused great difficulty in selecting technical agriculture innovations which would have had general applicability to teachers of vocational agriculture in the state.

This study was not intended to be and no attempt was made to evaluate the present program of vocational agriculture being conducted in the state, nor was it intended to be an evaluation of the teacher education and supervisory programs being conducted.
The study was concerned only with the individual teacher of agriculture and did not entail any study of the school and community in which the teacher was employed. In addition, no attempt was made to study the cause-effect relationships of the opinion leadership phenomenon.

Limitations Of The Study

The writer was aware of the following limitations in conducting this study:

1. The identification of teachers of vocational agriculture as being opinion leaders would be subject to some error because of the subjective judgements rendered by the respondents in identifying the teacher from whom they sought advice and information before making major changes in their program of vocational agriculture.

2. The identification of teachers of vocational agriculture as opinion leaders by their peers would also be subject to some error because the method of identification assumed that teachers were considering a major change in their programs of vocational agriculture. The possibility exists that they would seek advice and information from teachers of vocational agriculture other than the one named in response to this particular question.

3. As a result of forcing teachers to name only one teacher of vocational agriculture in each area, some danger existed that they might be influenced in their responses by the most recent teacher with whom they came in contact.
4. The determination of the innovativeness of individual teachers would be influenced by the appropriateness of the innovations selected for use in the adoption scale.

5. A limitation encountered in all innovativeness studies is the unknown and varying ability of respondents to recall the exact date on which they first incorporated an innovation into their program.

6. Teachers were requested to respond with estimates to such questions as the amount of personal money invested in professional improvement, the number of departments of instruction visited, etc., if they could not recall exact figures. It was decided, however, that the teachers were the only realistic source of data for items of a personal nature.

Definition Of Terms

The terms listed below have been defined in order to provide a common basis for understanding the conduct of this study:

Adoption - a decision to continue full use of an innovation.23

Adoption process - the mental process through which an individual passes from first hearing about an innovation to final adoption. Five stages in the adoption process are: awareness, interest, evaluation, trial and adoption.24

Change agent - a professional person who attempts to influence adoption decisions in a direction that he feels is desirable.25

23 Rogers, Diffusion of Innovations, p. 17.
24 Ibid.
25 Ibid.
Cosmopoliteness -- The degree to which an individual's orientation is external to a particular social system.\textsuperscript{26}

Diffusion process -- the spread of a new idea from its source of invention or creation to its ultimate users or adopters.\textsuperscript{27}

Innovation -- an idea perceived as new by the individual.\textsuperscript{28}

Innovativeness -- the degree to which an individual is relatively earlier in adopting new ideas than the other members of his social system.\textsuperscript{29}

Norm -- the most frequently occurring pattern of overt behavior for the members of a particular system.\textsuperscript{30}

Opinion leaders -- those individuals from whom others seek advice and information.\textsuperscript{31} In this study only those individuals named as a source of advice and information in a specific area of the vocational agriculture program by four or more of their peers were considered to be opinion leaders.

Personal influence -- communication involving a direct face-to-face exchange between the communicator and receiver, which results in changed behavior or attitudes on the part of the receiver.\textsuperscript{32}

Social participation -- the degree of an individual's participation in community groups and institutions.\textsuperscript{33}

\textsuperscript{26}Ibid.
\textsuperscript{27}Ibid.
\textsuperscript{28}Ibid., p. 19.
\textsuperscript{29}Ibid.
\textsuperscript{30}Ibid., p. 16.
\textsuperscript{31}Ibid., p. 208.
\textsuperscript{32}Ibid., p. 217.
Social system - a population of individuals who are functionally differentiated and engaged in collective problem solving behavior.34

Sociometric measure - a means of assessing the attraction, or attractions and repulsions, within a given group. It usually involves each member of the group privately specifying a number of other persons in the group with whom he would like to engage in some particular activity, and, further, a number of persons with whom he would not like to participate in the activity.35

Development Of The Study

The study was developed to gain some insight and understanding of the opinion leadership phenomenon as it applies to teachers of vocational agriculture and as an element of a change strategy for agricultural education. Developing a means of identifying opinion leaders and determining selected personal and social characteristics of opinion leaders were the primary objectives of the study.

The investigator became interested in the general area of diffusion of innovations while conducting a follow-up study of the use of agricultural education curricular materials developed at The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio. This interest spurred exten-

sive reading and investigation in the area. In addition, the investigator completed studies in a graduate course, Diffusion of Information on Agricultural Technology, offered by The Department of Rural Sociology at The Ohio State University.

In further efforts to define and identify the general problem area, conferences were held with John B. Mitchell, Professor of Rural Sociology at The Ohio State University and with Clarence E. Bundy, Professor of Agricultural Education, Iowa State University. The research problem was further refined and delimited on the basis of points brought out in these conferences and after additional review of the literature and earlier research studies.

A preliminary outline of the study and the procedures to be used in the investigation were presented and critiqued in a course in research methodology in agricultural education and another in research design in education in which the writer was enrolled. A working outline of the study and procedures was developed and reviewed by Daryl Hobbs, Professor of Rural Sociology, The University of Missouri.

After considering such factors as the methods of identifying opinion leaders, the geographical distribution of the study population, the cost and time involved, and the type of data needed, the writer concluded that a descriptive survey utilizing group interview techniques offered the best procedure for this study.

The design of the study is presented in Chapter II.
CHAPTER II
REVIEW OF RELATED RESEARCH AND LITERATURE

Review Of Research And Literature Related To The Identification Of Opinion Leaders

The identification of opinion leaders was a critical factor in the conduct of the study. Consequently, much study and review of literature was devoted to this factor. The research and literature related to the identification of opinion leaders indicated that there are three primary techniques of measuring opinion leadership. They are the sociometric, key informant and self-designating techniques.36

The sociometric technique consists of asking group members to whom they go for advice and information about an idea. The disadvantage of this method is that a great number of respondents must be interrogated to locate a small number of opinion leaders. Rogers indicates that this method is probably more applicable to a research design where all members of a social system are interviewed, rather than where a relatively small sample within a larger universe is contacted. Rogers further states that the sociometric method has been utilized more often in past research than any other method.37

36 Rogers, Diffusion of Innovations, p. 228.
37 Ibid.
Lindzey and Borgatta define sociometric measure as a means of assessing the attractions or attractions and repulsions, within a given group. It usually involves each member of the group privately specifying a number of other persons in the group with whom he would like to engage in some particular activity and, further, a number of persons with whom he would not like to participate in the activity.\(^{38}\)

Lindzey and Borgatta also list the following generalizations concerning the reliability of sociometric measures:

1. Most investigators report a relatively high degree of consistency in the sociometric pattern or sociogram over time, even though individual choices and rejections may fluctuate considerably;

2. With somewhat better quantitative evidence, one might apply the same generalization to indices or scores derived from sociometric data.

3. The reliability of the instrument seems somewhat greater when it is used with adults than when it is used with children;

4. There is some evidence that the least important or salient choices show the largest amount of change or unreliability.

5. The stability of sociometric choices appear to increase with the passage of time during which the group has been in existence.\(^{39}\)

Lionberger in discussing the major achievements of research studies in the adoption of new ideas and practices, notes that by application of pseudo-sociometric techniques to the study of


\(^{39}\) Ibid., p. 422.
interpersonal relations, it has been possible to determine how social groups and status factors structure interpersonal patterns of communication and influence, to locate people who are sufficiently distinctive in the performance of functions involved in the diffusion of farm practices to be treated as special functionaires, and to determine their distinctive characteristics. Those distinguished include persons who are instrumental in introducing new ideas and practices locally, those especially involved in the communication of information, and those distinctively influential in final decisions to adopt new ideas and practices.  

Studies utilizing the sociometric method have been conducted by Lionberger, Wilkening, Marsh and Coleman, Coleman, Katz

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The key informant technique of identifying opinion leaders consists of asking persons likely to know who the opinion leaders are to designate the opinion leaders. The key informant technique is usually cost-saving and time-saving when compared to the sociometric technique. However, Rogers indicates that the key informant technique suffers from lack of applicability to sample designs where only a portion of the audience is interviewed.

Chaparro utilized the key informant method in a Costa Rica study in 1955.

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45 Everett M. Rogers and Rabel J. Burdge, Community Norms, Opinion Leadership and Innovativeness Among Truck Growers, Research Bulletin 912 (Wooster, Ohio: Ohio Agricultural Experiment Station, 1962).
49 Rogers, Diffusion of Innovations, p. 229.
The self-designating technique consists of asking a respondent a series of questions to determine the degree to which he perceives himself to be an opinion leader. This method is dependent upon the accuracy with which respondents can identify and report their self-images. The advantage of the self-designating technique is that it measures the individual's perception of his opinion leadership, which is what actually affects his behavior.51

Rogers and Cartano in discussing the self-designating technique indicates that a serious weakness in previous uses of this technique has been the small number of items included in the opinion leadership scale.52 Previous uses of this technique included only two questions. However, a modification of the two items plus an additional four questions resulted in an opinion leadership scale which yielded a split-half reliability of .703.53 Rogers and Cartano reported that the available evidence indicates the six-item self-designating opinion leadership scale is reliable, valid and unidimensional.54

51 Rogers, Diffusion of Innovations, p. 229.
53 Rogers, Diffusion of Innovations, p. 231.
The following table, adapted from the findings of a study conducted by Rogers and van Es, illustrates the correlations found between the sociometric, self-designating, and key informant techniques of identifying opinion leaders.

### TABLE 1

**Pearsonian Correlations of Sociometric Choices With Other Measures of Opinion Leadership in Three Communities**

<table>
<thead>
<tr>
<th>Measures of Opinion Leadership</th>
<th>Community 1</th>
<th>Community 2</th>
<th>Community 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Designating</td>
<td>+.28</td>
<td>+.15</td>
<td>+.32</td>
</tr>
<tr>
<td>Key Informant</td>
<td>+.44</td>
<td>+.45</td>
<td>+.39</td>
</tr>
</tbody>
</table>

*Adapted from E. M. Rogers and Johannes C. van Es, *Opinion Leadership in Traditional and Modern Colombian Peasant Communities*, East Lansing, Michigan: Department of Communication, Michigan State University, 1964, p. 16.*

**Review Of Research And Literature Related To The Opinion Leader Phenomenon**

Sociologists once viewed American as a "mass society" in which the mass media communicated in a one-way fashion with individuals who communicated little with each other. The mass media were seen as an all-powerful influence on behavior.

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56 Rogers, *Diffusion of Innovations*, p. 211.
This view continued to be prevalent until a study of the 1940 Presidential election by Lazarfield, Berelson and Gaudet led to the suggestion that the flow of mass communications may be less direct than was commonly supposed. The authors hypothesized that influences stemming from the mass media first reach "opinion leaders" who, in turn, pass on what they read and hear to those of their every-day associates for whom they are influential. This hypothesis has become known as the "two-step flow of communication hypothesis."

The evidence in the 1940 voting study which led to the original formulation of the "two-step hypothesis" involved three distinct sets of findings. The first finding was related to the impact of personal influence. The authors reported that people who made up their minds late in the campaign, and those who changed their minds late in the campaign, were more likely than others to mention personal influence as having figured in their decisions. In addition, on an average day, a greater number of people reported participating in a discussion of the election than reported hearing a campaign speech or reading a newspaper editorial related to the election campaign. From these data the investigators concluded that personal contacts appear to have been more frequent and more effective than the mass media in influencing voting decisions.


58 Ibid., pp. 135-152.
The second finding that aided in the formulation of the hypothesis concerned the flow of personal influence. As interpersonal influence was evidently important in decision-making, the investigators attempted to ascertain whether certain individuals were more important than others in the transmission of influence. Individuals were asked whether they had recently tried to convince others of their political convictions and whether they had recently been asked for their advice on a political question. When the identified "opinion leaders" were compared with others, they were found to be more interested in the election. Opinion leaders were found to be evenly distributed throughout every class and occupation. The investigators concluded that opinion leaders did exist and that they were very much like the people they influenced.  

The third major finding of the research concerned opinion leaders and their relationship to the mass media. Opinion leaders, when compared to the remainder of the population, were found to be more exposed to the radio, newspapers, and magazines . . . the formal media of communications.

Lazarsfield, Berelson, and Gaudet summed up the findings of the study into the "two-step flow of information hypothesis." In essence: If word-of-mouth is so important, and if word-of-mouth specialists are widely dispersed, and if these specialists are more exposed to the media than the people they influence,

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59 Ibid., pp. 50-51.  
60 Ibid.
then, perhaps, ideas often flow from radio and print to opinion leaders and from these to the less active members of the population.\textsuperscript{61}

Rogers implied that a reformulation of the "two-step hypothesis" suggests that innovations spread from sources of new ideas via relevant channels to opinion leaders and from them by way of personal communications channels to their followers. Rogers also stated that it is likely that the first "step," from sources of new information to opinion leaders, is mainly a transfer of information, while the second "step," from opinion leaders to their followers, may also involve the spread of influence.\textsuperscript{62}

Berelson, Lazarsfield and McPhee reported a study of the 1948 Presidential election which initiated the use of the self-designating technique of identifying opinion leaders. The interesting contribution of this research was that those people singled out as opinion leaders sought advice on politics more than others, indicating that there must be unending circuits of leadership relationships running throughout a community, like a nerve system through the body.\textsuperscript{63}

The researchers attempted to determine the qualities which distinguished these informal leaders. Among these characteristics were:

1. Opinion leaders held a particular interest and competence in the sphere of discussion for which they led;

\textsuperscript{61} Ibid., p. 151.
\textsuperscript{62} Rogers, Diffusion of Innovations, p. 213.
2. Opinion leaders had greater interaction through more strategic social locations;

3. Opinion leaders symbolized the given group's norms in a particular sphere.\textsuperscript{64}

The investigators also reported that the opinion leaders within each socioeconomic status level were somewhat more likely to come from the better-educated members of the group, but not to the point of putting the opinion leader out of touch with the group. This study pointed out that white-collar people look more to professional and managerial people as their opinion leaders and that semi- and unskilled workers look to the skilled worker. This indicated that opinion leaders are distinctive without being too distinctive.\textsuperscript{65}

The two studies previously cited studied the flow of personal influence and opinion leadership from the standpoint of an individual's designation of himself or lack of designation of himself as an opinion leader. The data consisted, in other words, of two statistical groupings: people who said they were advice-givers and those who did not. On the basis of such data, it could not be concluded that opinion leaders actually influenced those people who were not opinion leaders. Thus, the "two-step flow hypothesis" had not been fully documented at this point in time. Only by investigating the interaction between advisers and advisees could

\textsuperscript{64} Ibid., pp. 110-113.
\textsuperscript{65} Ibid., p. 112.
the "two-step flow hypothesis" be accepted.66

The "Rovere" study conducted by Merton undertook the task of studying the relationship between the adviser and advisee, utilizing the sociometric technique for identifying persons to whom others turned for advice and information. Once the opinion leaders were identified a number were sought out and interviewed,67 with almost exclusive attention given to classifying them into categories, studying their communication behavior and the interaction among the leaders themselves, but little attention was given to the interaction between the leaders and the original informants who designated them.68

However, the Merton study contributed further to the growing body of knowledge concerning opinion leaders. The investigator classified opinion leaders into four categories: local influential, cosmopolitan influential, monomorphic influential, and polymorphic influentials. The local influential was defined as largely confining his interests to the community; he was preoccupied with local problems, to the virtual exclusion of the national and international scene. The cosmopolitan influential was defined as an opinion leader who was oriented to the world outside "Rovere" and regarded himself as an integral part of that world.69

69 Merton, "Patterns of Influence," p. 393.
Merton described the monomorphic influential as exerting influence only in a narrowly defined area while the polymorphic influential exerted influence in a variety of spheres. However, Merton made the following generalizations concerning opinion leaders:

1. People in each influence stratum are more likely to be influenced by their peers in this structure than are people in another strata;

2. Despite the great concentration of interpersonal influence among a relatively few individuals, the bulk of such influence is widely dispersed among the large number of people in the lower reaches of a structure;

3. People in each influence stratum are more likely to regard as influential people who are in the stratum immediately above their own than are informants in another strata, either above or below.70

The "Decatur" study conducted by Katz and Lazarsfield attempted to go a step further than the "Rovere" study and investigate the adviser-advisee dyad. Thus, the study focused not only on opinion leaders but on the relative importance of personal influence and on the person who named the opinion leader as well as the leader. The respondents in the study were questioned not only about themselves and their own behavior but about other people as well... people who influenced them and people for whom they were influential. The purpose of the study was to confirm the personal influence exerted by those people named as opinion leaders. In two-thirds of the cases, those interviewed

70 Ibid., p. 414.
acknowledged contact between influentials and the influencees. In 77 percent of the confirmed cases, the roles played by the designatees were acknowledged by them to be the same as was alleged by the respondents who designated them. The results of the study also indicated that people are most likely to choose their experts mainly from within their own social group and their general influentials from persons from a higher social strata.71

Coleman, Katz and Menzel conducted a study of the adviser-advisee dyad in addition to the diffusion of a specific item, over time, through the social structure of an entire community. The respondents in the study, physicians in four cities in the middle west, were questioned on attitudes, background, drug-use, exposure to various sources of information and influence, and the like. In addition, each doctor was asked to name the three colleagues he saw most frequently socially, the three colleagues to whom he looked for advice and information, and the three colleagues he talked with most frequently about cases. Interestingly, the sources from which doctors first received information about a new drug were predominately drug company representatives and drug house mail. Colleagues and professional journal articles were relatively unimportant first sources of information about new drugs. However, the final source of information just prior to the use of the new drug was a colleague in 28 percent of the cases. Personal influence, then, became increasingly important the nearer the time of decision-making on the part

An Australian study of opinion leadership among farmers was conducted by Emery and Oeser to determine the conditions which determine effective communications between scientists and the farmer, and to determine the conditions which determine whether or not a new practice was adopted. The major contribution of this study was the finding that the channels of communication created by contacts between local farmers are possibly of no less importance for the communication of new ideas than those which connect individual farmers to sources outside their area, like printed matter and radio.

These researchers further concluded that:

1. There is a hierarchial structure of farmers to whom others turn for advice and help. This structure is not a "social" hierarchy in the usual sense. It is based on leadership in skill and competence only;

2. The men who are most frequently consulted, whose opinions on farming matters carry the greatest weight, are innovators in their own right;

3. They are men who are capable of conceptualizing the interrelatedness of complex operations on a farm, that is, their practical or operational intelligence is high — they are planners and strategists;

4. They maintain close contact with the District Agricultural Officer.

72 Coleman, Katz and Menzel, Medical Innovation, p. 54.
74 Ibid., pp. 51-52.
Wilkening conducted a study of the communication of farm
information, decision-making, and the adoption of improved
practices among a sample of 100 dairy farmers in Northern Vic­
toria, Australia. Many of the farmers sought information for
different types of farm matters from different farmers, inferring
that information seeking was selective. Some farmers were sought
for several types of information and others were sought for in­
formation of a specific type. Wilkening also reported that there
was a tendency to seek information from farmers who were rated
more proficient by agricultural officials.

The major conclusions of the study were:

1. Information seeking is widely dispersed in that many
farmers of the area were named as persons to whom
the sample farmers went for information;

2. Farmers seek information from different farmers for
different types of farm problems or practices;

3. Farmers tend to seek information from others who are
more proficient than they are in the different aspects
of farming;

4. Most farmers from whom information is sought live
within a radius of two miles from the seeker;

5. Some persons sought for information are influential
in a specific type of problem only, whereas others
are influential in several;

6. Information seeking tends to be reciprocal in that
persons influential in one aspect of farming seek
information from persons influential in another
aspect.75

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75 Eugene A. Wilkening, et al., "Communication and Accept­
ance of Recommended Farm Practices Among Farmers of Northern
The preceding research and related literature established that personal influence plays an important role in the diffusion of information and infers rather conclusively that a "two-step flow" of information is a reality. A concommitant inference is that opinion leaders exist and perform a specialized function in the diffusion of information from its source to the remainder of the population.

