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THE ROLE OF COOPERATIVE EXTENSION PERSONNEL AND
ADVISORY COMMITTEES IN THE ADOPTION OF
PROGRAM INNOVATIONS

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

By
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* * * * * *

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CHAPTER I
THE PROBLEM AND ITS SETTING

Introduction

The Cooperative Extension Service in Agriculture and Home Economics was created to help people meet their needs by developing educational programs in subject areas relating to agriculture and home economics. County extension agents, area extension agents, state subject matter specialists and other personnel of the Cooperative Extension Service direct their energies towards helping appropriate clientele bring about improvement in their economic and social situation through educational programs. In order to develop sound educational programs in agriculture, home economics and related areas on a continuing basis, it is essential for Cooperative Extension Service personnel to adopt program innovations which meet more effectively the needs of the people.

The installation of an innovation in a system is not a mechanical process, but a developmental one in which both the innovation and the accepting systems are altered. Often much more attention is placed on constructing the innovation itself than on planning and carrying out the strategy for gaining its adoption.
The research efforts of many rural sociologists in recent years have been directed toward the study of diffusion and adoption of farm and home practices. It has been recognized that for an individual the adoption of a complex new farm or home practice is not a single unit act. The adoption process is probably a specific application of the general pattern by which human beings learn to make changes of any kind. A marked similarity has been noted between the process by which farm practices are adopted, the concept of diffusion as used by anthropologists and learning theories of certain social psychologists especially Dewey.

Many models of innovation, diffusion and adoption have been proposed -- some of them in the context of rural sociology or anthropology and some by researchers with an educational orientation. A few of these formulations are in fact pre-models suggesting only sets of variables entering innovation and diffusion, while others are more inclusive. Again, they are either process models, or stages of adoption models on a time dimension.

A "research into action" model is presented by Guba and Clark stating objectives, criteria and relations to change of the various


stages hypothesized by the authors. The present study will use this model as its basic theoretical framework (see Figure 1).

An Overview of the Schema

Through logical analysis and synthesis of empirical descriptions of the innovation process in other fields Guba and Clark arrived at a four-phase division of these processes.

1. Research phase
2. Development phase
3. Diffusion phase
4. Adoption phase

The first proposition underlying the schema is that all social process fields must utilize a wide range of processes or functions which take place as the field attempts to develop and subsequently integrate new knowledge into more effective practice.

The research process phase

Research provides the basis for invention, in a general sense, but the only criteria which can be used to assess research are internal validity -- the extent to which hypotheses are tested or the questions are answered unambiguously -- and external validity -- the extent to which the findings are generalizable to the population required by the hypotheses or questions being considered.

The development process phase

This phase involves two stages -- invention and design. Invention is defined as the formulation of a new solution to an operating problem
Figure 1
A Classification Schema of Processes Related to and Necessary for Change in Education

<table>
<thead>
<tr>
<th>Research</th>
<th>Development</th>
<th>Diffusion</th>
<th>Adoption</th>
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<tr>
<td><strong>Objective</strong></td>
<td><strong>Invention</strong></td>
<td><strong>Design</strong></td>
<td><strong>Dissemination</strong></td>
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<tr>
<td><strong>To advance knowledge</strong></td>
<td>To formulate a new solution</td>
<td>To order and to systematize the components of the invention</td>
<td>To create widespread awareness of the invention among practitioners, i.e., to inform</td>
</tr>
<tr>
<td><strong>Validituy</strong></td>
<td><strong>Face Validity</strong> (appropriateness)</td>
<td><strong>Institutional Feasibility</strong></td>
<td><strong>Intelligibility</strong></td>
</tr>
<tr>
<td><strong>Criteria</strong></td>
<td>Estimated viability</td>
<td>Generalizability</td>
<td>Performance</td>
</tr>
<tr>
<td><strong>Relation</strong></td>
<td>Provides the basis for the invention</td>
<td>Produces the invention</td>
<td>Engineers and packages the invention</td>
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or a class of operative problems. As Brickell notes in his monograph, the conditions conducive to invention are quite different from those required by research. 4

The diffusion process phase

The first stage of the diffusion phase, the dissemination, is concerned with creating widespread awareness of the existence and general nature of the invention among practitioners. When properly carried out, dissemination increases the number of options available to the professional from which he may choose in practice. The criteria which can be applied to dissemination are essentially communication criteria: pervasiveness, the extent to which information has reached the target system; intelligibility and fidelity, the extent to which information has arrived in understandable and non-distorted form; and impact, the extent to which information has affected the behavior of key targets. The dissemination process does not effect change but only creates widespread awareness of the existence of an invention. The stage of diffusion labeled demonstration in this case means the provision of an opportunity for the target system to examine and assess the operating qualities of the invention. This implies interaction between the demonstrator or demonstration and the target system -- a real chance for evidential assessment of the invention by a competent professional. The end result of demonstration, to build conviction on the part of

the target system, can only occur in a legitimate professional sense if the target professional can undertake professional assessment; and he can only do this if the demonstration provides evidence which can be examined thoroughly and critically.

The adoption process phase

Assuming that the target system is convinced of the efficacy of the invention there should be an opportunity to try out the invention, without substantial fear of failure, in the context of a particular institution. This trial period is not a period of simple "trial and error" but time during which familiarity with the invention can be established and during which a basis can be provided for assessing the quality, value, fit and utility of the invention in a particular institution.

The process of installation, or fitting the characteristics of the invention to the characteristics of the adopting institution, may be an exceedingly complex and time consuming stage. It may require substantial redesigning, extensive personnel retraining or modification of other elements of the operating system which conflict with the invention. The criteria for evaluation are the conventional administrative criteria of effectiveness, the extent to which the invention accomplishes what it purports to accomplish in relation to the system's available resources. The application of these criteria implies the operation of some pattern of quality control within the system which will allow for measurement of the impact of a change on the operating system.
Many of the characteristics of organizations are such that they make the initiation of change difficult. When organizations are viewed in terms of the system theory model suggested by Griffiths these characteristics appear very clearly. According to this model the organization is considered as an open system comprised of human interactions, which maintains a definite boundary. Administration is considered as an open subsystem. Since the tendency of an organization is to maintain a steady state, it has been proposed that the major impetus for change comes from outside rather than inside an organization. This may lead us to hypothesize that the advisory committees and other consultant groups play an important role in bringing about change in the organization with reference to program innovations if these committees are really outside the organization. However, if these groups are inside the organization, they would provide little impetus for change.

Viewed from the point of view of this schema the Cooperative Extension Service can be considered as a system and the county extension agent as the practitioner or the adopter of an innovation, since the county is a basic unit where a major portion of the programs are developed and much of the teaching is done. The county agent is guided in all administrative and program matters by his district supervisor with consultation with members of advisory committee. The state

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extension specialists and area extension agents also influence the content of the program. The state and area extension personnel and the members of advisory committees may serve as important informational sources and might play an important role in adoption of program innovations by the county extension agent. The central purpose of this study is to analyze what roles the extension personnel and advisory committee members play in adoption of program innovations.

Statement of the Problem

The Cooperative Extension Service is a public educational agency existing to fulfill one of the three functions of a land-grant institution: research, resident instruction, and extension teaching. Its purpose is to develop educational programs in agriculture and home economics which will assist people in solving relevant problems or meeting needs. Extension thus has become a system for providing people with knowledge and helping them change their understanding and attitudes and develop or improve skills. In order to develop sound educational programs in agriculture, home economics and related areas on a continuing basis, it is essential for Cooperative Extension Service personnel to adopt program innovations which meet more effectively the needs of people.

This study is directed toward the problem of identification of the roles performed by extension personnel and advisory committees in the adoption of program innovation and toward the function identification of the role expectations held by county extension agents for extension personnel and advisory committees in the adoption process.
Purpose of the Study

The extension personnel and advisory committees provide guidance to county extension agents for the development and execution of extension education programs. This entails a thorough understanding of the role of these groups.

The specific purposes of this study are:

1. To determine the roles performed by extension personnel and advisory committee members in different phases of adoption process.
2. To identify the role expectations held by county extension agents for these groups in the adoption of program innovations.

Specific Objectives

1. To determine the actual role performed by selected categories of extension personnel and advisory committees in the adoption of program innovations in extension.
2. To identify the county extension agents' expectations of the role extension personnel groups should perform at the various stages of the adoption of program innovations.
3. To identify the sources of information which are most influential with selected extension personnel groups in the adoption of program innovations.
4. To suggest implications for the Ohio Cooperative Extension Service based upon the results of the study.
Research Hypotheses

The following hypotheses were developed to be tested.

1. **Research hypothesis (H₁).**—The administrators will have a significantly higher role performance score in the development (invention and design) and diffusion (dissemination and demonstration) process phases than they will in the other process phases.

2. **Research hypothesis (H₂).**—Extension specialists will have a significantly higher role performance score in the invention, design, dissemination, demonstration, and trial process phases than they will in the other process phases.

3. **Research hypothesis (H₃).**—County extension agents will have significantly higher role performance score in the adoption process phase than in other process phases.

4. **Research hypothesis (H₄).**—County extension advisory committees will have significantly higher role performance scores in the installation and institutionalization process phases than they will in other process phases.

5. **Research hypothesis (H₅).**—County extension agent chairmen expect non-extension personnel to perform the role of research.

6. **Research hypothesis (H₆).**—County extension agents expect the administrators to perform the role of development (invention and design) of program innovations.

7. **Research hypothesis (H₇).**—County extension agents expect the district supervisors to perform the role of dissemination of information about program innovations.
8. **Research hypothesis (H_9)**.—County extension agents expect the area agents to perform the role of demonstration of program innovations.

9. **Research hypothesis (H_9)**.—County extension agents expect the county extension advisory committees to perform the role of installation of program innovations.

10. **Research hypothesis (H_{10})**.—County extension agents expect to perform role of adoption (trial, installation and institutionalization) of program innovation.