Past research and literature also provided additional insight into the personal and social characteristics of these key individuals. Stewart reported the results of a study of influentials in an area of New York City. His study indicated that the important opinion leaders of "Southtown" were characterized by high socio-economic status, a sense of belonging to the community, and a favoring personality, of which an inclination toward service to the community was an important component.76

Wilkening investigated the relative innovativeness of informal farm leaders to determine whether they would be among the first to adopt improved practices in the community. The researcher found that the informal leaders had not adopted a much higher number of approved practices than other farmers. Wilkening concluded that those persons whose advice is sought on farm matters were not far ahead of the average farmer in the community in the adoption of improved farm practices.77

Lionberger conducted an intensive field investigation to determine whether farm operators who were sought as sources of farm information in a northeast Missouri community possessed characteristics which distinguished them from other farm operators in the community. Analysis of the data revealed that those most frequently sought as sources of advice and information did possess such characteristics and that many of these characteristics were functionally related to the diffusion and use of farm information. These distinctive characteristics were:

1. They operated larger farms and had higher incomes than their associates;

2. They were accorded higher prestige ratings than farmers who were not sought as personal sources of farm information;

3. They were more active in all types of formal social organizations and were more likely to be members of groups dedicated to civic and educational improvement than people less in demand as sources of farm information;

4. They were much more broadly oriented, socially, than other farmers.

5. They were characterized by a higher order of technological competence as farmers, thereby rendering them eminently qualified to act as farm advisers.78

Blau noted, in a study of a department in a federal agency, that when an agent had trouble solving a problem, he was more selective in his source of advice and information than when he needed information of a time-saving nature. When the members of the department were asked with whom they conferred when they encountered difficulty, those members whom the department super-

visor considered highly competent were most often named. Blau concluded that competence was clearly related to popularity as a consultant.\textsuperscript{79}

Berelson and Steiner wrote that, by and large, opinion leaders are like the rank and file of their associates but of slightly higher educational or social status. These writers also indicated that opinion leaders gave much greater attention to the mass media on the topic of their opinion leadership and were better informed, more partisan and more active than their associates.\textsuperscript{80}

Rogers made the following generalizations about the characteristics of opinion leaders:

1. Opinion leaders conform more closely to social system norms than the average member;
2. There is little overlapping among the different types of opinion leaders;
3. Opinion leaders use more impersonal, technically accurate, and cosmopolite sources of information than do their followers;
4. Opinion leaders are more cosmopolite than their followers;
5. Opinion leaders have more social participation than their followers;
6. Opinion leaders have higher social status than their followers;
7. Opinion leaders are more innovative than their followers.\textsuperscript{81}

\textsuperscript{81} Rogers, \textit{Diffusion of Innovations}, pp. 233-243.
Rogers and Burge conducted a study of opinion leadership among truck growers in Ohio and concluded that opinion leaders were:

1. Older than farmers who were not opinion leaders;
2. Slightly higher educated than farmers who were not opinion leaders;
3. Operators of larger farms than farmers who were not opinion leaders;
4. Employers of a larger average number of workers per farm than farmers who were not opinion leaders;
5. More apt to travel outside of the county to observe new truck-growing ideas than were farmers who were not opinion leaders;
6. in greater direct contact with the Ohio Agricultural Experiment Station than were farmers who were not opinion leaders;
7. Higher in social status than farmers who were not opinion leaders;
8. More innovative than farmers who were not opinion leaders;
9. Were less apt to deviate from social system norms than farmers who were not opinion leaders.  

Rogers and van Es reported on the social characteristics, communication behavior and cosmopoliteness of opinion leaders in modern and traditional communities in Colombia. Many characteristics were studied in this research effort and the following tables indicate the major differences in the characteristics of opinion leaders and followers.

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82 Rogers and Burdge, Truck Growers, p. 15.
83 Rogers and van Es, Opinion Leaders in Colombian Peasant Communities, pp. 26-35.
<table>
<thead>
<tr>
<th>Social Characteristics</th>
<th>Modern Communities</th>
<th>Traditional Communities</th>
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<tbody>
<tr>
<td></td>
<td>Average for Opinion Leaders</td>
<td>Average for Followers</td>
</tr>
<tr>
<td>Age</td>
<td>44.5</td>
<td>50.5</td>
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<tr>
<td>Education</td>
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<tr>
<td>Home Innovativeness (0-4)</td>
<td>5.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Social Status (0-4)</td>
<td>2.4</td>
<td>1.6</td>
</tr>
<tr>
<td>Membership in Formal Organizations</td>
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<td>2.5</td>
</tr>
<tr>
<td>Achievement Motivation (0-5)</td>
<td>1.4</td>
<td>1.8</td>
</tr>
</tbody>
</table>

*Adapted from E. M. Rogers and Johannes C. van Es, Opinion Leadership in Traditional and Colombian Peasant Communities, East Lansing, Michigan: Department of Communication, Michigan State University, 1964.*
<table>
<thead>
<tr>
<th>Communication Behavior</th>
<th>Modern Communities</th>
<th>Traditional Communities</th>
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<tr>
<td></td>
<td>Average for</td>
<td>Average for</td>
</tr>
<tr>
<td></td>
<td>Opinion Leaders</td>
<td>Followers</td>
</tr>
<tr>
<td></td>
<td>Opinion Leaders</td>
<td>Followers</td>
</tr>
<tr>
<td>Mass Media Exposure (0-9)</td>
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<td>4.3</td>
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<td>Number of Radio Shows Listened to per week</td>
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<tr>
<td>Number of Newspapers read</td>
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</tr>
<tr>
<td>Number of Magazines read</td>
<td>1.2</td>
<td>.7</td>
</tr>
<tr>
<td>Number of Movies watched per year</td>
<td>4.1</td>
<td>2.9</td>
</tr>
</tbody>
</table>

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TABLE 4
Cosmopoliteness of Opinion Leaders and Followers in Modern and Traditional Communities

<table>
<thead>
<tr>
<th>Indicators of Cosmopolite-ness</th>
<th>Modern Communities</th>
<th>Traditional Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average for Opinion Leaders</td>
<td>Average for Followers</td>
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<tr>
<td>Number of Trips to Urban Ctrs.</td>
<td>39.0</td>
<td>22.3</td>
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<tr>
<td>Empathy Scores (0-9)</td>
<td>6.7</td>
<td>4.3</td>
</tr>
<tr>
<td>Knowledgeability of Public Issues (0.9)</td>
<td>2.0</td>
<td>.8</td>
</tr>
</tbody>
</table>

Adapted from E. M. Rogers and Johannes C. van Es, Opinion Leadership in Traditional and Colombian Peasant Communities. East Lansing, Michigan: Department of Communication, Michigan State University.

In a study of teachers of vocational agriculture in Ohio, Christiansen hypothesized that the more innovative the experienced teacher is, with the exception of the innovator, the greater is the degree of opinion leadership which he is likely to hold. He reported that innovators exerted more opinion leadership than was hypothesized. They were elected to the largest number of offices in community, district or county, and state organizations. The less localité the organization, the greater the number of positions of leadership innovators held in these organizations.

SUMMARY

In summary, the following generalizations were drawn from the review of related research and literature pertaining to the identification of opinion leaders and their personal and social characteristics.

1. The sociometric technique has been used most often by researchers to identify opinion leaders. The key-informant technique correlates highest with the sociometric technique, followed by the self-designating technique of identifying opinion leaders.

2. Opinion leaders held a particular interest and competence in the sphere of discussion for which they led.

3. Opinion leaders had greater personal interaction through greater social participation.

4. Opinion leaders were more innovative than the individuals upon whom they exerted personal influence.

5. Opinion leaders were more cosmopolite than the individuals upon whom they exerted personal influence.

6. Opinion leaders conformed more closely to the social system norms than other individuals in the social system.

7. Opinion leaders used more impersonal, technically accurate, and cosmopolite sources of information than other individuals in the social system.

8. Opinion leaders were accorded higher social status than the individuals upon whom they exerted personal influence.

9. Opinion leaders were older than the individuals upon whom they exerted personal influence.

10. Opinion leaders had achieved a higher educational level than the individuals upon whom they exerted personal influence.

11. Opinion leaders had higher incomes than the individuals upon whom they exerted personal influence.
12. Opinion leaders may be monomorphic or polymorphic in their spheres of influence.

13. Opinion leaders held a disproportionate number of elected and appointed offices in formal organizations than did the individuals upon whom they exerted personal influence.

14. Opinion leaders were characterized by a sense of belonging to the community and were inclined toward service to the community.

15. Opinion leaders were exposed to the mass media to a greater extent than those persons upon whom they exerted personal influence.
CHAPTER III

DESIGN AND CONDUCT OF THE STUDY.

The design and conduct of the study was determined by the central purpose and nature of the specific objectives outlined in Chapter I. Therefore, it was necessary to accomplish the following before data pertaining to this study could be collected and analyzed:

1. Determine the sources of data to be used;
2. Construct an adoption scale to measure innovativeness among teachers of vocational agriculture;
3. Select educational innovations for the adoption scale;
4. Construct an instrument to collect from teachers of vocational agriculture the data needed to determine acceptance or rejection of the hypotheses;
5. Construct an instrument to be used by district supervisors in ranking teachers as to the degree of opinion leadership exhibited;
6. Develop a procedure for securing valid data from teachers of vocational agriculture;
7. Determine a means of statistical treatment which would be appropriate to the design of the study.

Data were obtained from teachers of vocational agriculture in South Carolina who were teaching when the data were collected. The method used for identifying opinion leaders was the sociometric technique. The results of previous research were used in constructing theoretical bases from which hypotheses were derived. Innovativeness among teachers was determined by means
of an adoption scale based on scores developed for each teacher. Twenty-seven educational innovations were identified for use in the adoption scale.

The instrument designed to gather field data was developed following a search of the literature, and conferences with personnel in rural sociology and agricultural education. An instrument utilizing the Q-sort technique was developed for use by district supervisors in ranking teachers on the basis of the degree of opinion leadership exhibited.

After pretesting the instrument, data were collected from teachers in the state using interview techniques at regularly scheduled district meetings. Statistical tests included Chi-square, testing of difference between two means involving the use of the standard score Z, and Spearman's rank correlation coefficients. The level of significance considered when accepting or rejecting hypotheses was the .05 level.

Sources Of Data

An attempt was made to obtain responses from all teachers in the state of South Carolina who were teaching at the time the data was gathered. Of the 279 teachers in the state, 272 cooperated in providing information for the study. Seven teachers did not attend the district meetings and failed to complete the instrument left with their respective district supervisors by the deadline necessary for the study. Consequently, this study was based on the responses of 97.49 percent of the teachers of
vocational agriculture in South Carolina. Data from questionnaire interviews were collected during March, 1968.

**Measuring Innovativeness Among Teachers**

In order to test hypotheses dealing with the innovativeness of opinion leaders, it was necessary to develop a means of accurately determining individual innovativeness. However, measuring innovativeness is especially difficult as innovativeness itself is continuous in nature as individuals adopt new ideas at different times. As Rogers' review of 600 studies of adoption showed that judges' ratings on the basis of innovativeness and the use of adoption scales based on the relative time of adoption of a specific innovation or innovations were the two methods of adopter classification used by previous researchers.

A third method, the use of self-perception values, had been used as one means of checking the validity of adoption scales pertaining to agricultural innovativeness. Where it had been used, the conclusion was drawn that a general tendency existed for self-perception to be an accurate measure of innovativeness. However, in at least one study with farmers, there was a tendency for a person to perceive himself as being a

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85 Rogers, Diffusion of Innovations, p. 159.
86 Ibid., p. 160.
88 Everett M. Rogers, Characteristics of Agricultural Innovators and Other Adopter Categories, Research Bulletin 882 (Wooster: Ohio Agricultural Experiment Station, The Ohio State University, 1961), p. 45.
"better farmer" than was indicated by more objective measures.\textsuperscript{89}

The investigator was of the opinion that district supervisors did not possess an adequate understanding of the concept of innovativeness and that since six district supervisors would have to rate teachers on innovativeness, it would be difficult to rank all teachers in the state from high to low on the degree of innovativeness exhibited. Therefore, the method used to determine the innovativeness of individual teachers was an adoption scale developed specifically for teachers of vocational agriculture in South Carolina.

Christiansen, in a study of innovativeness of teachers of vocational agriculture in Ohio, developed an adoption scale which incorporated the use of educational innovations pertaining to teachers of vocational agriculture in Ohio. In this scale, the innovativeness score for each teacher equalled the summation of a time lag penalty expressed in years for each practice not adopted which could have been adopted, divided by the sum of the number of practices adopted. The resulting figure, or base score, was multiplied by an equalization factor.\textsuperscript{90}

An equalization factor was necessary to prevent the teacher who began teaching most recently from receiving undue credit for practices which were already widely adopted at the time he began teaching. Also, it was not known which of the remaining practices would be adopted in the future and if, in the event they

\textsuperscript{89} C. V. Hess and J. F. Miller, \textit{Some Personal, Economic and Sociological Factors Influencing Dairymen's Actions and Success}, Agricultural Experiment Station Bulletin 577 (University Park, Pennsylvania: Pennsylvania State University, 1954).

\textsuperscript{90} Christiansen, "Adoption of Educational Innovations Among Teachers of Vocational Agriculture," p. 55.
were adopted, what time lag would occur between the date the practice could have been adopted and the date that it actually would have been adopted. It was possible to collect this information for teachers who had been teaching several years.\(^{91}\)

Christiansen expressed this equalization factor as a proportion based on the fact that four years was the shortest length of experience of any teacher in his sample, while 33 years was the longest length of experience of any teacher in his sample. Christiansen's equalization factor then became: \(33/\text{years of experience} = X/1.\)^{92}

This investigator, after extensive reading and study, concluded that the adoption scale developed by Christiansen would be suitable for use in a determination of individual innovativeness of teachers of vocational agriculture in South Carolina if the educational innovations utilized in construction of the scale were specifically selected for South Carolina conditions.

Therefore, the adoption scale used to determine individual innovativeness of teachers in South Carolina could be expressed mathematically with the following formula:

\[
\text{IS} = \frac{\text{tla} + \text{tlp} \times 41}{\text{Na}} \times \frac{41}{\text{Ye}}
\]

\(^{91}\text{Ibid.}\)
\(^{92}\text{Ibid.}\)
where:

- $t_{la}$: time lag expressed in years for all practices adopted by the individual teacher
- $t_{lp}$: time lag penalty in years for remaining practices not adopted which could have been adopted
- $N_a$: number of practices actually adopted
- $41$: maximum length of experience of any teacher investigated
- $Y_e$: years of experience possessed by the individual teacher.

On the basis of their scores on the adoption scale, opinion leaders and non-opinion leaders were divided into the innovator, early adopter, early majority, late majority and laggard categories described by Rogers. According to this classification, innovators are the first 2.5 percent of a social system to adopt an innovation; the next 13.5 percent to adopt are the early adopters; the next 34 percent to adopt are the early majority; the next 34 percent are the late majority; and the last 16 percent to adopt are laggards.\footnote{Rogers, \textit{Diffusion of Innovations}, pp. 161-163.}

**Selecting Educational Innovations**

One of the most time consuming and difficult aspects of determining individual innovativeness was the selection of educational innovations to be used in constructing the adoption scale.

To identify possible innovations for use in the adoption scale, a questionnaire was sent to members of the state supervisory staff and teacher educators in agricultural education in...
South Carolina requesting a list of innovations in agricultural education which had developed in the 1958-1967 period. The ten year limitation was imposed to focus attention on recent innovations. The questionnaire mailed to supervisors and teacher educators is included as item "A" of the Appendix.

In addition, twelve graduate students and teacher educators within the Department of Agricultural Education at The Ohio State University with teaching, supervisory, or teacher-education experience were asked to identify appropriate innovative practices in agricultural education.

From all of these sources, a total of thirty-five practices were identified. Further revision, with the goal of confining the list to innovations which could have been adopted by teachers of vocational agriculture in South Carolina, reduced the number to twenty-seven. Because it was not known, even after revision, whether all teachers could have adopted all of the twenty-seven innovations, provisions were made in the data gathering instrument for a column to be checked if the practice was "not applicable and not used." This provision allowed the investigator to identify items which did not apply so that these might be eliminated.

The twenty-seven innovations used in the adoption scale are as follows:

1. Adult programs are organized and offered in the off-farm agricultural occupations area;

2. Agricultural interest inventories are used in counseling of prospective agriculture students;
3. Teacher cooperates with state employment service in placing program graduates;

4. An agricultural occupations information library is maintained for in-school students;

5. A unit on agricultural occupations is taught to 9th grade vocational agriculture students;

6. Programed instructional materials, such as Basic Welding of Joints by Litton Industries, are used in classroom instruction;

7. High school students are used as teacher aides, shop assistants, or equipment maintenance helpers;

8. Resource personnel such as farm equipment dealers are used in providing occupational information for classes in off-farm agricultural occupations;

9. The "principles approach" is used in teaching biological, economic, or physical fundamentals;

10. Teaching objectives are deliberately and purposefully formulated in terms of desired student behavioral outcomes;

11. Teacher works in agricultural occupations business or industry for a short period during summer to gain experience needed to offer in-school off-farm agricultural occupations programs;

12. The game technique (example: The International Harvester Farm Management Game) is used in classroom instruction;

13. Cooperative work experience programs in the off-farm agricultural occupations area have been developed;

14. The overhead projector is used as teaching tool;

15. Advisory groups have been formed in the area of off-farm agricultural occupations;

16. Single-concept cartridge loop films are used as a teaching aid;

17. Organized team teaching with other vocational education teachers has been utilized;
18. Group or individualized instruction in vocational agriculture is offered for special needs students;

19. Awards programs for off-farm agricultural occupations students have been initiated;

20. Girls are enrolled in vocational agriculture;

21. A departmental brochure is produced to inform the public about expanded opportunities in vocational agriculture including off-farm agricultural occupations;

22. Courses are named by subject matter or occupation such as Plant Science, Animal Science, Horticulture, Sales and Service, and Farm Machinery, etc., rather than Agriculture I, II, III, IV;

23. Specialized courses are offered on a semester basis so students may tailor a program;

24. A master, cross-referenced, filing system is used for indexing teaching aids, student materials, tests and teacher lesson plans;

25. Color transparencies are used with overhead projector in classroom instruction;

26. Pre-test - Post-test is used to improve course of instruction in agricultural occupations;

27. Small plots are used to demonstrate improved crop practices.

Seven of these practices could have been adopted by any one of the teachers at any time after he began teaching. A date at which the remaining items became available to the profession was determined. These items and their dates of general availability are listed below.

1. Programed instructional materials . . . . 1954

which was subsequently reprinted in the Harvard Review and elsewhere.\textsuperscript{94} Subsequent articles in The Agricultural Education Magazine brought programmed instruction to the attention of teachers.\textsuperscript{95}

2. The game technique . . . . 1954

An article in The Agricultural Education Magazine by Ruddiman was one of the first exposures of the game technique to vocational agriculture.\textsuperscript{96} Since then many teaching "games" have appeared on the educational scene, some of which were adaptable to teaching vocational agriculture.

3. Agricultural Interest Inventories . . . . 1953

The earliest mention found of agricultural interest inventories appeared in The Agricultural Education Magazine in 1953.\textsuperscript{97} Since this time other inventories have been developed for use in counseling prospective vocational agriculture students.


4. Teaching Objectives . . . . 1956

Brunner, as early as 1956, wrote that teaching objectives in vocational agriculture should be formulated in terms of desired student behavioral outcomes. Additional emphasis has been accorded this subject in subsequent years.

6. Teacher experience . . . . 1958
7. Cooperative work experience . . . . 1958
8. Advisory groups . . . . 1958
9. Awards programs . . . . 1958
10. Departmental brochure . . . . 1958
11. Course names . . . . 1958

These items gained general acceptance about 1958 because of the concern for providing suitable occupational experience for students who were beginning to enroll in larger numbers even though they did not have much opportunity on home farms. Often they were town boys who wished instruction in agriculture in preparation for employment in off-farm agricultural occupations. A concern for these students was voiced by Thompson in The Agricultural Education Magazine.

12. Adult programs . . . . 1960

Concern for offering instruction in the off-farm agricultural occupations area for adults closely followed the emphasis on

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a similar type instructional program for in-school students.  

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13. Organized team teaching . . . 1961

T. W. Gandy editorializing in The Agricultural Education Magazine in September, 1961, indicated that even though teachers had used the team teaching approach previously, greater emphasis would be afforded to this teaching method in the future.  

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14. Teacher cooperates with state employment service . . . . . . . 1963

15. Girls enrolled in vocational agriculture . . . . 1963

16. The overhead projector . . . . 1963

17. Color transparencies . . . . 1963

18. Master filing system . . . . 1963

These four items gained prominence in 1963 for varying reasons. The passage of the 1963 Vocational Education Act provided the impetus for cooperation between vocational agriculture and the state employment service. The enrollment of girls was brought about by the increased number of programs being offered in the off-farm agricultural occupations area, encouraged by the 1963 Vocational Education Act. Also, in 1963, the use of the overhead projector and color transparencies gained prominence, along with the Ag-dex filing system.

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The single-concept cartridge loop film is a relatively new use of film for the classroom but is rapidly becoming an important tool of the vocational agriculture instructor. 103

20. Specialized courses . . . . 1965

With the increasing rise in the number of students enrolling in programs in the off-farm agricultural occupations area, efforts have increased to allow flexibility in program offerings so that students may design programs suited to their own unique needs. 104

Constructing The Instrument Used With Teachers

In constructing the questionnaire to obtain the data needed to achieve the objectives of the study, two factors were of primary importance. First, valid data pertaining to the objectives of the study were a necessity. Secondly, in a study of this nature, it was necessary to design the instrument to minimize the time needed to complete the questionnaire.

The questions which actually went into construction of the instrument were developed based on a search of the literature for items used in similar studies conducted in other fields, especially in sociology and rural sociology, and after conferences with personnel in rural sociology and agricultural education.


As previously related, the literature revealed the three methods of identifying opinion leaders - sociometric, self-designating and judges' rating. Parts I and II of Section D of the Questionnaire, listed as item "B" of the Appendix, were structured to incorporate the sociometric and self-designating techniques of identifying opinion leaders. In structuring the sociometric technique of identifying opinion leaders, it was assumed that the areas of the vocational agriculture program in which teachers were asked to designate the teachers in the state from whom they would seek advice and information, represented the logical areas of concern in a vocational agriculture program. Part III was designed to determine the source from which a teacher would most typically seek advice and information when confronted with a problem. This part was incorporated to determine whether other sources were of great importance and worthy of further investigation.

Section A of the instrument was designed to provide information concerning personal characteristics such as age, years of service, tenure, educational attainment, offices held and money spent on professional improvement. Section B of the instrument was designed to determine the degree of social participation of teachers. This section is the Chapin Social Participation Scale, a general scale of participation in voluntary organizations of all kinds - professional, civic, and social. It is a Guttman-type scale with reproducibility coefficients of .92 to .97 for
groups of leaders. Miller reports a reliability of .89 to .95 for the Chapin Social Participation Scale.105

Section C of the instrument was designed to obtain information needed to analyze opinion leaders' exposure to mass media sources and as a measure of cosmopolitanism. Cosmopolitanism was approached from the standpoints of meetings attended and other departments of agriculture and other instruction visited by teachers.

Section E was designed to determine the sources of information used by teachers. Sources of information were considered from the standpoints of sources within and outside the field of agricultural education, impersonal sources and personal sources, sources close at hand and relatively far afield, sources which required a cash outlay and free sources, and sources which required a great deal of personal time and sources which did not require a great deal of personal time.

Section F of the instrument was the adoption scale which has been discussed in depth previously. The use of this scale assumed that teachers could recall accurately the dates on which they first incorporated an item into their teaching program. The investigator realized that there had been reported a relatively low consistency with which respondents reported information on adoption time in reinterviews.106 Nevertheless, the best single measure of innovativeness at the present time seems to be one

which pertains to the relative time of adoption.

Section G of the instrument was an attempt to determine whether opinion leaders were better satisfied with their job of teaching vocational agriculture than were teachers who were not opinion leaders. Stewart inferred that opinion leaders were characterized by an inclination toward service to the community. This portion of the instrument, therefore, was an attempt to gain some additional insight in this particular characteristic. Section G is the Brayfield and Rothe Index of Job Satisfaction for which Miller reported a reliability coefficient of .87.

In an attempt to remove as much chance as possible of receiving biased answers to the questions posed in the instrument and to allow answers to be private, teachers were requested not to write their names on the instrument and were assured that any information provided would be considered private and would not be identified individually. At no point in the instrument did the words opinion leader, diffusion, innovation or like words appear.

In order to assure the clarity of the questions asked, each section was preceded by suitable instructions. In addition, at teachers' meetings, oral instructions were provided prior to the completion of each section. An opportunity to clarify any particular question was provided by a short question period prior to each section. A copy of the oral instructions is included as item "C" of the Appendix.

108 Miller, Research Design and Social Measurement, p. 189.
Constructing The Instrument Used With Supervisors

The method used to obtain the district supervisor's ranking of individuals on the basis of the opinion leadership exhibited utilized the Q-sort methodology. Since the smallest number of teachers ranked by any one supervisor was thirty-six, and the largest number was 56, it was believed not feasible to use a two-way, forced-choice comparison of pairs instrument. By using the Q-sort methodology, the supervisors were allowed to group teachers into five classifications ranging from "very high degree of opinion leadership" to "very low degree of opinion leadership." At this point the supervisor was faced with the task of ranking from seven to eleven teachers in each group rather than thirty-six to fifty-six teachers. To assist the supervisor, the names of teachers were placed on individual two by six index cards.

Rather than ask each supervisor to rank the teachers in his district in all eleven areas of the vocational agriculture program in which teachers were asked to make sociometric choices, an area was randomly selected for each supervisor. A copy of the instrument used with district supervisors is included as item "D" in the Appendix.

Procedures Used To Collect The Data

A preliminary draft of the instrument was tested with twelve former teachers of vocational agriculture engaged in graduate work at The Ohio State University. Apparent weaknesses were corrected and suggestions made by these individuals were incorporated in a revised instrument.
The revised instrument was reviewed by three rural sociologists, a sociologist, a psychologist, five agricultural educators and two state supervisors of agricultural education, and appropriate changes and suggestions were made.

Field data were then collected using the questionnaire as it appears in the Appendix by means of group interviews at regularly scheduled district meetings in each of the supervisory districts in South Carolina. While the collection of the data was a scheduled part of the agenda, it was emphasized to teachers that this was an independent research effort. Prior to the district meetings, scheduling times for administering the questionnaire were arranged with the head state supervisor and the district supervisors of agricultural education in South Carolina.

At the time the data were collected, the investigator spent five to seven minutes setting the stage. The nature of the study was explained and key points for consideration in completing the instrument were emphasized. The time required to administer the instrument ranged from forty-five to sixty-five minutes, including time for introducing the subject and giving instructions for completing the instrument.

Teachers not present at the district meeting were contacted at a later date by the supervisor, and asked to complete the instrument and mail it to the investigator. Only seven failed to respond after repeated contact. None of the teachers present at the conferences objected to providing the information requested.
During the time teachers were completing the questionnaires, supervisors were asked to complete their ranking of teachers on the degree of opinion leadership exhibited, using the written instructions accompanying the name cards. None of the supervisors needed assistance in accomplishing the task and usually completed the assignment in thirty minutes.

**Treatment Of Data Performed**

Information provided by the respondents' instruments was checked for validity. Data from the instruments were tabulated and analyzed. The tests made included Chi-square, testing of difference between two means involving the use of the standard score Z, and Spearman's rank correlation coefficients. The minimum level of significance considered when accepting or rejecting hypotheses was the .05 level. Sociograms were also constructed using the sociometric data collected.
CHAPTER IV

DISTRIBUTION OF OPINION LEADERSHIP

Findings Related To Distribution Of Opinion Leadership

Three different measures of opinion leadership were utilized in the study: (1) sociometric choices; (2) a self-designating opinion leadership scale, and (3) key informant ratings. In the analysis of opinion leadership, the data obtained by the sociometric technique were used as the primary measure of opinion leadership. The other two methods were used to determine whether either would be a reliable alternative method of identifying opinion leaders.

Sociometric Technique

All respondents were asked to name the vocational agriculture teacher in the state from whom they seek advice and information before making a major change in their program. The areas of change were plant science, animal science, Future Farmers of America, supervised work experience, agricultural mechanics, farm management, specialized programs in ornamental horticulture, specialized programs in agricultural supply, young farmer programs, adult farmer programs and administering a vocational agriculture department. These were considered to be the major different aspects of a program of vocational agriculture. Each teacher's sociometric score was the number of times he was chosen
by other teachers of vocational agriculture relative to a given area. A total sociometric score was computed for each teacher by adding the total received for all questions. This score was regarded as the best single indicator of overall opinion leadership.

To be defined in this study as an opinion leader, under the sociometric technique, an individual teacher must have been named four or more times by his fellow teachers of vocational agriculture. In the Presidential election study, any advice-giver was considered an opinion leader if he influenced one other person. Wilkening defined as opinion leaders persons named as sources of farm information by two or more persons. Marsh and Coleman required two or more mentions as information sources for specific practices to qualify as a leader, while Rogers and Burdge defined opinion leaders as those individuals named by three or more others as a source of advice and information. Merton required four mentions and Lionberger

112 Rogers and Burdge, Truck Growers, p. 3.
required five mentions for an individual to be considered an opinion leader. 114

Since the investigator was interested in those individuals who influenced a relatively large number of others, four mentions was determined as the criterion for classification as opinion leaders.

Choice Patterns

The total number of persons mentioned in answer to each sociometric question was computed for each teacher in the state. Lines of leader-follower influence could be traced because both the sociometric "seeker" and "sought" were among the respondents. Figures 1-11 represent the choice patterns which resulted from each of the sociometric questions.

Leadership for Plant Science

In Figure 1 the choice patterns indicated that six opinion leaders were identified for the area of plant science. Interestingly, two of these chose another opinion leader as the source of advice and information. The six teachers influenced, directly or indirectly, sixty-three or thirty-four per cent of all teachers making a choice in this area. Lines of influence crossed supervisory district boundaries as teachers in one district named teachers in another district. Obviously, personal influence was widely distributed as a total of seventy-five teachers received mention as sources of advice and information.

FIGURE 1

SOURCES OF ADVICE AND INFORMATION IN PLANT SCIENCE BY PEER
CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:

= Direction of Choice
= Individual Teacher
= Opinion Leader
for the area of plant science.

Leadership for Animal Science

The choice patterns presented in Figure 2 represent the choices made by teachers for the area of animal science. It was evident that one teacher possessed a disproportionate degree of opinion leadership in this area. Teacher B, directly or indirectly, influenced forty-four other teachers or twenty-five percent of the teachers naming a choice for the area of animal science. Nevertheless, a total of ten opinion leaders were identified in the area. These ten individuals influenced, directly or indirectly, one hundred and twenty-two, or seventy percent, of the teachers expressing a choice. District lines again were no barrier to the flow of influence.

Leadership for FFA

The Future Farmer of America area presented a wide variation in choice patterns, as was observed by inspection of Figure 3. Sixteen opinion leaders were established by peer choice. In addition, the "chains" of influence were greatly extended compared to "chains" in other areas. Opinion leaders A, B, E, F, G, J, and K were included in a "chain" involving sixty-four teachers in four of the six supervisory districts. Opinion leaders C, D, and H were also included in an influence chain involving thirty teachers in three supervisory districts. Sixty-six individuals were named as sources of advice and information in the FFA area of the vocational agriculture program.
FIGURE 2

SOURCES OF ADVICE AND INFORMATION IN ANIMAL SCIENCE BY PEER
CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:

→ Direction of Choice
○ Individual Teacher
△ Opinion Leader
FIGURE 3
SOURCES OF ADVICE AND INFORMATION IN FFA BY PEER
CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:
- = Direction of Choice
O = Individual Teacher
- = Opinion Leader
Leadership for Work Experience

The supervised work experience area choice patterns are presented in Figure 4. Although eleven opinion leaders were identified, only one hundred and seventeen individual teachers made choices for this area. The eleven opinion leaders influenced, directly or indirectly, eighty-five or seventy-two percent of all teachers expressing a choice. No long "chains" of influence were evident in this area.

Leadership for Agricultural Mechanics

Choice patterns in the area of agricultural mechanics are represented by Figure 5. Thirteen opinion leaders were identified. These opinion leaders influenced directly or indirectly, seventy-five percent of all teachers expressing a choice in the area. Chains of influence became evident as opinion leaders A, B, C and E were involved in a chain composed of forty-nine teachers in two supervisory districts and G, I and L were linked in a network composed of fifty-four teachers. Opinion leaders D and F and J and K were linked into two smaller networks composed of thirty-three and eighteen teachers respectively. The number of isolated choices was limited and only thirteen teachers were not linked to larger groups.

Leadership for Farm Management

Farm management choice patterns are presented in Figure 6. Only five opinion leaders were identified. These opinion leaders
FIGURE 4

SOURCES OF ADVICE AND INFORMATION IN WORK EXPERIENCE BY PEER CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:

= Direction of Choice
= Individual Teacher
= Opinion Leader
FIGURE 5
SOURCES OF ADVICE AND INFORMATION IN FARM MECHANICS BY PEER
CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:
- Direction of Choice
- Individual Teacher
- Opinion Leader
influenced, directly or indirectly, twenty-eight percent of the teachers expressing a choice. Chains of influence were evident if somewhat limited. Opinion leaders A and B were linked into a network involving only sixteen teachers, while opinion leaders C and E were linked into a network involving only eleven teachers. The number of isolated choices was high.

**Leadership for Ornamental Horticulture**

Figure 7 represents the choice patterns of teachers for the area of specialized programs in ornamental horticulture. Chains of influence and several networks were evident for this area. Thirteen opinion leaders were identified and only one, M, was not linked into a network. Opinion leaders A, D, G, H, and J were linked into a network involving one hundred and four teachers. Opinion leaders E, F, I, K and L were involved in a network linking sixty teachers. All six of the supervisory districts were represented in these networks. The thirteen opinion leaders influenced ninety percent of the teachers expressing a choice. The number of isolated choices was limited.

**Leadership for Agricultural Supply**

Choice patterns for the area of specialized programs in agricultural supply are represented by Figure 8. Only three opinion leaders were identified for the area, of which only two were selected by a relatively large number of teachers. Opinion leader A was named by eleven teachers and opinion leader B by thirteen teachers. In addition, only ninety-one teachers expressed
FIGURE 6

SOURCES OF ADVICE AND INFORMATION IN FARM MANAGEMENT BY PEER CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:

- Direction of Choice
- Individual Teacher
- Opinion Leader

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FIGURE 7
SOURCES OF ADVICE AND INFORMATION IN ORNAMENTAL HORTICULTURE BY PEER
CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:
- Direction of Choice
- Individual Teacher
- Opinion Leader
a choice in the area. However, the three opinion leaders influenced thirty-one percent of the teachers expressing a choice for the area of specialized programs in agricultural supply. Interconnected chains and networks of influence were absent and the number of isolated choices was large.

Leadership for Young Farmer Programs

Young farmer program choice patterns are represented by Figure 9. Twelve opinion leaders were identified. These twelve opinion leaders influenced, directly or indirectly, seventy-one percent of all teachers expressing a choice. Chains of influence and networks became evident even though the chains were not extended in length. Opinion leaders B and D and C and E were involved in the two major networks of influence. Isolated choices were more evident.

Leadership for Adult Farmer Programs

Figure 10 presents the choice patterns of vocational agriculture teachers for the area of adult farmer programs. Seven opinion leaders were identified. The opinion leaders influenced fifty percent of the teachers expressing a choice. A single extended chain of influence involved opinion leaders C and F. Interestingly, opinion leader C chose an individual who in turn chose opinion leader F. Opinion leader F chose an individual who in turn chose opinion leader C. This interesting network involved twenty-four teachers and extended across supervisory district boundaries. Isolated choices were much more frequent for this area.
FIGURE 8

SOURCES OF ADVICE AND INFORMATION IN AGRICULTURAL SUPPLY BY PEER CHOICE
PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:

- Direction of Choice
- Individual Teacher
- Opinion Leader
FIGURE 9
SOURCES OF ADVICE AND INFORMATION IN YOUNG FARMERS BY PEER CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:
- Direction of Choice
- Individual Teacher
- Opinion Leader
FIGURE 10

SOURCES OF ADVICE AND INFORMATION IN ADULT FARMERS BY PEER CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

Legend:

- Direction of Choice
- Individual Teacher
- Opinion Leader
Leadership for Administration of Programs

Choice patterns of teachers for the area of administering a vocational agriculture department are presented in Figure 11. Nine opinion leaders were identified. These opinion leaders influenced sixty-two percent of the teachers expressing a choice for the area. Opinion leader B influenced thirty-two or twenty-one percent of the total number of teachers expressing a choice. Opinion leaders C and E were included in the only extended chain of influence. This extended network involved twenty-one teachers of vocational agriculture. The teachers involved in this network were in a single supervisory district. Isolated choices were more evident.

In summarizing Figures 1-11, it could be noted that the distribution of influence was widespread and varied largely in the number of times certain individuals were named by peer group members. The number of opinion leaders identified varied from one area of concern to another, ranging from a low of three for the area of specialized programs in agricultural supply to a high of sixteen for the Future Farmers of America area. Extended chains and networks of influence were very apparent in some areas and not evident in other areas. To some degree it was evident that opinion leaders chose other opinion leaders as their source of advice and information. Obviously, from the peer choice patterns presented, opinion leaders existed for all areas of the vocational agriculture program.
FIGURE 11

SOURCES OF ADVICE AND INFORMATION IN ADMINISTRATION OF A DEPARTMENT
BY PEER CHOICE PATTERNS OF VOCATIONAL AGRICULTURE TEACHERS IN SOUTH CAROLINA IN 1968

LEGEND:

- Direction of Choice
- Individual Teacher
- Opinion Leader
Scope of Influence

A high degree of interrelationship was observed among the responses to the several questions that made up the total sociometric score. Merton termed this type of opinion leadership as polymorphic, in that a single leader was sought for advice and information about a variety of topics.\footnote{Merton, "Patterns of Influence," p. 415.} Of the total of fifty-one opinion leaders identified by the sociometric technique, twenty-one or forty-one percent were polymorphic opinion leaders. The data in Table 5 present the distribution of monomorphic-polymorphic opinion leadership by specialized areas of vocational agriculture programs. The FFA area contained the largest number of opinion leaders with sixteen. Six of these opinion leaders were influential in only the area of FFA and are classified as monomorphic opinion leaders. Ten opinion leaders were polymorphic or influential in other areas in addition to FFA.

Interestingly, three areas did not have monomorphic opinion leaders. These areas were specialized programs in agricultural supply, adult farmers and administering a vocational agriculture department. The area of agricultural mechanics contained nine monomorphic opinion leaders.

The data in Table 6 reveals the relative influence of polymorphic opinion leaders. Opinion leaders A and B were designated by their peers as opinion leaders in nine of the eleven areas of the vocational agriculture program. Opinion leaders C, D, E and F were opinion leaders in five areas of the program. Opinion leader G was influential in four areas of the program and opinion
and opinion leaders H, I, J, K, and L were designated as opinion leaders by their peers in three areas of the program. The remaining polymorphic opinion leaders were influential in two areas.

**Opinion Leaders Influence Other Opinion Leaders**

The peer choice patterns presented in Figures 1-11 prompted the investigator to determine how often opinion leaders chose other opinion leaders as their source of advice and information. In order to determine whether there was a pattern of frequency, the choices of opinion leaders were tabulated. The data in Table 7 was the result. Of a total of three hundred and fifty-three choices made by opinion leaders, two hundred and fifty-four or seventy-two percent chose other opinion leaders as their source of advice and information. By categorizing the choices by area of the vocational agriculture program, it was possible to determine whether this observation held true for all areas of the program. Only in the farm management area was the difference at a minimum. When the data was placed into a contingency table and the chi-square statistic applied, this difference in choice was significant at the .05 level.
TABLE 5
Distribution of Monomorphic-Polymorphic Opinion Leadership by Area of the Vocational Agriculture Program

<table>
<thead>
<tr>
<th>Area of Program</th>
<th>Opinion Leaders Identified*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Plant Science</td>
<td>6</td>
</tr>
<tr>
<td>Animal Science</td>
<td>10</td>
</tr>
<tr>
<td>FFA</td>
<td>16</td>
</tr>
<tr>
<td>Supervised Work Experience</td>
<td>11</td>
</tr>
<tr>
<td>Agricultural Mechanics</td>
<td>13</td>
</tr>
<tr>
<td>Farm Management</td>
<td>5</td>
</tr>
<tr>
<td>Specialized Programs in Ornamental Horticulture</td>
<td>13</td>
</tr>
<tr>
<td>Specialized Programs in Agricultural Supply</td>
<td>3</td>
</tr>
<tr>
<td>Young Farmers</td>
<td>12</td>
</tr>
<tr>
<td>Adult Farmers</td>
<td>7</td>
</tr>
<tr>
<td>Administering a Vocational Agriculture Department</td>
<td>9</td>
</tr>
</tbody>
</table>

* A total of 51 opinion leaders were identified by the sociometric technique.
TABLE 6

Areas of the Vocational Agriculture Program in Which Polymorphic Opinion Leaders Were Influential

<table>
<thead>
<tr>
<th>Polymorphic Opinion Leader</th>
<th>Plant Science</th>
<th>Animal Science</th>
<th>FFA</th>
<th>Work Experience</th>
<th>Agricultural Mechanics</th>
<th>Farm Management</th>
<th>Ornamental Horticulture</th>
<th>Agricultural Supply</th>
<th>Young Farmer</th>
<th>Adult Farmer</th>
<th>Administering a Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>x x x x x x</td>
<td></td>
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<td>B</td>
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<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

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TABLE 7
Categorization of Teachers Selected by Opinion Leaders As Sources of Advice and Information

<table>
<thead>
<tr>
<th>Area of Vo-Ag Program</th>
<th>Choice by Opinion Leader</th>
<th>Other Opinion Leaders</th>
<th>Peers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Science</td>
<td>19</td>
<td>9</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Animal Science</td>
<td>25</td>
<td>12</td>
<td></td>
<td>37</td>
</tr>
<tr>
<td>FFA</td>
<td>24</td>
<td>13</td>
<td></td>
<td>37</td>
</tr>
<tr>
<td>Supervised Work Exp.</td>
<td>17</td>
<td>9</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>Agricultural Mechanics</td>
<td>35</td>
<td>10</td>
<td></td>
<td>45</td>
</tr>
<tr>
<td>Farm Management</td>
<td>16</td>
<td>14</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Specialized Programs in Horticulture</td>
<td>36</td>
<td>3</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>Specialized Programs in Agricultural Supply</td>
<td>13</td>
<td>7</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Young Farmers</td>
<td>27</td>
<td>6</td>
<td></td>
<td>33</td>
</tr>
<tr>
<td>Adult Farmers</td>
<td>20</td>
<td>9</td>
<td></td>
<td>29</td>
</tr>
<tr>
<td>Administering a Vo-Ag Department</td>
<td>22</td>
<td>7</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Total *</td>
<td>254</td>
<td>99</td>
<td></td>
<td>353</td>
</tr>
</tbody>
</table>

* $X^2 = 18.364$, d.f. = 10, significant at the .05 level
Other Sources Of Counsel

In addition to asking teachers to identify the individual to whom they would go for advice and information pertaining to specific areas of the vocational agriculture program, they were also requested to identify the general source from which they would typically seek advice and information when confronted with a specific problem. Teachers were asked to designate either other vocational agriculture teachers, other teachers, district supervisors, teacher educators, school administrators, professional literature or advisory groups. If neither of the preceding adequately described their source, teachers were requested to provide in writing the source from which they typically sought advice and information.

As indicated by the data in Table 8, the two major sources of advice and information for opinion leaders and their peers were other teachers of vocational agriculture and district supervisors of vocational agriculture programs. These sources were followed by school administrators and advisory groups or members of advisory groups. Surprisingly, teacher educators were not mentioned by any teacher as a source of advice and information and other teachers were named only three times.

It was not surprising that the district supervisor was named frequently as a source of advice and information as he is generally considered a specialist, aware of the problems which exist. Opinion leaders evidently make greater use of this source of advice and information than do their peers.
TABLE 8

Sources Most Often Sought for Advice and Information by Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Source</th>
<th>Opinion Leaders</th>
<th>Percent</th>
<th>Peers</th>
<th>Percent</th>
<th>All Teachers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Vo-Ag Teachers</td>
<td>16</td>
<td>31.4</td>
<td>80</td>
<td>36.2</td>
<td>96</td>
<td>35.3</td>
</tr>
<tr>
<td>Other Teachers</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
<td>1.4</td>
<td>3</td>
<td>1.2</td>
</tr>
<tr>
<td>District Supr.</td>
<td>21</td>
<td>41.2</td>
<td>66</td>
<td>29.8</td>
<td>87</td>
<td>31.9</td>
</tr>
<tr>
<td>Teacher Educator</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>School Adm.</td>
<td>4</td>
<td>7.8</td>
<td>34</td>
<td>15.4</td>
<td>38</td>
<td>13.9</td>
</tr>
<tr>
<td>Professional Literature</td>
<td>2</td>
<td>3.9</td>
<td>12</td>
<td>5.5</td>
<td>14</td>
<td>5.2</td>
</tr>
<tr>
<td>Advisory Group or</td>
<td>8</td>
<td>15.7</td>
<td>24</td>
<td>10.8</td>
<td>32</td>
<td>11.7</td>
</tr>
<tr>
<td>Member of Advisory Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other *</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>.9</td>
<td>2</td>
<td>.8</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100.0</td>
<td>221</td>
<td>100.0</td>
<td>272</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* One teacher indicated that it depended upon the situation and one other indicated lay persons other than advisory group members.
Generally these data indicate that other vocational agriculture teachers were the major source of advice and information for teachers of vocational agriculture. In addition, other sources also influence the teacher of vocational agriculture in varying degrees.

**Correlation of Techniques of Identifying Opinion Leaders**

**Self-Designating Technique**

The self-designating opinion leadership scale used in the present study was a version of the scale developed by Rogers,\(^{116}\) which the author adapted to teachers of vocational agriculture. The numbers in parentheses indicate how the items were scored.

1. During the past 6 months have you told a vo-ag teacher about some new practice in agricultural education?
   Yes (1) No (0)

2. Compared with your circle of friends in vocational agriculture, are you more or less likely to be asked for advice about new practices in agricultural education?
   More (1) Less (0)

3. Thinking back to your last discussion with vo-ag 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 (1) Asked someone else (0)

4. When you and your friends who teach vo-ag discuss new ideas in agricultural education, what part do you play?
   Mainly listen (0) Try to convince them of your ideas (1)

---

5. Which of these happens more often? You tell your neighboring agriculture teachers about some new practice? They tell you about some new practice? You tell (1) They tell (0)

6. 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 (1) No (0)

The maximum score would have been six which would indicate that the individual perceived himself to be an opinion leader. The lower the score of an individual, the lower the perception as an opinion leader.

**Correlation of Sociometric and Self-Designating Techniques**

**Null Hypothesis 1.** There is no significant correlation between the sociometric and self-designating techniques of identifying opinion leaders.

**Alternative Hypothesis 1.** There is a significant positive correlation between the sociometric and self-designating techniques of identifying opinion leaders.

The data in Table 9 presented the average score of teachers on the self-designating opinion leadership scale. Opinion leaders identified by the sociometric technique scored an average of 4.05 points. The remaining teachers scored an average of 3.91 points. The difference of .14 points, while higher for opinion leaders, was not significantly higher at the .05 level when standard Z scores were computed.

In an effort to determine the distribution of scores for opinion leaders and their peers on the self-designating opinion
leadership scale, the data in Table 10 was tabulated. It can be observed that while no opinion leader scored zero on the self-designating scale, the total distribution of scores of opinion leaders and their peers was not significantly different at the .05 level when the chi-square statistic was computed for the data.

The data in Table 11 represent Spearman correlations of sociometric choices with the self-designating technique of identifying opinion leaders. The sociometric score used was the total number of mentions received by an individual teacher in

### TABLE 9

**Self-Perception of Opinion Leadership By Opinion Leaders and Their Peers**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>4.05</td>
<td>1.36</td>
</tr>
<tr>
<td>Peers</td>
<td>218</td>
<td>3.91</td>
<td>1.57</td>
</tr>
<tr>
<td><strong>Difference</strong></td>
<td></td>
<td>.14 *</td>
<td></td>
</tr>
</tbody>
</table>

*Z = .64, not significant at the .05 level.
TABLE 10
Distribution of Scores of Opinion Leaders and Their Peers On the Self-Perception Scale

<table>
<thead>
<tr>
<th>Group</th>
<th>Score on Self-Perception Scale</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>Opinion Leaders</td>
<td>0 2 6 8 14 13 8</td>
<td>51</td>
</tr>
<tr>
<td>Peers</td>
<td>7 14 17 41 46 57 36</td>
<td>218</td>
</tr>
<tr>
<td>Total *</td>
<td>7 16 23 49 60 70 44</td>
<td>269</td>
</tr>
</tbody>
</table>

* $X^2 = 3.655$, d.f = 6, not significant at the .05 level.

All areas of the vocational agriculture program. This total score was used because the self-designating scale presents an over-all indication of opinion leadership held rather than an indication of opinion leadership held in a single specific area. Inspection of the data in Table 11 indicated that in none of the six supervisory districts was there a significant correlation between sociometric choice and self-designating opinion leadership scale scores. In only two districts, two and six, did the scores approach significance. Therefore, the null hypothesis was accepted.

The immediate conclusion concerning the scores of teachers on the self-designating opinion leadership scale was that the scale did not discriminate between opinion leaders and their peers. This non-discrimination was probably caused by the tendency of teachers to rate themselves high on the self-designating opinion leadership scale.
Key Informant Technique

A third measure of opinion leadership was the key informant or rating by judges technique. To measure opinion leadership accurately, each judge must be thoroughly familiar with the vocational agriculture program, including the individual teachers of vocational agriculture. Therefore, the judges used in the study were the district supervisors of agricultural education. The shortest period of time that any individual supervisor had served in that capacity was four years, while the longest period of time was twenty years.

One problem involved in obtaining judges' rating was the fact that no individual was familiar enough with all teachers of vocational agriculture in the state to attempt the rating needed in the study. Therefore, individual supervisors were

TABLE 11

Spearman Correlations of Sociometric Choices With Self-Designating Technique of Identifying Opinion Leaders by Supervisory Districts in South Carolina

<table>
<thead>
<tr>
<th>Measure of Opinion Leadership</th>
<th>Correlations With Sociometric Choice by Supervisory District *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Designating Opinion Leadership Scale</td>
<td>.131 .220 .015 .080 .008 .245</td>
</tr>
</tbody>
</table>

* No Correlations were significant at the .05 level.
asked to rate only teachers employed in their respective districts. A rating of all teachers in a district in eleven areas of the vocational agriculture program would have been a time-consuming task. To eliminate this problem, six areas of the program were randomly selected and randomly assigned to district supervisors for the purpose of rating teachers on opinion leadership exhibited. By using this procedure, district supervisors rated those teachers they knew best, in only one area of the vocational agriculture program. This procedure, while not encompassing all areas of the program, did enable the investigator to determine the effectiveness of the key informant technique of identifying opinion leaders.

Correlation of Sociometric and Key Informant Techniques

**Null Hypothesis 2.** There is no significant correlation between the sociometric and key informant techniques of identifying opinion leaders.

**Alternative Hypothesis 2.** There is a significant positive correlation between the sociometric and key informant techniques of identifying opinion leaders.

Spearman correlations between sociometric choice and judges' ratings are presented in Table 12. The sociometric score utilized in developing the correlations were the number of times an individual was named in a specific area of the vocational agriculture program. The sociometric scores were ranked and correlated with the judges' ranking of individuals in that specific area.
Analysis of the data indicated that the judges' rating, in all cases except one, correlated significantly positively with the sociometric choice technique. The one area in which the correlation was not significant, Future Farmers of America, approached significance at the .05 level. In the area of adult farmer programs, there was a positive correlation of .674 which is highly significant. On the basis of the analysis of the data in Table 11, it could be concluded that district supervisors of vocational agriculture were able to identify, at a significant level, the opinion leaders among teachers they knew in the specific areas of the vocational agriculture program.

TABLE 12
Spearman Correlations of Sociometric Choices With Judges' Rating Technique of Identifying Opinion Leaders in Six Areas of the Vocational Agriculture Program

<table>
<thead>
<tr>
<th>Measure of Opinion Leadership</th>
<th>Correlations With Sociometric Choices In Specific Areas of the Vocational Agriculture Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judges' Rating of Opinion Leadership Exhibited</td>
<td>.674 * .516 * .516 * .303 * .271 .382 *</td>
</tr>
</tbody>
</table>

* Significant at the .05 level.

Therefore, the null hypothesis was rejected and the alternative hypothesis accepted.
Summary

In summary, it could be noted that:

1. Opinion leaders among teachers of vocational agriculture could be isolated from their peers by using the sociometric technique with the criterion of being named as sources of advice and information by four or more teachers of vocational agriculture.

2. Opinion leaders were identified in each area of the vocational agriculture program, ranging from a low of three in the area of specialized programs in agricultural supply, to a high of sixteen in the area of FFA.

3. Chains of influence and networks of influence were evident to some degree in all areas of the vocational agriculture program. These chains and networks of influence were more pronounced and refined in some areas of the program than in others.

4. Influencing other individual's behavior was a widely shared capacity among teachers of vocational agriculture but influence was concentrated in a relatively small number of individual teachers in each area of the vocational agriculture program.

5. A high degree of interrelationship was observed among the responses to the several questions that made up the total sociometric score. Twenty-one or forty-one percent of the opinion leaders were influential in more than one area of the vocational agriculture program.

6. Opinion leaders chose other opinion leaders as their source of advice and information. Seventy-two percent of the choices made by opinion leaders were other opinion leaders.

7. There was no significant difference in the average scores of opinion leaders and their peers on the self-designating opinion leadership scale. The correlation between the sociometric and self-designating techniques of identifying opinion leaders was not significant, indicating that the self-designating opinion leadership scale was not a reliable technique for identifying opinion leaders among teachers of vocational agriculture.
8. The correlation between the sociometric and key informant techniques of identifying opinion leaders was significant in five of the six supervisory districts indicating that judges' ratings were a reliable technique of identifying opinion leaders.

9. Other teachers of vocational agriculture and district supervisors of vocational agriculture programs were the major sources of advice and information for teachers of vocational agriculture.
CHAPTER V
PERSONAL AND SOCIAL CHARACTERISTICS
OF OPINION LEADERS

This chapter presents data collected pertaining to the personal and social characteristics of opinion leaders. The personal and social characteristics of opinion leaders and their peers will be presented and compared. A major effort was made to determine significant differences in these characteristics. Opinion leaders were identified by the sociometric technique described in Chapter III.

Findings Related To The Personal And Social Characteristics Of Opinion Leaders

Presented in this section are the specific findings related to each of the hypotheses related to personal and social characteristics developed for the study. Each hypothesis is listed and then followed immediately by the findings related to that particular hypothesis.

Age of Teachers

Null Hypothesis 3. There is no significant difference in the mean age of teachers of vocational agriculture who are opinion leaders and the mean age of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 3. Teachers of vocational agriculture who are opinion leaders are significantly older than teachers of...
vocational agriculture who are not opinion leaders.

Variation in ages of vocational agriculture teachers naturally appeared. The youngest teacher was twenty-one years of age, while the oldest was sixty-four years. When the teachers were categorized into the two classifications, opinion leaders and their peers, the youngest peer group member was twenty-one years of age and the oldest was sixty-three years of age, a range of forty-three years. The youngest opinion leader was twenty-two years of age and the oldest was sixty-four years of age, also presenting a range of forty-three years.

Opinion leaders averaged 46.03 years of age while peer group members averaged 39.65 years. The data presented in Table 13 indicates that the difference of 6.38 years was significant at the .05 level when a standard Z score statistic was computed. Thus, null hypothesis 3 was rejected and alternative hypothesis 3 accepted.

Further analysis of the data pertaining to age resulted in the distribution in Table 14. These data indicate that even though the largest number of teachers are in the forty-one to fifty age bracket, twenty percent of the teachers are in the twenty-one to thirty age bracket. Only one of the teachers in the twenty-one to thirty age bracket was named as an opinion leader.
### TABLE 13

Mean Age of Opinion Leaders and Their Peers Among Teachers of Vocational Agriculture in South Carolina

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Age</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>46.03</td>
<td>7.35</td>
</tr>
<tr>
<td>Peers</td>
<td>221</td>
<td>39.65</td>
<td>10.48</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>6.38 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 5.08, significant at the .05 level

### TABLE 14

Distribution of Opinion Leaders and Their Peers by Age

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Opinion Leaders</th>
<th>Followers</th>
<th>Total Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Percent</td>
<td>No.</td>
</tr>
<tr>
<td>21-30</td>
<td>1</td>
<td>1.97</td>
<td>55</td>
</tr>
<tr>
<td>31-40</td>
<td>10</td>
<td>19.60</td>
<td>62</td>
</tr>
<tr>
<td>41-50</td>
<td>28</td>
<td>54.90</td>
<td>69</td>
</tr>
<tr>
<td>51-60</td>
<td>11</td>
<td>21.56</td>
<td>31</td>
</tr>
<tr>
<td>61 +</td>
<td>1</td>
<td>1.97</td>
<td>4</td>
</tr>
</tbody>
</table>

Totals 51 100.00 221 100.00 272 100.00
Years of Service

Null Hypothesis 4. There is no significant difference in the mean number of years of service in vocational agriculture of teachers of vocational agriculture who are opinion leaders and of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 4. Teachers of vocational agriculture who are opinion leaders have significantly more years of service in vocational agriculture than do teachers of vocational agriculture who are not opinion leaders.

On the basis of the data collected, the null hypothesis was rejected and the alternative hypothesis accepted. Opinion leaders had been teaching vocational agriculture an average of 21.19 years compared to an average of 13.71 years by their peers. As the data in Table 15 indicates, the difference of 7.48 years of teaching experience was significant at the .05 level when a standard Z score statistic was computed.

Teaching Positions Held

Null Hypothesis 5. There is no significant difference in the number of different vocational agriculture teaching positions held by teachers of vocational agriculture who are opinion leaders and teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 5. Teachers of vocational agriculture who are opinion leaders have held significantly more vocational agriculture teaching positions than teachers of vocational agriculture who are not opinion leaders.
On the basis of the data collected, the null hypothesis was accepted. As indicated by the data in Table 16, opinion leaders had taught in an average of 1.92 schools while their peers had taught in an average of 1.86 schools. While the opinion leaders had taught in slightly more schools, the difference of .06 average years was not significantly different at the .05 level when a standard Z score statistic was computed.

TABLE 15

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Years</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>21.19</td>
<td>7.25</td>
</tr>
<tr>
<td>Peers</td>
<td>221</td>
<td>13.71</td>
<td>9.30</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>7.48 *</td>
<td></td>
</tr>
</tbody>
</table>

*Z = 6.23, significant at the .05 level
TABLE 16
Number of Schools in Which Opinion Leaders and Their Peers Have Taught Vocational Agriculture

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Number of Schools</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>1.92</td>
<td>.915</td>
</tr>
<tr>
<td>Peers</td>
<td>221</td>
<td>1.86</td>
<td>1.08</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>.06 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 1.21, not significant at the .05 level

However, although there was no significant difference in the number of schools in which opinion leaders and their peers had taught vocational agriculture, there was a significant difference in the number of years that opinion leaders had taught in the school in which they were currently teaching. The data presented in Table 17 indicates that opinion leaders had taught in the schools in which they were presently teaching for an average of 17.03 years compared to an average of 10.12 years for their peers. The difference of 6.90 years was significant at the .05 level.

Educational Achievement

Null Hypothesis 6. There is no significant difference in the educational achievement of teachers of vocational agriculture who are opinion leaders and the educational achievement of teachers of vocational agriculture who are not opinion leaders.
Alternative Hypothesis 6. Teachers of vocational agriculture who are opinion leaders have attained a significantly higher educational level than teachers of vocational agriculture who are not opinion leaders.

Data was collected from vocational agriculture teachers on the number of college credits completed since they began to teach and the level of formal education attained. On the basis of the analysis of these data, the null hypothesis was rejected and the alternative hypothesis accepted.

The data in Table 18 indicates that opinion leaders had completed an average of 33.56 semester hours of college credit since they began to teach vocational agriculture, compared to

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Number of Years</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>50</td>
<td>17.02</td>
<td>8.198</td>
</tr>
<tr>
<td>Peers</td>
<td>221</td>
<td>10.12</td>
<td>7.450</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>6.90 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 3.87, significant at the .05 level

an average of 20.89 semester hours completed by other teachers of vocational agriculture. This difference of 12.67 average hours was significant at the .05 level.
TABLE 18
College Credits Completed By Opinion Leaders and Their Peers Since Beginning to Teach Vocational Agriculture

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Semester Hours</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>50</td>
<td>33.56</td>
<td>13.91</td>
</tr>
<tr>
<td>Peers</td>
<td>220</td>
<td>20.89</td>
<td>12.66</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>12.67 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 5.50, significant at the .05 level

When the teachers were categorized as to the level of formal education attained, it was observed that thirty of the fifty-one opinion leaders had completed work at the master's and master's plus level. Further, as indicated by the data in Table 19, only two opinion leaders had not completed work above the Bachelor's degree level. The differences in frequencies were significant at the .05 level when the chi-square statistic was applied to the data.

Investment in Professional Improvement

Null Hypothesis 7. There is no significant difference in the personal investments in professional improvement by teachers of vocational agriculture who are opinion leaders and the amount of personal money invested in professional improvement by teachers of vocational agriculture who are not opinion leaders.
TABLE 19

Level of Formal Education Attained
By Opinion Leaders and
Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>Formal Education Completed</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bachelors</td>
<td>Bachelors + Masters</td>
<td>Masters</td>
<td>Masters +</td>
<td></td>
</tr>
<tr>
<td>Opinion Leaders</td>
<td>2</td>
<td>19</td>
<td>15</td>
<td>15</td>
<td>51</td>
</tr>
<tr>
<td>Peers</td>
<td>23</td>
<td>141</td>
<td>43</td>
<td>14</td>
<td>221</td>
</tr>
<tr>
<td>Total *</td>
<td>25</td>
<td>160</td>
<td>58</td>
<td>29</td>
<td>272</td>
</tr>
</tbody>
</table>

* $x^2 = 46.20$, degrees of freedom = 3,
  significant at the .05 level

Alternative Hypothesis 7. Teachers of vocational agriculture who are opinion leaders have significantly larger personal investments in professional improvement than teachers of vocational agriculture who are not opinion leaders.

In collecting data to test this hypothesis, teachers were asked to report the amount of personal money they had invested in professional growth during the preceding two years. Items such as fees, registration costs, books, room and board, dues, magazine subscriptions, etc. were considered in determining the cost of professional improvement. The data in Table 20 reveals that opinion leaders invested an average of $410.79 in professional growth during the preceding two years compared to an average of $448.19 invested by their peers. This difference of $37.40 was not significant at the .05 level when a standard Z score statistic was computed on the data. Thus, the null
hypothesis was accepted. Interestingly, opinion leaders spent less money on professional growth than other teachers.

**TABLE 20**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Dollars</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>$410.79</td>
<td>105.30</td>
</tr>
<tr>
<td>Peers</td>
<td>220</td>
<td>$448.19</td>
<td>191.43</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>37.40 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 1.89, not significant at the .05 level

**Income From Teaching**

**Null Hypothesis** 8. There is no significant difference in the income from teaching of teachers of vocational agriculture who are opinion leaders and the income from teaching of teachers of vocational agriculture who are not opinion leaders.

**Alternative Hypothesis** 8. Teachers of vocational agriculture who are opinion leaders have a significantly higher income from teaching than do teachers of vocational agriculture who are not opinion leaders.

The data collected pertaining to this hypothesis was not obtained directly from teachers of vocational agriculture but from state department of education files. The investigator realized that this source would probably be more reliable than asking
teachers to report their incomes. In addition, this also aided in making the instrument more impersonal to the individual teacher completing it.

As the data in Table 21 indicates, teachers who were opinion leaders averaged $833 higher in salary than teachers who were not opinion leaders. This difference was significant at the .05 level when the standard Z score statistic was computed. However, caution must be used in interpreting these findings as teacher salaries, in the state in which the study was conducted, are based on a state teacher's salary scale, except for local supplements. This scale rewards years of experience and educational attainment beyond the bachelor's degree, in addition to being based on scores on the National Teachers Examination. In other words, the teacher's experience and educational attainment, plus his score on the National Teachers Examination could conceivably have more effect on salary than the degree of opinion leadership exhibited.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Average Income</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>$8758.41</td>
<td>823.70</td>
</tr>
<tr>
<td>Peers</td>
<td>231</td>
<td>7925.41</td>
<td>993.38</td>
</tr>
<tr>
<td>Difference *</td>
<td></td>
<td>833.00</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 6.23, significant at the .05 level
Educational Offices Held

**Null Hypothesis 9.** There is no significant difference in the number of offices in educational organizations held by teachers of vocational agriculture who are opinion leaders and the number of offices in educational organizations held by teachers of vocational agriculture who are not opinion leaders.

**Alternative Hypothesis 9.** Teachers of vocational agriculture who are opinion leaders hold a significantly greater number of offices in educational organizations than do teachers of vocational agriculture who are not opinion leaders.

Teachers of vocational agriculture held offices in professional educational organizations on the local, county or district, state and national levels. The data in Table 22 indicates that the largest number of offices held by opinion leaders were at the county or district and state levels. The greatest variation in number of offices held by the two groups of teachers occurred at the local and county or district levels. Peer group teachers held a disproportionately greater number of local offices and opinion leaders held a disproportionately greater number of state and national offices. The overall difference in frequencies was significant when the chi-square statistic was computed on the data. Therefore, the null hypothesis was rejected and the alternative hypothesis accepted.
TABLE 22
Elective and Appointive Offices Held in Professional Educational Organizations by Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>Local</th>
<th>County or District</th>
<th>State</th>
<th>National</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>4</td>
<td>18</td>
<td>21</td>
<td>5</td>
<td>48</td>
</tr>
<tr>
<td>Peers</td>
<td>27</td>
<td>51</td>
<td>26</td>
<td>1</td>
<td>105</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>31</td>
<td>69</td>
<td>47</td>
<td>6</td>
<td>153</td>
</tr>
</tbody>
</table>

* $X^2 = 21.81$, degrees of freedom = 3, significant at the .05 level

Cosmopoliteness

Null Hypothesis. There is no significant difference in the cosmopoliteness of teachers of vocational agriculture who are opinion leaders and the cosmopoliteness of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis. Teachers of vocational agriculture who are opinion leaders are significantly more cosmopolite than teachers of vocational agriculture who are not opinion leaders.

Three categories of data were collected for testing this hypothesis. The number of professional education meetings attended on the district, state, regional and national levels during the preceding two years, the number of other departments of vocational agriculture visited during the preceding year,
and the number of other departments of instruction visited during the preceding year were used as indicators of cosmopolitanness. On the basis of the analysis of the data, the null hypothesis was accepted with some reservation as differences in means were not significant in any area except in the number of state level professional education meetings attended. Opinion leaders attended an average of 1.09 more state level professional education meetings the preceding year than did their peers. Tables 23, 24, and 25 present the data used to test the hypothesis.

Sources of Information

Null Hypothesis 11. There is no significant difference in the sources of information used by teachers of vocational agriculture who are opinion leaders and the sources of information used by teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 11. Teachers of vocational agriculture who are opinion leaders use significantly more impersonal, non-local sources of information from outside the field of agricultural education which are more costly in time and money than do teachers of vocational agriculture who are not opinion leaders.

When the chi-square statistic was applied to the data on sources of information presented in Table 26, no significant differences in frequencies were found. Thus, the null hypothesis was accepted. Analysis of the data indicates that most vocational
TABLE 23
Professional Education Meetings Attended on the District, State, Regional, and National Level Over the Past Two Years by Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>District Mean</th>
<th>State Mean</th>
<th>Regional Mean</th>
<th>National Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>13.48</td>
<td>3.86</td>
<td>.215</td>
<td>.76</td>
</tr>
<tr>
<td>Peers</td>
<td>13.21</td>
<td>2.77</td>
<td>.036</td>
<td>.08</td>
</tr>
</tbody>
</table>

Difference: .27 1.09 * .179 .68

* Z = 2.932, significant at .05 level

TABLE 24
Number of Other Departments of Vocational Agriculture Visited Last Year by Opinion Leaders and Their Peers on Their Own Initiative

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Number</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>3.07</td>
<td>3.07</td>
</tr>
<tr>
<td>Peers</td>
<td>219</td>
<td>2.65</td>
<td>2.23</td>
</tr>
</tbody>
</table>

Difference: + .42 *

* Z = .928, not significant at the .05 level
TABLE 25

Number of Other Departments of Instruction Visited
Last Year by Opinion Leaders and Their Peers
on Their Own Initiative

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Number</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>1.62</td>
<td>1.71</td>
</tr>
<tr>
<td>Peers</td>
<td>219</td>
<td>1.58</td>
<td>1.87</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>.04 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = .139, not significant at the .05 level

agriculture teachers, opinion leaders and their peers alike, used
personal sources within the field of agricultural education which
were local in nature required a cash outlay, and a great amount of
personal time. Differences were very noticeable between
sources within and outside of agricultural education. Eighty-
four percent of the opinion leaders and eighty-seven percent
of their peers used sources within the field of agricultural
education for most of the ideas they used in teaching. Opinion
leaders used sources of information requiring a small amount of
personal time at a higher rate than did their peers, but not
significantly more.

Publications Read

Null Hypothesis 12. There is no significant difference
in the number of professional education and technical agricul-
TABLE 26

Types of Information Sources Used by Opinion Leaders and Their Peers to Obtain Most of Their Teaching Ideas

<table>
<thead>
<tr>
<th>Type of Information Source</th>
<th>Opinion Leader</th>
<th></th>
<th>Peers</th>
<th></th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal</td>
<td>32</td>
<td>62.7</td>
<td>119</td>
<td>53.8</td>
<td>151</td>
<td>55.5</td>
</tr>
<tr>
<td>Impersonal</td>
<td>19</td>
<td>37.3</td>
<td>102</td>
<td>46.2</td>
<td>121</td>
<td>44.5</td>
</tr>
<tr>
<td>Within Agricultural Educa-</td>
<td>51</td>
<td>100.0</td>
<td>221</td>
<td>100.0</td>
<td>272</td>
<td>100.0</td>
</tr>
<tr>
<td>tion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside Agricultural Edu-</td>
<td>8</td>
<td>15.7</td>
<td>27</td>
<td>12.3</td>
<td>35</td>
<td>12.9</td>
</tr>
<tr>
<td>cation</td>
<td>51</td>
<td>100.0</td>
<td>221</td>
<td>100.0</td>
<td>272</td>
<td>100.0</td>
</tr>
<tr>
<td>Local</td>
<td>45</td>
<td>88.2</td>
<td>185</td>
<td>83.7</td>
<td>230</td>
<td>84.5</td>
</tr>
<tr>
<td>Non-local</td>
<td>6</td>
<td>11.8</td>
<td>36</td>
<td>16.3</td>
<td>42</td>
<td>15.5</td>
</tr>
<tr>
<td>Requiring Cash Outlay</td>
<td>24</td>
<td>47.0</td>
<td>120</td>
<td>54.2</td>
<td>144</td>
<td>52.9</td>
</tr>
<tr>
<td>Not requiring Cash Outlay</td>
<td>27</td>
<td>53.0</td>
<td>101</td>
<td>45.8</td>
<td>128</td>
<td>47.1</td>
</tr>
<tr>
<td>Requiring Large Amount of</td>
<td>51</td>
<td>100.0</td>
<td>221</td>
<td>100.0</td>
<td>272</td>
<td>100.0</td>
</tr>
<tr>
<td>Personal Time</td>
<td>28</td>
<td>54.9</td>
<td>154</td>
<td>69.6</td>
<td>182</td>
<td>66.9</td>
</tr>
<tr>
<td>Requiring Small Amount of</td>
<td>23</td>
<td>45.1</td>
<td>67</td>
<td>30.4</td>
<td>90</td>
<td>33.1</td>
</tr>
<tr>
<td>Personal Time</td>
<td>51</td>
<td>100.0</td>
<td>221</td>
<td>100.0</td>
<td>272</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* $X^2 = 7.372$ degrees of freedom = 9, not significant at the .05 level
ture publications read by teachers of vocational agriculture who are opinion leaders and the number of professional education and technical agriculture publications read by teachers of vocational agriculture who are not opinion leaders.

**Alternative Hypothesis 12.** Teachers of vocational agriculture who are opinion leaders read a significantly greater number of professional education and technical agriculture publications than do teachers of vocational agriculture who are not opinion leaders.

No significant differences were found when the data pertaining to this hypothesis was analyzed. Consequently, the null hypothesis was accepted. According to the data in Table 27, opinion leaders regularly read 2.78 professional education publications which was .28 fewer than their peers. However, the opinion leaders read 1.86 additional publications on an infrequent basis compared to an average of 1.63 additional publications read infrequently by their peers. Both groups of teachers, either subscribe to or receive through their school affiliation, approximately three professional education publications. Approximately 74.8 percent of the teachers regularly read the *American Vocational Journal*, 71.1 percent read the *Agricultural Education Magazine* regularly, and 57.7 percent read the *NEA Journal* regularly. Very few other publications were read regularly by the teachers, indicating that their reading in professional education publications was confined to vocational education and agricultural education.
Analysis of the data in Table 28 indicates that opinion leaders regularly read an average of 6.32 technical agriculture publications compared to 6.16 read regularly by their peers. The publications read most frequently by teachers were The Progressive Farmer and Doane's Agricultural Digest. Approximately eighty-one percent of the teachers read these two publications on a regular basis. The Farm Journal was read frequently by almost sixty-nine percent of the respondents. A wide variation of publications read regularly was evident following these three publications.

Social Participation

Null Hypothesis 13. There is no significant difference in the social participation of teachers of vocational agriculture who are opinion leaders and the social participation of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 13. Teachers of vocational agriculture who are opinion leaders have a significantly greater degree of social participation than do teachers of vocational agriculture who are not opinion leaders.

The teacher of vocational agriculture's degree of participation in community groups and institutions was measured by Chapin's Social Participation Scale. On the basis of the analysis of the teachers' scores on the scale, the null hypothesis was rejected and the alternative hypothesis accepted.

Analysis of the data in Table 29 indicates that opinion leaders scored an average of 81.21 points on the Chapin Social
### TABLE 27

Number of Professional Education Publications
Read and Received by Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean No. Read Regularly</th>
<th>Mean No. Read Infrequently</th>
<th>Mean No. Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>50</td>
<td>2.78</td>
<td>1.86</td>
<td>3.14</td>
</tr>
<tr>
<td>Peers</td>
<td>219</td>
<td>3.06</td>
<td>1.63</td>
<td>2.99</td>
</tr>
</tbody>
</table>

Difference: .28 *  .23 **  .15 ***

* Z = 1.21, not significant at the .05 level
** Z = .67, not significant at the .05 level
*** Z = .55, not significant at the .05 level

### TABLE 28

Number of Technical Agriculture Publications
Read and Received by Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Number Read Regularly</th>
<th>Mean Number Read Infrequently</th>
<th>Mean No. Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>50</td>
<td>6.32</td>
<td>3.50</td>
<td>6.28</td>
</tr>
<tr>
<td>Peers</td>
<td>219</td>
<td>6.16</td>
<td>3.14</td>
<td>6.25</td>
</tr>
</tbody>
</table>

Difference: .16 *  .36 **  .03 ***

* Z = .36, not significant at the .05 level
** Z = .80, not significant at the .05 level
*** Z = .05, not significant at the .05 level
Participation Scale compared to an average score of 59.14 points by their peers. The 22.07 points difference was significant at the .05 level when the standard score Z statistic was computed for the data.

**Job Satisfaction**

**Null Hypothesis 14.** There is no significant difference in the job satisfaction of teachers of vocational agriculture who are opinion leaders and the job satisfaction of teachers of vocational agriculture who are not opinion leaders.

**Alternative Hypothesis 14.** Teachers of vocational agriculture who are opinion leaders are significantly more satisfied with their jobs than are teachers of vocational agriculture who are not opinion leaders.

When a standard Z score statistic was applied to the difference in the mean scores of opinion leaders and their peers on the Brayfield and Rothe Index of Job Satisfaction, the null hypothesis was accepted. Analysis of the data in Table 30 indicates that opinion leaders were slightly more satisfied with their jobs than were their peers. However, the difference of 1.54 score points was not significant at the .05 level.

**Innovativeness**

**Null Hypothesis 15.** There is no significant difference in the innovativeness of teachers of vocational agriculture who are opinion leaders and the innovativeness of teachers of vocational agriculture who are not opinion leaders.
TABLE 29

Average Chapin Social Participation Score of Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>81.21</td>
<td>16.54</td>
</tr>
<tr>
<td>Peers</td>
<td>221</td>
<td>59.14</td>
<td>30.73</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>22.07 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 7.066, significant at the .05 level

**Alternative Hypothesis 15.** Teachers of vocational agriculture who are opinion leaders are significantly more innovative than teachers of vocational agriculture who are not opinion leaders.

In order to test this hypothesis, all teachers of vocational agriculture were administered an adoption scale. Innovativeness scores were derived for opinion leaders and their peers. In addition, all teachers were classified, on the basis of their innovativeness scores, as innovators, early adopters, early majority, late majority and laggards as described by Rogers.117

On the basis of analysis of the data, the null hypothesis was rejected and the alternative hypothesis accepted. Analysis of the data in Table 31 indicates that opinion leaders had an

### TABLE 30

Average Brayfield and Rothe Index of Job Satisfaction Scores of Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>51</td>
<td>71.50</td>
<td>6.31</td>
</tr>
<tr>
<td>Peers</td>
<td>221</td>
<td>69.96</td>
<td>6.58</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>1.54 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 1.48, not significant at the .05 level

### TABLE 31

Average Innovativeness Scores of Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Average Innovativeness Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>50</td>
<td>33.04</td>
<td>18.95</td>
</tr>
<tr>
<td>Peers</td>
<td>218</td>
<td>49.50</td>
<td>30.87</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>16.46 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = 4.82, significant at the .05 level

Average innovativeness score of 33.04 points while their peers had an average score of 49.50. In reading these scores, it should be remembered that lower scores represent greater innovativeness than higher scores. The difference of 16.46 score points was significant at the .05 level when the standard Z score was computed for the data.
### TABLE 32

**Classification of Opinion Leaders and Their Peers by Adopter Categories**

<table>
<thead>
<tr>
<th>Group</th>
<th>Innovators</th>
<th>Early Adopters</th>
<th>Early Majority</th>
<th>Late Majority</th>
<th>Laggards</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>4</td>
<td>9</td>
<td>27</td>
<td>7</td>
<td>3</td>
<td>50</td>
</tr>
<tr>
<td>Peers</td>
<td>3</td>
<td>27</td>
<td>64</td>
<td>84</td>
<td>40</td>
<td>218</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>36</td>
<td>91</td>
<td>91</td>
<td>43</td>
<td>268</td>
</tr>
</tbody>
</table>

* $\chi^2 = 26.14$, degrees of freedom = 4, significant at the .05 level

When opinion leaders and their peers were categorized into innovator, early adopter, early majority, late majority and laggard categories as presented in Table 32, it was evident that opinion leaders were concentrated in the more innovative categories. Four of the seven innovators were opinion leaders and nine of the thirty-six early adopters were opinion leaders. The largest concentration of opinion leaders were located in the early majority category, while the largest concentration of peer group members were located in the late majority category. Interestingly, three of the four opinion leaders in the innovator category were monomorphic opinion leaders. When the Chi-square statistic was applied to the data this difference in frequencies was significant at the .05 level. This was further evidence that opinion leaders were more innovative than their peers.
In an effort to determine whether the relative innovativeness of teachers sought as sources of advice and information tended to influence choice of sources of advice and information, the data in Table 33 was tabulated. Analysis of the data indicates that a large number of teachers sought advice and information from teachers in their own or a slightly more innovative category, with the exception of the innovator category. Some teachers, such as those in the early adopter category, also sought advice from teachers in a slightly less innovative category. In general, these data indicated that teachers usually sought advice and information from teachers of a similar or slightly higher degree of innovativeness. The data in Table 33 reveal the seeker-sought relationships in the areas of agricultural mechanics and farm management, selected randomly from the eleven areas considered in the study.
TABLE 33

Categorical Congruence Between Advice Seekers and Sources of Advice and Information in Two Selected Areas of the Vocational Agriculture Program

<table>
<thead>
<tr>
<th>Advice Seeker</th>
<th>Innovator</th>
<th>Early Adopter</th>
<th>Early Majority</th>
<th>Late Majority</th>
<th>Laggard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovator</td>
<td>0</td>
<td>1</td>
<td>7 *</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Early Adopter</td>
<td>2</td>
<td>12</td>
<td>16 *</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Early Majority</td>
<td>4</td>
<td>30</td>
<td>46 *</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>Late Majority</td>
<td>6</td>
<td>27</td>
<td>56 *</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>Laggard</td>
<td>0</td>
<td>16</td>
<td>29 *</td>
<td>14</td>
<td>1</td>
</tr>
</tbody>
</table>

Total ** 12 86 154 67 13

* mean, median and mode included in category

** $\chi^2 = 9.581$, degrees of freedom = 16, not significant at the .05 level

Conformity to Norms on Innovativeness

Null Hypothesis. There is no significant difference in conformity to social system norms on innovativeness by teachers of vocational agriculture who are opinion leaders and the conformity to social system norms on innovativeness of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis. Teachers of vocational agriculture who are opinion leaders conform significantly more closely to social system norms on innovativeness than do teachers of vocational agriculture who are not opinion leaders.
A study by Marsh and Coleman suggested that opinion leaders do not deviate far from the system's norms. In the study, leaders in modern neighborhoods were much more innovative than their followers while leaders in traditional neighborhoods were relatively less innovative, as compared to their followers.\textsuperscript{118} Rodgers and Burdge also tested this generalization in an Ohio investigation of truck growers in seven communities. A deviancy-from-norms score was computed by a ratio of the absolute difference between the respondent's innovativeness score and the community norm, to the range in all innovativeness scores in the community. Opinion leaders conformed much more closely to community norms than did followers.\textsuperscript{119}

In determining the deviation-from-norms scores for teachers of vocational agriculture, the following formula was used:

\[
\text{Deviancy score} = \frac{X_i - X_n}{s}
\]

Where:

- \(X_i\) = each respondent's innovativeness score
- \(X_n\) = state norm on innovativeness
- \(s\) = standard deviation of innovativeness scores in the state

On the basis of analysis of the data, the null hypothesis was accepted as the difference in mean scores was not significant.


\textsuperscript{119} Rogers and Burdge, \textit{Truck Growers}, p. 235.
at the .05 level. Analysis of the data in Table 34 reveals that the opinion leaders' average deviance-from-norm score was .664 compared to .681 for their peers. While opinion leaders were closer to social system norms, the difference was not significant.

**TABLE 34**

Average Deviance From Norms on Innovativeness By Opinion Leaders and Their Peers

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Deviance</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion Leaders</td>
<td>50</td>
<td>.644</td>
<td>.408</td>
</tr>
<tr>
<td>Peers</td>
<td>218</td>
<td>.681</td>
<td>.787</td>
</tr>
<tr>
<td>Difference</td>
<td></td>
<td>.17 *</td>
<td></td>
</tr>
</tbody>
</table>

* Z = .199, not significant at the .05 level

**Summary**

In order to summarize the data on characteristics of opinion leaders, Tables 34 and 35 were prepared. Analysis of the data in the tables indicate that opinion leaders did not differ significantly from their peers in the number of schools in which they had taught vocational agriculture, job satisfaction, money invested in professional growth, deviance from social system norms on innovativeness, cosmopoliteness, sources of information and publications read.
However, opinion leaders differed significantly from their peers in the following characteristics:

1. Opinion leaders were significantly older than their peers.

2. Opinion leaders had taught vocational agriculture for a significantly longer period of years than had their peers.

3. Opinion leaders had attained a significantly higher educational level than had their peers.

4. Opinion leaders had a significantly higher income from teaching than did their peers.

5. Opinion leaders held a significantly greater number of offices in professional educational organizations than did their peers.

6. Opinion leaders exhibited a significantly higher degree of social participation than did their peers.

7. Opinion leaders were significantly more innovative than their peers.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Average for Opinion Leaders</th>
<th>Average for Peers</th>
<th>Average For All Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age *</td>
<td>45.7</td>
<td>39.6</td>
<td>40.7</td>
</tr>
<tr>
<td>Years of Teaching Experience *</td>
<td>21.1</td>
<td>13.7</td>
<td>15.1</td>
</tr>
<tr>
<td>Number of Schools in which employed</td>
<td>1.92</td>
<td>1.86</td>
<td>1.88</td>
</tr>
<tr>
<td>Years in present job *</td>
<td>17.0</td>
<td>10.1</td>
<td>11.3</td>
</tr>
<tr>
<td>Credits earned since beginning to teach * (semester hours)</td>
<td>33.5</td>
<td>20.8</td>
<td>23.2</td>
</tr>
<tr>
<td>Personal money invested in professional growth</td>
<td>410.79</td>
<td>448.19</td>
<td>447.06</td>
</tr>
<tr>
<td>Salary</td>
<td>$8,758.41</td>
<td>$7,925.41</td>
<td>$8,086.06</td>
</tr>
<tr>
<td>Cosmopoliteness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other vo-ag depts. visited</td>
<td>3.07</td>
<td>2.65</td>
<td>2.73</td>
</tr>
<tr>
<td>Other depts. of instruction visited</td>
<td>1.62</td>
<td>1.58</td>
<td>1.59</td>
</tr>
<tr>
<td>Professional educational meetings attended</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>district</td>
<td>13.4</td>
<td>13.2</td>
<td>13.3</td>
</tr>
<tr>
<td>state</td>
<td>3.86</td>
<td>2.77</td>
<td>2.98</td>
</tr>
<tr>
<td>regional</td>
<td>.21</td>
<td>.03</td>
<td>.07</td>
</tr>
<tr>
<td>national</td>
<td>.76</td>
<td>.08</td>
<td>.21</td>
</tr>
<tr>
<td>Publications Read</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional education</td>
<td>2.78</td>
<td>3.06</td>
<td>3.00</td>
</tr>
<tr>
<td>Technical agriculture</td>
<td>6.32</td>
<td>6.16</td>
<td>6.19</td>
</tr>
<tr>
<td>Social Participation *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Chapin Scale)</td>
<td>81.21</td>
<td>59.14</td>
<td>63.27</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Brayfield &amp; Rothe Index)</td>
<td>71.50</td>
<td>69.96</td>
<td>70.25</td>
</tr>
<tr>
<td>Innovativeness *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Adoption Scale)</td>
<td>30.04</td>
<td>49.50</td>
<td>46.43</td>
</tr>
<tr>
<td>Deviance-from-norms on Innovativeness</td>
<td>.664</td>
<td>.681</td>
<td>.678</td>
</tr>
</tbody>
</table>

* Difference significant at the .05 level
TABLE 36

Sources of Information and Professional Educational Offices Held by Opinion Leaders and Their Peers Among Teachers of Vocational Agriculture in South Carolina in 1968

<table>
<thead>
<tr>
<th>Item</th>
<th>Total for Opinion Leaders</th>
<th>Total for Peers</th>
<th>Total for All Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sources of Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal</td>
<td>32</td>
<td>119</td>
<td>151</td>
</tr>
<tr>
<td>Impersonal</td>
<td>19</td>
<td>102</td>
<td>121</td>
</tr>
<tr>
<td>Within Agricultural Education</td>
<td>43</td>
<td>194</td>
<td>237</td>
</tr>
<tr>
<td>Outside Agricultural</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>8</td>
<td>27</td>
<td>35</td>
</tr>
<tr>
<td>Local</td>
<td>45</td>
<td>185</td>
<td>230</td>
</tr>
<tr>
<td>Non-local</td>
<td>6</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>Requiring cash outlay</td>
<td>24</td>
<td>120</td>
<td>144</td>
</tr>
<tr>
<td>Not requiring cash outlay</td>
<td>27</td>
<td>101</td>
<td>128</td>
</tr>
<tr>
<td>Requiring large amount of personal time</td>
<td>28</td>
<td>154</td>
<td>182</td>
</tr>
<tr>
<td>Requiring small amount of personal time</td>
<td>23</td>
<td>67</td>
<td>90</td>
</tr>
<tr>
<td>Educational Offices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Held *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>4</td>
<td>27</td>
<td>31</td>
</tr>
<tr>
<td>County or District</td>
<td>18</td>
<td>51</td>
<td>69</td>
</tr>
<tr>
<td>State</td>
<td>21</td>
<td>26</td>
<td>47</td>
</tr>
<tr>
<td>National</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

* Difference significant at the .05 level
CHAPTER VI
SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Presented in this chapter is a brief review of the study and the major findings. Also presented are the major conclusions with attendant implications and recommendations.

Purpose Of The Study
The central purpose of this study was to gain some insight and understanding of the opinion leadership phenomenon as an element of a change strategy for agricultural education.

Specific Objectives
The specific objectives of the study were:
1. To develop a means of identifying opinion leaders among teachers of vocational agriculture.
2. To determine selected personal and social characteristics of opinion leaders among teachers of vocational agriculture.

Hypotheses
A theoretical base of the study was established and sixteen null and alternative hypotheses to be tested were derived from this theoretical base. The hypotheses were:

Null Hypothesis 1. There is no significant correlation between the sociometric and self-designating techniques of identifying opinion leaders.
Alternative Hypothesis 1. There is a significant positive correlation between the sociometric and self-designating techniques of identifying opinion leaders.

Null Hypothesis 2. There is no significant correlation between the sociometric and key informant techniques of identifying opinion leaders.

Alternative Hypothesis 2. There is a significant positive correlation between the sociometric and key informant techniques of identifying opinion leaders.

Null Hypothesis 3. There is no significant difference in the mean age of teachers of vocational agriculture who are opinion leaders and the mean age of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 3. Teachers of vocational agriculture who are opinion leaders are significantly older than teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 4. There is no significant difference in the mean number of years of service in vocational agriculture of teachers of vocational agriculture who are opinion leaders and teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 4. Teachers of vocational agriculture who are opinion leaders have significantly more years of service in vocational agriculture than do teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 5. There is no significant difference in the number of different vocational agriculture teaching positions.
Alternative Hypothesis 5. Teachers of vocational agriculture who are opinion leaders have held significantly more vocational agriculture teaching positions than teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 6. There is no significant difference in the educational achievement of teachers of vocational agriculture who are opinion leaders and the educational achievement of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 6. Teachers of vocational agriculture who are opinion leaders have attained a significantly higher educational level than teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 7. There is no significant difference in the personal investments in professional improvement by teachers of vocational agriculture who are opinion leaders and the personal investments in professional improvement by teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 7. Teachers of vocational agriculture who are opinion leaders have significantly larger personal investments in professional improvement than teachers of vocational agriculture who are not opinion leaders.
Null Hypothesis 8. There is no significant difference in the income from teaching of teachers of vocational agriculture who are opinion leaders and the income from teaching of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 8. Teachers of vocational agriculture who are opinion leaders have a significantly higher income from teaching than do teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 9. There is no significant difference in the number of offices in educational organizations held by teachers of vocational agriculture who are opinion leaders and the number of offices in educational organizations held by teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 9. Teachers of vocational agriculture who are opinion leaders held a significantly greater number of offices in educational organizations than do teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 10. There is no significant difference in the cosmopolitanism of teachers of vocational agriculture who are opinion leaders and the cosmopolitanism of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 10. Teachers of vocational agriculture who are opinion leaders are significantly more cosmopolitan than teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 11. There is no significant difference in the sources of information used by teachers of vocational agri-
culture who are opinion leaders and the sources of information used by teachers of vocational agriculture who are not opinion leaders.

**Alternative Hypothesis 11.** Teachers of vocational agriculture who are opinion leaders use significantly more impersonal, non-local sources of information from outside the field of agricultural education which are more costly in time and money than do teachers of vocational agriculture who are not opinion leaders.

**Null Hypothesis 12.** There is no significant difference in the number of professional education and technical agriculture publications read by teachers of vocational agriculture who are opinion leaders and the number of professional education and technical agriculture publications read by teachers of vocational agriculture who are not opinion leaders.

**Alternative Hypothesis 12.** Teachers of vocational agriculture who are opinion leaders read a significantly greater number of professional education and technical agriculture publications than do teachers of vocational agriculture who are not opinion leaders.

**Null Hypothesis 13.** There is no significant difference in the social participation of teachers of vocational agriculture who are opinion leaders and the social participation of teachers of vocational agriculture who are not opinion leaders.

**Alternative Hypothesis 13.** Teachers of vocational agriculture who are opinion leaders have a significantly greater
degree of social participation than teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 14. There is no significant difference in the job satisfaction of teachers of vocational agriculture who are opinion leaders and the job satisfaction of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 14. Teachers of vocational agriculture who are opinion leaders are significantly more satisfied with their jobs than are teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 15. There is no significant difference in the innovativeness of teachers of vocational agriculture who are opinion leaders and the innovativeness of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 15. Teachers of vocational agriculture who are opinion leaders are significantly more innovative than teachers of vocational agriculture who are not opinion leaders.

Null Hypothesis 16. There is no significant difference in conformity to social system norms on innovativeness by teachers of vocational agriculture who are opinion leaders and the conformity to social system norms on innovativeness of teachers of vocational agriculture who are not opinion leaders.

Alternative Hypothesis 16. Teachers of vocational agriculture who are opinion leaders conform significantly more closely to social system norms on innovativeness than do teachers of vocational agriculture who are not opinion leaders.
Method Of Investigation

This study was based on data received from 272 teachers of vocational agriculture in South Carolina, making up 97.79 percent of all teachers in the state. A descriptive survey utilizing group interview techniques was the procedure used in gathering data.

Leadership among teachers was measured by use of a sociometric technique of identifying opinion leaders. Individual teachers were asked to identify teachers of vocational agriculture from whom they would seek advice and information on eleven areas of the vocational agriculture program. The eleven areas were plant science, animal science, FFA, supervised work experience, agricultural mechanics, farm management, specialized programs in ornamental horticulture, specialized programs in agricultural supply, young farmer programs, adult farmer programs, and administering a vocational agriculture department. Sociometric scores were computed by summing the number of times an individual was named by his peers for each area. Those teachers named four or more times for an area were classified as opinion leaders.

The self-designating and key informant techniques of identifying opinion leaders were also utilized and correlated with the sociometric technique to determine whether these methods were effective in identifying opinion leaders. The self-designating technique consisted of administering to teachers a six item scale. It was possible for teachers to score them-
selves from 0-6 on the scale. Those teachers scoring 4-6 points were categorized as considering themselves to be opinion leaders.

The key informant technique consisted of asking individuals who were familiar with all teachers to rate each on the degree of opinion leadership exhibited in a randomly selected area of the vocational agriculture program. District supervisors of vocational agriculture programs were utilized for this task. The instruments used to determine opinion leadership with the sociometric and self-designating techniques are included as item B, section D1 and D2 of the Appendix. The instrument used to identify opinion leaders utilizing the key informant technique is included as item C of the Appendix.

Social participation, innovativeness and job satisfaction were measured with scales or indices especially suited to each characteristic. The Chapin Social Participation Scale was utilized to measure social participation. Innovativeness was measured by an adoption scale formulated by the author specifically for teachers of vocational agriculture in South Carolina. The mathematical formula for the innovativeness scale was:

\[ IS = \frac{t_{la} + t_{lp}}{N_a} \times \frac{41}{Y_e} \]

Where:

- \( t_{la} \) : time lag expressed in years for all practices adopted by the individual teacher.
- \( t_{lp} \) : time lag penalty in years for remaining practices adopted which could have been adopted.
- \( N_a \) : Number of practices actually adopted.
- \( 41 \) : maximum length of experience of any teacher investigated.
Ye : years of experience possessed by the individual teacher.

Job satisfaction was measured with the use of the Brayfield and Rothe Index of Job satisfaction.

Characteristics such as age, experience, educational attainment, professional educational offices held were reported by the respondents. The instrument used to gather data is included in the Appendix as item B.

The instrument used to collect data was administered in group-interview situations at regularly scheduled district meetings of teachers of vocational agriculture in South Carolina in March, 1968. Follow-up information was gathered where necessary in March and April, 1968.

Information provided by the respondents was checked for accuracy, tabulated and analyzed statistically. Tests of significance involving the standard Z score, Chi-square and Spearman correlations were used where appropriate.

**Major Findings**

The following are major findings of the study as they applied to the teachers involved. General findings are presented first and specific analysis pertaining to the null hypotheses are presented separately.

**General Findings**

1. Opinion leaders among vocational agriculture teachers could be isolated from their peers by utilizing the sociometric
technique with the criterion that to be classified as an opinion leader an individual must have been mentioned at least four times by his peers as a source of advice and information for a specific area of the vocational agriculture program.

2. Personal influence was dispersed in some areas of the vocational agriculture program as a large number of teachers were named as a source of advice and information. However, in other areas of the vocational agriculture program, personal influence was concentrated in a relatively small number of teachers.

3. Opinion leaders were identified for each of the eleven areas of the vocational agriculture program investigated. The number of opinion leaders identified ranged from a maximum of sixteen for the FFA area to a minimum of three for the area of specialized programs in agricultural supply.

4. A high degree of interrelationship was observed among the responses to the several questions that made up the total sociometric score. Twenty-one or forty-one percent of the opinion leaders were influential in more than one area of the vocational agriculture program.

5. The sociometric data indicate that opinion leaders frequently seek out other opinion leaders as their source of advice and information. Seventy-two percent of the opinion leaders selected other opinion leaders as their source of advice and information.

6. Lending support to the importance of personal influence exerted by opinion leaders among teachers of vocational agriculture was the finding that all vocational agriculture teachers
indicated that other teachers of vocational agriculture and district supervisors were the sources from which they typically sought advice and information.

Specific Findings Related to the Null Hypotheses.

1. There was no significant positive correlation between the sociometric and self-designating techniques of identifying opinion leaders.

2. There was a significant positive correlation between the sociometric and key informant techniques of identifying opinion leaders in five of the six supervisory districts. In the remaining district, the correlation was positive but was not significant at the .05 level.

3. Opinion leaders among teachers of vocational agriculture were significantly older than their peers.

4. Teachers of vocational agriculture who were opinion leaders had taught vocational agriculture for a significantly longer period of years than teachers who were not opinion leaders.

5. There was no significant difference in the number of different vocational agriculture teaching positions held by teachers who were opinion leaders and the number of different teaching positions held by teachers who were not opinion leaders.

6. Opinion leaders among teachers of vocational agriculture had attained a significantly higher educational level than teachers who were not opinion leaders.
7. There was no significant difference in the amount of personal money spent for professional improvement by opinion leaders and their peers among teachers of vocational agriculture.

8. Opinion leaders had a significantly greater income from teaching than their peers.

9. Opinion leaders held a significantly greater number of educational offices than did their fellow teachers of vocational agriculture.

10. Cosmopoliteness was not a differentiating characteristic between opinion leaders and their peers among teachers of vocational agriculture.

11. There was no significant difference in the sources of information used by teachers of vocational agriculture who were opinion leaders and the sources of information used by their peers.

12. Opinion leaders and their peers did not read a significantly different number of professional education and technical agriculture publications.

13. Opinion leaders among teachers of vocational agriculture exhibited a significantly greater degree of social participation than did their peers.

14. There was no significant difference in the job satisfaction of opinion leaders and their peers among teachers of vocational agriculture.

15. Opinion leaders were significantly more innovative than their peers among teachers of vocational agriculture.

16. Teachers of vocational agriculture who are opinion
leaders conformed more closely to social system norms on innovativeness than did their peers but not significantly closer.

Conclusions And Implications

On the basis of the findings resulting from the data collected during this study and the limits of significance set for this study, the following conclusions were drawn by the investigator. General conclusions and their attendant implications are presented first. Conclusions and implications pertaining to the alternative and null hypotheses are then presented. In the writer's judgement, the implications apply primarily to supervisory programs in agricultural education.

General Conclusions and Implications

The following conclusions were drawn from the general findings of this study.

1. Opinion leadership among teachers of vocational agriculture is fairly widespread. However, when subjected to the more stringent definition of the study, a hierarchy of opinion leaders emerges with pervasive opinion leadership concentrated in a few individuals.

Implication -- In attempting wholesale efforts to create change and increase the adoption of approved education innovations, the state supervisory staff should identify those individuals in whom opinion leadership is especially concentrated. By identifying these opinion leaders, and focusing their efforts
on accelerating change in the programs of these individuals, supervisors should reap benefits from the internal dynamics of a social group whereby individuals who have adopted an innovation or have made a change influence others to do so. Opinion leaders, with greater personal influence than others, should accelerate the interaction effect. In addition, opinion leaders who are influential in more than one area of the vocational agriculture program tend to multiply their personal influence, compounding their interaction effect.

2. Though opinion leadership is concentrated in a few individuals, the overall differences in personal and social characteristics of opinion leaders and their peers is not significant.

**Implication** -- State supervisory staff members cannot rely on a series of social and personal characteristics as the criteria for identifying opinion leaders. Therefore, an alternative technique or techniques for identifying these individuals must be utilized.

3. District supervisors are considered by teachers of vocational agriculture to be good sources of advice and information and therefore should be considered to exert relatively great influence on the actions of teachers of vocational agriculture.

**Implication** -- Only those individuals who are change oriented should be selected for supervisory positions. Slow-to-change individuals in district supervisory positions would tend to greatly reduce the rate of educational change due to the in-
fluence they exert on teachers of vocational agriculture.

4. Teacher educators were not regarded as a primary source of advice and information for teachers of vocational agriculture.

Implication — No attempt was made to determine why teacher educators were not named by any teacher as a source of advice and information. However, the implication exists that teacher educators should attempt to determine why this finding occurred. Perhaps it is because of the relatively infrequent contact between teacher educators and teachers as compared to the frequency of contact between teachers and district supervisors or school administrators. In any event, further research is needed to determine the reason for this occurrence.

Conclusions and Implications Related to the Alternative Hypotheses

On the basis of the finding revealed during the conduct of the study, eight of the null hypotheses could be rejected and the alternative hypotheses accepted. The alternative hypotheses which were accepted and their attendant implications were:

1. There is a significant positive correlation between the sociometric and key informant techniques of identifying opinion leaders.

Implication — As the sociometric technique of identifying opinion leaders is somewhat more involved and therefore more difficult to administer than the key informant technique of identifying opinion leaders, the state supervisory staff should
utilize the key informant method to identify the opinion leaders in the population of teachers of vocational agriculture. Since the key informants utilized in this study were the district supervisors of agricultural education, this implies that the state supervisory staff is aware of the identity of opinion leaders in the state.

2. Teachers of vocational agriculture who are opinion leaders are significantly older than teachers of vocational agriculture who are not opinion leaders.

**Implication** -- Opinion leadership encompasses a specific age span. Thus, the supervisory efforts designed to bring about educational change should be concentrated on this specific age group. However, the implication exists that the state supervisory staff should also attempt to identify those younger teachers who are the emerging opinion leaders in the field. Identification and utilization of these emerging opinion leaders would insure continuity in the educational change master plan.

3. Teachers of vocational agriculture who are opinion leaders have significantly more years of service in vocational agriculture than teachers of vocational agriculture who are not opinion leaders.

**Implication** -- Opinion leaders are older and also have more years of experience in teaching vocational agriculture, implying that maturity and experience are prerequisites of opinion leadership. Therefore, in seeking to identify opinion leaders, supervisory staff members should direct their initial efforts
4. Teachers of vocational agriculture who are opinion leaders have a significantly higher income from teaching than do teachers of vocational agriculture who are not opinion leaders.

**Implication** — On the surface, this conclusion implies that salary level would be an indicator of opinion leadership. However, in the state in which the study was conducted, salaries of teachers are based on a state salary scale, except for local supplements. This pay scale rewards years of service and advanced degrees. As conclusions three and five indicate, opinion leaders have taught vocational agriculture for longer periods than their peers and have attained a higher educational level than their peers. Thus, salary alone would not be an indicator of opinion leadership. However, salary, years of service and educational attainment would provide state supervisory staffs with an indicator of the opinion leadership possessed by individual teachers.

5. Teachers of vocational agriculture who are opinion leaders have attained a significantly higher educational level than teachers of vocational agriculture who are not opinion leaders.

**Implication** — This conclusion implies that the use of credit courses to aid in creating educational change in the programs of opinion leaders would not result in accelerating the rate of educational change as opinion leaders generally had completed work toward the master’s degree. Special invitational
workshops, institutes and conferences designed to emphasize specific educational changes or innovations should result in greater acceleration of change. However, since opinion leaders tend to strive for a higher educational attainment than do other vocational agriculture teachers, graduate courses designed to promote educational change would be effective with the "emerging" opinion leader. Therefore, the implication for designing graduate courses to promote educational change becomes relevant.

6. Teachers of vocational agriculture who are opinion leaders hold a significantly greater number of educational offices than do teachers of vocational agriculture who are not opinion leaders.

**Implication** -- The number of educational offices held by a teacher of vocational agriculture would be a good indicator of the degree of opinion leadership held by that individual. It also implies that vocational agriculture teachers recognize opinion leaders and elect them to offices in agricultural education. This was especially true of offices above the local level.

7. Teachers of vocational agriculture who are opinion leaders have a significantly greater degree of social participation than teachers of vocational agriculture who are not opinion leaders.

**Implication** -- No attempt was made to determine whether an individual was an opinion leader because of greater social
participation or whether greater social participation resulted in increased opinion leadership. However, a correlation between the two did exist, implying that perhaps opinion leaders work at becoming opinion leaders by becoming involved in more activities and organizations. This "joiner" attitude on the part of the opinion leader also indicates concern for service to the organization as opinion leaders were members of a greater number of professional education and vocational education organizations than were teachers who were not opinion leaders.

8. Teachers of vocational agriculture who are opinion leaders are significantly more innovative than teachers of vocational agriculture who are not opinion leaders.

Implication — This indicates that opinion leaders are more receptive to educational change than their fellow teachers. This factor gives added emphasis to the implication that state supervisory staff members interested in encouraging educational change should concentrate their efforts on the opinion leader to take advantage of their willingness to adopt education innovations and the influence which these teachers exert over their peers. However, since most opinion leaders were categorized as early adopters and not innovators, this implies that they are not the most willing of the group of teachers to change, and indicates that an effort by the state supervisory staff will be needed to accelerate change.

An attendant implication is that innovators are also an important group of teachers. As past research has indicated,
innovators may not be a respected leader of change but may set the stage for change by demonstrating new ideas or innovations to opinion leaders. Thus, the state supervisory staff cannot afford to concentrate their change efforts on opinion leaders alone. Emphasis on innovativeness, encouragement and freedom to try new ideas must also be provided the innovator group of teachers.

An additional attendant implication is that since opinion leaders are found in all of the innovativeness categories including the laggard categories, state supervisory staff members cannot afford the luxury of concentrating their efforts on the more innovative opinion leaders. All opinion leaders should be included in any program of planned change as teachers of vocational agriculture tend to seek out members of their own or only a slightly more innovative peer group member for advice and information. Neglecting opinion leaders who are members of the late majority and laggard innovativeness categories would also result in neglect of other teachers who are members of these innovativeness categories.

Conclusions and Implications Related to the Null Hypotheses

On the basis of the findings of the study, the investigator concluded that the following eight null hypotheses could not be rejected since the findings were not significantly different at the .05 level. These null hypotheses and their attendant implications are as follows:
1. There is no significant correlation between the socio-metric and self-designating techniques of identifying opinion leaders.

Implication -- There was no significant correlation between the two techniques of identifying opinion leaders. State supervisory staff members should not use the self-designating technique of identifying opinion leaders unless further study indicates that the self-designating technique of identifying opinion leaders among teachers of vocational agriculture is a valid technique.

2. There is no significant difference in the number of different vocational agriculture teaching positions held by teachers of vocational agriculture who are opinion leaders and teachers of vocational agriculture who are not opinion leaders.

Implication -- Opinion leaders are like other teachers of vocational agriculture in relation to the number of moves made after beginning to teach vocational agriculture. However, additional findings indicated that opinion leaders had taught for a longer period of time in the position in which they were employed at the time of the study than had other teachers. This finding implies that opinion leaders change teaching positions until a satisfactory position is located and then remain in that position for long periods of time. This implies that tenure in a position is a requirement for possession of opinion leadership. For the practical purpose of identifying opinion leaders, number of moves would not be an indicator of opinion leadership.
3. There is no significant difference in the amount of personal money invested in professional improvement by teachers of vocational agriculture who are opinion leaders and the amount of personal money invested in professional improvement by teachers of vocational agriculture who are not opinion leaders.

**Implication** — Although opinion leaders had attained a higher educational level than other teachers, this finding implies that the educational attainment was achieved early in the teacher's career as the findings apply only to the two years preceding the date upon which the data for the study was collected.

The implication for state supervisory staffs is that for advanced course work to be of value in promoting educational change it must be oriented to "emerging" opinion leaders who are currently engaged in advanced course work. This finding further substantiates the implication that special invitational institutes, workshops and conferences are probably the most effective means of reaching incumbent opinion leaders.

4. There is no significant difference in the cosmopolitanness of teachers of vocational agriculture who are opinion leaders and the cosmopolitanness of teachers of vocational agriculture who are not opinion leaders.

**Implication** — Vocational agriculture teachers are cosmopolite in nature and make an effort to broaden their perspective of vocational agriculture programs and education in general.
by visiting other programs of instruction, other programs of vocational agriculture and by attending professional educational meetings. State supervisory staffs should, therefore, continue to create a climate conducive to additional activities of this nature. Educational change could conceivably be accelerated by encouraging teachers to visit specific programs which are innovative in specialized areas of the program. Possible plans of action could include holding district conferences and workshops in innovative departments of vocational agriculture.

5. There is no significant difference in the sources of information used by teachers of vocational agriculture who are not opinion leaders.

Implication -- There are no specific sources of information which the opinion leader uses which distinguish the individual as an opinion leader. This again implies that opinion leaders are much like the person upon whom they exert personal influence.

6. There is no significant difference in the number of professional education and technical agriculture publications read by teachers of vocational agriculture who are opinion leaders and the number of professional education and technical agriculture publications read by teachers of vocational agriculture who are not opinion leaders.

Implication -- There were no apparent differences in the professional education and technical agriculture publications read by opinion leaders and their peers, implying that there are
no specific publications through which state supervisory staff members can reach opinion leaders with new ideas and innovations. The luxury of utilizing a small number of publications to reach opinion leaders cannot be justified. However, making use of all publications of a professional education and technical agriculture nature and especially The American Vocational Journal, The Agricultural Education Magazine, and The NEA Journal would provide a source of new ideas for all teachers of vocational agriculture, including opinion leaders. This implication demands greater use of the professional education and technical agriculture publications to inform teachers of the development of innovations applicable to teaching vocational agriculture. An attendant implication is that state supervisory staff personnel should increase the number of articles of an innovative nature written for publication in professional education and technical agriculture publications.

7. There is no significant difference in the job satisfaction of teachers of vocational agriculture who are opinion leaders and the job satisfaction of teachers of vocational agriculture who are not opinion leaders.

Implication — Opinion leaders are a great deal like other teachers of vocational agriculture in their personal and social characteristics. This finding further implies that job satisfaction does not provide an explanation for the greater number of years of service and attendant greater age of opinion leaders among teachers of vocational agriculture.
8. There is no significant difference in conformity to social system norms on innovativeness by teachers of vocational agriculture who are opinion leaders and the conformity to social system norms on innovativeness of teachers of vocational agriculture who are not opinion leaders.

Implication -- Although opinion leaders are more innovative than the individual teachers they influence, this finding implies that they are not innovative to the degree that they are greatly different from the teachers they influence. This implies that opinion leaders must conform to the norms of the group better than any of his peers. The implication for state supervisory staffs is that opinion leaders do not differ enough from their peers in personal and social characteristics to be identified by using personal and social characteristics as criteria.

Recommendations

The recommendations for further research listed herein are based on the findings and conclusions drawn from this study, the experience and the impressions acquired by the writer in conducting the study.

Several questions which have not been answered have arisen as a result of this study. These questions provide the basis for the following recommendations:

1. Now that a beginning has been made in understanding the opinion leadership phenomenon as it applies to teachers of voca-
tional agriculture, the investigator suggests that the study be replicated in several states. This replication should aid in reinforcing or in providing data needed to restate the conclusions drawn pertaining to the identification of opinion leaders and a determination of their personal and social characteristics. The replication should aid in determining whether the self-designating technique of identifying opinion leaders is as fruitless as it appeared in the present study. Evidently the self-designating technique had been a more reliable technique of identifying opinion leaders in other traditions of research. Why, then, did it correlate so little with the sociometric technique when applied to teachers of vocational agriculture?

2. Does competence in an area of the vocational agriculture program contribute to the degree of influence an individual teacher exerts in that area? Past experience with vocational agriculture teachers in the state in which the study was conducted and personal knowledge of the competence of the vocational agriculture teachers indicated to the investigator that a strong correlation existed between those teachers identified as opinion leaders and teachers with a high degree of competence in the area in which they were identified. A study should be undertaken to determine the correlation between competence and opinion leadership.

3. Do personality traits contribute to the degree of influence an individual teacher exerts? Must an individual be an extrovert, empathetic, aggressive, perceptive, charismatic or
creative, etc. to be an opinion leader? Although difficult to design and administer, a study of these traits would increase the body of knowledge concerning the opinion leadership phenomenon.

4. What effect does the school and community situation have on the opinion leadership phenomenon? Do opinion leaders exist only in schools and communities where there is sufficient academic and personal freedom for the teacher to develop and exercise personal influence? Or do opinion leaders develop regardless of the school and community climate? The answer to these questions would assist state supervisors in understanding and utilizing opinion leaders.

5. What effect does the type of supervisory program have on the opinion leadership hierarchies present in a state? Do influence patterns and networks differ in supervisory systems which are autocratic in nature as compared to supervisory systems which are democratic in nature? Certainly a study to determine the relationship between the factors should be undertaken.

6. Are opinion leaders among teachers of vocational agriculture also opinion leaders among the teachers in their own school system? Do they exert personal influence over science or biology teachers in their school systems? The answer to this question may assist in providing the answer to the question of whether an opinion leader must show competence in the area in which he is influential or whether an individual
exerts personal influence because he possesses a certain set of personal and social characteristics.

7. Do opinion leaders maintain their position in a social system over a period of time or is it transitory? This question suggests that the study should be replicated in the state in which it was originally conducted after a reasonable length of time has elapsed. Such a replication would provide insight into this question.

8. If state supervisory staff members are to reap the greatest benefit from the ability of opinion leaders to influence other teachers in a desirable direction, then special activities must be conducted involving opinion leaders and state supervisory staff members. Would opinion leaders lose their personal influence if it became apparent to other teachers that they were being provided special attention by the state supervisory staff? This question must eventually be answered if state staff members are to extensively utilize opinion leaders effectively and efficiently.

9. Who influences opinion leaders? Since opinion leaders in the present study indicated that they would typically seek out other opinion leaders as sources of advice and information, it would appear that this question was answered. However, it would seem logical that opinion leaders would also seek advice and information from a variety of other sources. Determining these sources would assist in gaining greater insight into the total structure of influence among teachers of vocational agriculture.
10. Finally, those null hypotheses which were accepted because differences were not significant at the statistical levels established by the investigator should be retested.

**Concluding Statement**

This study represents one attempt to understand the opinion leadership phenomenon as it applies to teachers of vocational agriculture. However, it seems that further investigation of this field would provide additional understanding and insight into an area which holds great promise in assisting state supervisory staffs in vocational agriculture in accelerating the rate of educational change in programs of vocational agriculture.
APPENDIX A
SUBJECT - Innovations in Vocational Agricultural Education in the State of South Carolina.

INSTRUCTIONS - This is an attempt to identify the major educational innovations (not technical agricultural subject matter) used by teachers of vocational agriculture in South Carolina to improve their instruction during the last 10 years. Please list the innovations which developed in the 1958-1962 period and those which developed in the 1963-67 period.

In considering possible answers to this question, it may be helpful to keep the following points in mind:

1. An innovation is an instructional idea perceived as new by the individual who ultimately may use it, in this case, the teacher of vocational agriculture.

2. The innovation need not have originated in South Carolina.

3. The following are examples of possible innovations which may be used to guide your efforts.

   Example:

   (a) The use of plots to demonstrate new varieties of seed, lawn grasses, etc.

   (b) The use of the opaque projector in classroom instruction.

   (c) Color coding shop equipment for safety purposes.

4. The following are examples of technical agriculture innovations which illustrate the type of innovations which are not to be considered in compiling the list.

   Example:

   (a) The development of hybrid corn, new tobacco varieties, new methods of crop cultivation, etc.
(b) The use of systemic insecticides to control parasites on livestock.

(c) The use of stilbesterol in livestock production.

5. List innovations which may apply in the areas of teaching in-school students, teaching adults, teaching shop, public relations, administering the department, etc.
MAJOR EDUCATIONAL INNOVATIONS (1958-1962)

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________
4. ____________________________________________
5. ____________________________________________
6. ____________________________________________
7. ____________________________________________
8. ____________________________________________
9. ____________________________________________
10. ____________________________________________
11. ____________________________________________
12. ____________________________________________

MAJOR EDUCATIONAL INNOVATIONS (1963-1967)

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________
4. ____________________________________________
5. ____________________________________________
6. ____________________________________________
7. ____________________________________________
8. ____________________________________________
9. ____________________________________________
10. ____________________________________________
11. ____________________________________________
12. ____________________________________________
PERSONAL, SOCIAL AND LEADERSHIP CHARACTERISTICS
OF VOCATIONAL AGRICULTURE TEACHERS

Dr. James W. Hensel, Principal Investigator
Cecil H. Johnson, Research Associate

March, 1968
INSTRUCTIONS

This page is concerned with general information and your participation in certain activities. Please answer accordingly.

1. Present age _____
2. Year in which you began teaching vocational agriculture _____.
3. Number of years you have been teaching vocational agriculture _____.
4. Number of schools in which you have taught vocational agriculture _____.
5. Number of years you have been teaching in your present position _____.
6. College credit you have completed since you began teaching vocational agriculture: semester hours _____.
7. Amount of schooling completed (CHECK HIGHEST)
   a. Less than Bachelor's degree
   b. Bachelor's Degree
   c. Bachelor's plus
   d. Master's Degree
   e. Master's plus
   f. Master's plus

8. What is the amount of your own money that you have invested in professional growth (e.g., summer school, correspondence courses, travel to professional meeting, etc.) during the past two years? (Include fees, registration, books, room and board, dues, magazine subscriptions, etc.) CHECK THE CLOSEST AMOUNT.
   a. $  0 - 100
   b. $101 - 200
   c. $201 - 300
   d. $301 - 400
   e. $401 - 500
   f. $501 - 600
   g. $601 - 700
   h. $701 - 800
   i. $801 - 900
   j. $901 - 1000
   k. above $1000 . . . If above how much? _____

9. List the professional educational organizations and the elective or appointive offices you have held in these organizations the last 3 years.
   a. local ____________________________________________
b. district or county-wide ______________________

____________________________________

c. state ________________________________

____________________________________

d. national ______________________________

____________________________________

STOP - WAIT FOR INSTRUCTIONS BEFORE CONTINUING.
INSTRUCTIONS

1. List by name the organizations with which you are affiliated at the present time. An organization means some active and organized grouping, usually but not necessarily in the community or neighborhood of residence, such as club, lodge, business, political, professional or religious organization; subgroups of a church or other institution are to be included separately provided they are organized as more or less independent entities.

2. Record under attendance the mere fact of attendance or non-attendance without regard to the number of meetings attended.

3. Record under contributions the mere fact of financial contributions or absence of contributions and not the amount.

4. In the committee membership and offices columns, list only the number which you presently hold.

<table>
<thead>
<tr>
<th>Name of Organization</th>
<th>Financial Attendance (yes or no)</th>
<th>Contribution (yes or no)</th>
<th>Committee Memberships Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>X. American Medical Assn.</td>
<td>Yes</td>
<td>Yes</td>
<td>2</td>
</tr>
</tbody>
</table>

1. 

2. 

3. 

4. 

5. 

6. 

7. 

8. 

9. 

10. 

11. 

12. 

STOP - WAIT FOR INSTRUCTIONS BEFORE CONTINUING.
**INSTRUCTIONS**

1. Listed below are professional education publications. Please indicate which of these publications you read regularly (seldom miss reading) by placing an R in the appropriate blank. Indicate those which you read infrequently by placing an I in the appropriate blank. Circle the publications which you receive, either through subscription or through your school affiliation.

<table>
<thead>
<tr>
<th>Publication</th>
<th>Subscription Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVA Journal</td>
<td>Agricultural Education Magazine</td>
</tr>
<tr>
<td>NEA Journal</td>
<td>County Agent-Vo-Ag Teacher</td>
</tr>
<tr>
<td>State Education Newsletter</td>
<td>Phi Delta Kappan</td>
</tr>
<tr>
<td>Kiplingers Magazine</td>
<td>Technical and Educational News</td>
</tr>
<tr>
<td>Journal of Ind. Arts</td>
<td>Balance Sheet</td>
</tr>
<tr>
<td>School Shop</td>
<td>Business Education World</td>
</tr>
<tr>
<td>Journal of Home Econ.</td>
<td>Journal of Business Education</td>
</tr>
<tr>
<td>Practical Forecast for Home Economics</td>
<td>National Business Education Quarterly</td>
</tr>
<tr>
<td>The Progressive Farmer</td>
<td>Farm Safety Review</td>
</tr>
<tr>
<td>Successful Farming</td>
<td>Farm Quarterly</td>
</tr>
<tr>
<td>Farm Journal</td>
<td>The Nation's Agriculture</td>
</tr>
<tr>
<td>Doane's Agricultural Digest</td>
<td>Farmers' Digest</td>
</tr>
<tr>
<td>Hoard's Dairyman</td>
<td>National Livestock Producer</td>
</tr>
<tr>
<td>American Nurseryman</td>
<td>Southern Planter</td>
</tr>
<tr>
<td>Plant Food Review</td>
<td>Better Crops with Plant Food</td>
</tr>
<tr>
<td>Under Glass</td>
<td>Better Farming Methods</td>
</tr>
<tr>
<td>Cropland Soils</td>
<td></td>
</tr>
<tr>
<td>South Carolina Wildlife</td>
<td></td>
</tr>
<tr>
<td>Flue Cured Tobacco Far.</td>
<td></td>
</tr>
<tr>
<td>Poultry Digest</td>
<td></td>
</tr>
</tbody>
</table>

2. Number of professional education meetings you have attended over the past two years. (examples: NEA or AVA meetings, teacher workshops, teacher conferences, etc.) DO NOT INCLUDE LOCAL SCHOOL MEETINGS.

<table>
<thead>
<tr>
<th>Level</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>District</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td></td>
</tr>
<tr>
<td>National</td>
<td></td>
</tr>
</tbody>
</table>

3. How many other departments of vocational agriculture did you visit last year?
   a. to attend a called meeting
   b. on your own initiative
4. How many other departments of instruction, such as science or industrial arts, excluding those for which you have assigned duties, did you visit last year?

a. to attend a called meeting ______

b. on your own initiative ______

STOP - WAIT FOR INSTRUCTIONS BEFORE CONTINUING.
SECTION D

I. From which vocational agriculture teacher in the state would you seek advice and information before making a major change in your program in each of the following areas. Enter one name or write NONE in each blank.

1. plant science ____________________________

2. animal science ____________________________

3. FFA ____________________________

4. supervised work experience ____________________________

5. agricultural mechanics ____________________________

6. farm management ____________________________

7. specialized programs in horticulture ____________________________

8. specialized programs in agricultural supply ____________________________

9. young farmers ____________________________

10. adult farmers ____________________________

11. administering a vocational agriculture department ____________________________

II. Please check the appropriate blank for each of the following questions:

1. During the past 6 months have you told a vo-ag teacher about some new practice in agricultural education?
   Yes ____ No ____

2. Compared with your circle of friends in vocational agriculture, are you more or less likely to be asked for advice about new practices in agricultural education?
   More ____ Less ____

3. Thinking back to your last discussion with vo-ag 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 ____ Asked someone else ____

4. When you and your friends who teach vo-ag discuss new ideas in agricultural education, what part do you play?
   Mainly listen ____ Try to convince them of your ideas ____
5. Which of these happens more often? You tell your neighboring agriculture teachers about some new practice? ____ They tell you about some new practice? ____

6. 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 ____ No ____

III. When confronted with a specific problem in your vocational agriculture program, from which of the following sources would you typically seek the advice and/or information needed to solve the problem? (Check the single source to which you would most often refer.)

____ 1. other vocational agriculture teachers
____ 2. other teachers
____ 3. district supervisor
____ 4. teacher educator
____ 5. school administrator
____ 6. professional literature (periodicals, books)
____ 7. advisory group or member of advisory group
____ 8. other (specify) ________________________________

STOP - WAIT FOR INSTRUCTIONS BEFORE CONTINUING.
SECTION E

Please check the letter opposite the response to each question below which fits your situation.

1. From which source do you tend to get most of the ideas you use in teaching?
   a. Impersonal sources such as publications of various kinds, technical journals, published results of research, books, etc.
   b. Personal sources such as other teachers, administrative personnel, supervisory personnel, farmers, college professors, etc.

2. From which source do you tend to get most of the ideas you use in teaching?
   a. Sources within the field of agricultural education, such as other vo-ag teachers, magazines pertaining to agricultural education, supervisors, etc.
   b. Sources outside the field of agricultural education, such as other teachers, general magazines, lay people in business and industry, etc.

3. From which sources do you tend to get most of the ideas you use in teaching?
   a. Sources relatively close at hand such as neighboring teachers, local school personnel, publications which cross your desk automatically, other people in the community, etc.
   b. Sources relatively far afield, such as technical publications to which you usually have to subscribe, teachers working in other districts or even out of state, results observed in industry training programs, etc.

4. From which sources do you tend to get most of the ideas you use in teaching?
   a. Sources which require a cash outlay by you personally, such as books you have to buy, magazines to which you have to subscribe, courses in which you have to pay a registration fee, etc.
   b. Sources which do not require a cash outlay to you personally, such as free magazines, publisher's displays at conventions, free clinics, etc.

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5. From which sources do you tend to get most of the ideas you use in teaching?

a. Sources which do not take up a lot of your personal time, such as newsletters, other mail crossing your desk, drop in visits during regular working hours, etc.

b. Sources which require quite a bit of your personal time, such as summer school courses, workshops, trips, etc.

STOP - WAIT FOR INSTRUCTIONS BEFORE CONTINUING.
INSTRUCTIONS

Listed below are activities or practices which you may or may not be using. First, read the description of the practice or activity, then decide whether or not you have used or are using the practice. After making this decision, please provide the following information.

1. If you are using or have used the practice or activity, estimate, in the first space, the year the practice or activity was first used.

2. If you are not using the activity or practice and it could apply to your situation, place a check (✓) in the second space.

3. If you are not using the activity or practice and it does not apply to your situation, place a check (✗) in the third space.

<table>
<thead>
<tr>
<th>Activity or Practice</th>
<th>Used</th>
<th>Not Used</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year First</td>
<td>But Could</td>
</tr>
<tr>
<td>Adult programs are organized and offered in the off-farm agricultural occupations area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agricultural interest inventories are used in counseling of prospective agriculture students.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher cooperates with state employment service in placing program graduates.</td>
<td></td>
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</tr>
<tr>
<td>An agricultural occupations information library is maintained for in-school students.</td>
<td></td>
<td></td>
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<tr>
<td>A Unit on agricultural occupations is taught to 9th grade vocational agriculture students.</td>
<td></td>
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<tr>
<td>Programmed instructional materials such as Basic Welding of Joints by Litton Industries, are used in classroom instruction.</td>
<td></td>
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</tr>
<tr>
<td>High school students are used as teacher aides, shop assistants, or equipment maintenance helpers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity or Practice</td>
<td>Used</td>
<td>Not Used</td>
</tr>
<tr>
<td>----------------------</td>
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</tr>
<tr>
<td>Resource personnel such as farm equipment dealers are used in providing occupational information for classes in off-farm agricultural occupations.</td>
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<tr>
<td>The principles approach is used in teaching biological, economic, or physical fundamentals.</td>
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<tr>
<td>Teaching objectives are deliberately and purposefully formulated in terms of desired student behavioral outcomes.</td>
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<tr>
<td>Teacher works in agricultural occupations business or industry for a short period during summer to gain experience needed to offer in-school off-farm agricultural occupations programs.</td>
<td></td>
<td></td>
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<tr>
<td>The game technique (example: The International Harvester Farm Management Game) is used in classroom instruction.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperative work experience programs in the off-farm agricultural occupations area have been developed.</td>
<td></td>
<td></td>
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<tr>
<td>The overhead projector is used as teaching tool.</td>
<td></td>
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<tr>
<td>Advisory groups have been formed in the area of off-farm agricultural occupations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-concept cartridge loop films are used as a teaching aid.</td>
<td></td>
<td></td>
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<tr>
<td>Organized team teaching with other vocational education teachers has been utilized.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group or individualized instruction in vocational agriculture is offered for special needs students.</td>
<td></td>
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<tr>
<td>Awards program for off-farm agricultural occupations students have been initiated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls are enrolled in vocational agriculture.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity or Practice</td>
<td>Used First Year Used</td>
<td>But Could Apply</td>
</tr>
<tr>
<td>----------------------</td>
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</tr>
<tr>
<td>21. A departmental brochure is produced to inform public about expanded opportunities in vocational agricultural including off-farm agricultural occupations.</td>
<td></td>
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</tr>
<tr>
<td>22. Courses are named by subject matter or occupation such as Plant Science, Animal Science, Horticulture, Sales and Service, and Farm Machinery, etc. rather than Ag. I, II, III, IV.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Specialized courses are offered on a semester basis so students may tailor a program.</td>
<td></td>
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<tr>
<td>24. A master, cross-referenced, filing system code is used for indexing teaching aids, student materials, tests and teacher lesson plans.</td>
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<tr>
<td>25. Color transparencies are used with overhead projector in classroom instruction.</td>
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<tr>
<td>26. Pre-test - post-test is used to improve course of instruction in agricultural occupations.</td>
<td></td>
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<tr>
<td>27. Small plots are used to demonstrate improved crop practices.</td>
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</tr>
</tbody>
</table>

STOP - WAIT FOR INSTRUCTIONS BEFORE CONTINUING.
SECTION G

This page contains 19 statements about jobs. You are to check the phrase beside each statement that best describes how you feel about your job. There are no right or wrong answers. We would like your honest opinion on each of the statements.

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My job is like a hobby to me.</td>
<td></td>
<td></td>
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<tr>
<td>2. My job is usually interesting enough to keep me from getting bored.</td>
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<tr>
<td>3. It seems that my friends are more interested in their jobs.</td>
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<tr>
<td>4. I consider my job rather unpleasant.</td>
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<tr>
<td>5. I enjoy my work more than my leisure time.</td>
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<td></td>
<td></td>
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<tr>
<td>6. I am often bored with my job.</td>
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<tr>
<td>7. I feel fairly well satisfied with my job.</td>
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<tr>
<td>8. Most of the time I have to force myself to go to work.</td>
<td></td>
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<td></td>
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<tr>
<td>9. I am satisfied with my job for the time being.</td>
<td></td>
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<tr>
<td>10. I feel that my job is no more interesting than others I could get.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11. I definitely dislike my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I feel that I am happier in my work than most other people.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13. Most days I am enthusiastic about my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATEMENT</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Undecided</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------</td>
<td>-------</td>
<td>-----------</td>
<td>----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>14. Each day of work seems like it will never end.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I like my job better than the average worker does.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. My job is pretty uninteresting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I find real enjoyment in my work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. I am disappointed that I ever took this job.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INSTRUCTIONS FOR COMPLETION OF PERSONAL, SOCIAL AND LEADERSHIP CHARACTERISTICS OF VOCATIONAL AGRICULTURE TEACHERS QUESTIONNAIRE

With the support of The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio, I am conducting a research project to determine selected personal, social and leadership characteristics of vocational agriculture teachers.

The state supervisor of agriculture, Mr. P. G. Chastain, has given his consent to my proposal to administer the questionnaire to all vocational agriculture teachers in South Carolina.

Please complete each item carefully and honestly. Significant and meaningful results can be achieved only if you do not skip any items. Your answers will not be identified and will be kept in the strictest confidence. As you proceed you will notice that the questionnaire is divided into 7 sections. In order that we all complete the questionnaire at the same time and in order to assure that you understand the instructions for each section, please wait for instructions before completing each section.

Instruction I.

Please sign your name on the yellow card attached to your questionnaire, tear off the yellow card and pass it up front to me. Do not sign your name on the questionnaire.

Instruction II - Section A

Turn to Section A. This page is concerned with general information and your participation in certain activities.
Please fill in the blank or check the appropriate blank on each question. If it is necessary to estimate any answers, please do so as accurately as possible. Upon completion of this section, please wait for instructions before continuing.

Instruction III - Section B
Turn to Section B.

1. This section is concerned with the organizations with which you are affiliated at the present time. This means organizations of which you are a member at this particular moment in time (today). An organization means some active and organized grouping, usually but not necessarily in the community or neighborhood of residence, such as club, lodge, business, political, professional or religious organization; subgroups of a church or other institution are to be included separately provided they are organized as more or less independent entities. Examples would be the Kiwanis, Mason's, Elks, Lions, Moose, Ruritan, Baptist Brotherhood, etc.

2. Record under attendance the mere fact of attendance or non-attendance without regard to the number of meetings attended.

3. Record under contributions the mere fact of financial contribution or absence of contributions and not the amount.

4. In regard to committee membership and number of offices held, list only the number which you presently hold.

Please notice the example which is given and pattern your answer after it. Upon completion of this section wait for instructions before continuing.
Instruction IV - Section C.
Turn to Section C.

Part 1 of Section C is a list of professional education publications. Please indicate which of these publications you read regularly (seldom miss reading) by placing an R in the appropriate blank. Indicate those which you read infrequently by placing an I in the appropriate blank. Then circle the publications which you receive either through subscription or through your school affiliation.

In Part 2, provide the number of professional education meetings you have attended over the past two years. Examples are NEA or AVA meetings, teacher workshops, teacher conferences. DO NOT INCLUDE LOCAL SCHOOL MEETINGS.

In Part 3 and 4 provide the number of departments visited on your own initiative or to attend a called meeting.

Upon completion of this section, wait for instructions before continuing.

Instruction V - Section D.
Turn to Section D.

In Part 1 of Section D, provide the name of the vocational agriculture teacher in the state from whom you would seek advice and information before making a change in your program in the areas listed. This is a hypothetical question and does not mean that you are going to make a major change. Please answer this part as if you were going to make a major change. Enter only one name by each area or write NONE in the blank.
In Part 2 of Section D, check the appropriate blank for each of the questions. Check one blank under each question. Please read each question carefully before answering.

In Part 3 of Section D, we are interested in the single source from which you would typically seek the advice and/or information needed to solve problems encountered in vocational agriculture programs. Think back over a period of a few years prior to answering this question. Check only one source.

After completing this section, wait for instructions before continuing.

Instruction VI - Section E. Turn to Section E.

Read each of the following questions carefully and then check the source from which you tend to get most of the ideas you use in teaching. Check only one source under each question.

After completing this section, wait for instructions before continuing.

Instruction VII - Section F. Turn to Section F.

Listed in this section you will find 27 activities or practices which you may or may not be using. First read the description of the practice or activity, then decide whether or not you have used or are using the practice.

If you are using or have used the practice or activity, estimate in the first space the year the practice or activity was first used.
If you are not using the activity or practice and it could apply to your situation, place a check in the second space. If you are not using the activity or practice and it does not apply to your situation, place a check in the third space.

Each activity or practice could have either the year it was first used in the first blank or a check in the second or third blanks.

After completing this section, wait for instructions before continuing.

Instruction VIII - Section G.
Turn to Section G.

This page contains 18 statements about jobs. You are to check the phrase beside each statement that best describes how you feel about your job. There are no right or wrong answers. We would like your honest opinion on each of the statements. DO NOT CHECK MORE than one phrase beside each statement. Read each statement carefully before answering.

This section concludes the questionnaire. Thank you for your cooperation in this project.
INSTRUCTION SHEET FOR RANKING VOCATIONAL AGRICULTURE
TEACHERS ACCORDING TO OPINION LEADERSHIP HELD IN
SPECIFIC AREAS OF THE VOCATIONAL AGRICULTURE
PROGRAM

You have been given a deck of cards. Each card has the
name of a vocational agriculture teacher in your district. The
total deck of cards contains the names of all teachers in your
district.

What you are to do is to rank each of the teachers on
the basis of opinion leadership held in a specific area of the
vocational agriculture program. Your ranking is to be based
on the following definition of opinion leaders.

Opinion Leader -- vocational agriculture teacher
who is influential with fellow teachers in approv­
ing or disapproving new ideas in vocational agri­
culture.

In order to assist you in ranking the teachers, first
sort the cards into five equal stacks corresponding to the
following headings.

<table>
<thead>
<tr>
<th>Stack 1</th>
<th>Stack 2</th>
<th>Stack 3</th>
<th>Stack 4</th>
<th>Stack 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High Degree of Opinion Leadership</td>
<td>High Degree of Opinion Leadership</td>
<td>Average Degree of Opinion Leadership</td>
<td>Low Degree of Opinion Leadership</td>
<td>Very Low Degree of Opinion Leadership</td>
</tr>
</tbody>
</table>

Then rank each individual teacher in the five stacks
from high to low.

For example, if you have 50 teachers in your district,
the first operation would be to divide the teachers into 5
stacks of 10 teachers each, according to the degree of opinion
leadership held. Then each stack would be ranked from 1-10 ac­
cording to the degree of opinion leadership held within each
category.
After completing these operations, write the rank of each individual on the card with that individual's name.

Specific area of the vocational agriculture program in which teachers are to be ranked.

- District 1 ---- Adult Farmer
- District 2 ---- Farm Management
- District 3 ---- Agricultural Mechanics
- District 4 ---- Animal Science
- District 5 ---- FFA
- District 6 ---- Young Farmers
BIBLIOGRAPHY

Public Documents

U.S. Congress. Smith-Hughes Act, Public Law 64-347.


Books


ARTICLES AND PERIODICALS


Coughenour, C. M. "The Function of Farmers Characteristics in Relation to Contact with Media and Practice Adoption." Rural Sociology, XXV (1960).


Fliegel, F. C. "A Multiple Correlation Analysis of Factors Associated with Adoption of Farm Practices." Rural Sociology, XXI (1956).

"Literacy and Exposure to Instrumental Information Among Farmers in Southern Brazil." Rural Sociology, XXXI (1966).


Lionberger, H. F. "Some Characteristics of Farm Operators Sought as Sources of Farm-Information in a Missouri Community." Rural Sociology, XVII (1953).


____________. "The Relation of Farmer Characteristics to the Adoption of Recommended Farm Practices." Rural Sociology, XX (1955).


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**BULLETINS**

Taylor, R. E. *A Determination of Needed Adjustments and Extensions in the Curricular Patterns of Vocational Education in Agriculture.* The Center for Research and Leadership Development in Vocational and Technical Education. Columbus, Ohio: The Ohio State University, 1966.

**UNPUBLISHED MATERIAL**


Taylor, R. E. "A Determination of Needed Adjustments and Extensions in the Curricular Patterns of Vocational Education in Agriculture." The Center for Research and Leadership Development in Vocational and Technical Education. Columbus, Ohio: The Ohio State University, 1966.

**UNPUBLISHED MATERIAL**