11. **Research hypothesis (H_{11})**.—Director, associate director, assistant directors are most important sources of information at the awareness stage.

12. **Research hypothesis (H_{12})**.—The administrative group is most important source of information at the conviction stage.

13. **Research hypothesis (H_{13})**.—The members of county extension advisory committees are most important sources of information at trial, installation and institutionalization phases.

**Importance of the Study**

Several pressing reasons exist for the systematic identification of the sources of information influencing county extension agents at various stages in the adoption process. This research is designed to study the role of extension personnel and advisory committees in adoption of program innovations should provide a better understanding of how these county extension agents utilize different sources of information before deciding to adopt or to reject the use of a specific program innovation in extension work.
If one can understand more fully the role of extension personnel and advisory committees in adoption of program innovations by county extension agents, then he would be in a better position to predict, for example, the field supervision activities, pilot programs or similar activities which would be most influential in determining the adoption of program innovation by extension agents. Perhaps from this research, clues can be obtained to other procedures or alternatives which would speed up the adoption process for extension agents.

There is substantial evidence available from the recent literature that the continuous adoption of program innovations by the Cooperative Extension Service will be required if this organization is to remain a viable force within the university and society.

McCormick and Hoffman indicate that forces currently at work will cause the Extension Service to accelerate the rate of change in program content, program procedures and in organization. Some of these forces are the increase in agricultural and home economics technology, the need for specialization of extension workers, the expectations of the Cooperative Extension Service by the land-grant universities and by the general public. 6

Watts states that "we (Cooperative Extension personnel) delude ourselves too much and hide sometimes from reality in our attempts to

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retain and justify institutionalized concepts and definitions carried from too far back in the past."^7

President Hammigton of the University of Wisconsin indicated that rarely does he see any evidence of the Extension Service as a dynamic force offering anything for future change in our institutions.8

Scheel has recently chided the extension practitioner for not taking advantage of the opportunities to install educational innovation in program.9

Cooperative Extension Service staff members have been acquainted for sometime with the research on the adoption of agricultural and homemaking practices by our clientele and the study of the innovativeness of our clientele. However, we have not applied all the relevant principles to our own practice.

We speak at great lengths of the need to understand social change. And we know a great deal about social change. In fact, the Cooperative Extension Service has served as the laboratory for a substantial amount of the research related to social change. We think of ourselves as


"change agents." However, this concept of change has been primarily directed toward changes in our clientele.

The time is long overdue when the entire educational establishment including elementary, secondary, higher and adult education must expend considerable energy toward developing innovations in the practice of education which will make our educational efforts more effective and efficient. It is clear that adult education and extension education have been the least resistant to change through the years. There are some reasonable explanations for this phenomenon. This segment of the educational establishment has operated in the "real world" to a greater degree than the other components of the system. Thus, the sensitivity to the need for change is greater. Also, this element of the system has had to continually "earn its way" with clientele. However, instead of suggesting the extension personnel be content with our history of innovations, there is an imperative need to accelerate the development of innovations in the practice of extension education. It is toward the accomplishment of this end that this study is directed.

**Basic Assumptions**

In this study the writer assumed that:

1. The county extension agents were capable of identifying the most influential sources that have played some role in adoption of program innovations.

2. The program innovations selected were those which are important to the Ohio Cooperative Extension Service in order to provide better extension programs.
3. County extension agents and other extension personnel have expressed their opinion about the actual role played by them.

4. Program innovations will continue to be developed and installed in the Cooperative Extension Service.

Method of Investigation

With a view toward analyzing the role of advisory committees and extension personnel in relation to different phases of adoption cycle namely: research, development, dissemination, and adoption, a design was developed for the systematic observation and investigation of these phenomena under field situations.

The design and conduct of the study was determined by the central purpose and nature of the specific objectives outlined above. Consequently it was necessary to accomplish the following before data pertaining to this study could be collected and used.

1. Select program innovations to serve as the vehicle for investigation.

2. Determine the sources of data to be collected.

3. Identify different sources of information which presumably influence county extension agents in their adoption of program innovations.

4. Construct an instrument to be used by extension personnel to gather necessary information.
Selection of program innovations

One of the most important and most difficult tasks of this study was to identify possible program innovations for use in the investigation. For the purpose of identifying possible program innovations the investigator conducted interviews with four assistant directors and two district supervisors, and made a list of 28 program innovations which were considered important to the Ohio Cooperative Extension Service. During the interview only those program innovations were considered which were initiated during the past five years period and which were organization-wide in nature. This list of 28 program innovations was then sent to the members of the administrative cabinet of the Ohio Cooperative Extension Service who were requested to rate the importance of these program innovations based upon the following criteria.

1. The impact of the adoption of the innovation upon the effectiveness of the county extension program.

2. The degree to which the innovation is applicable to all county extension programs in Ohio.

A rating scale of one through five was prepared, one being least important and five, most important. The respondents were asked to rate the three most important innovations by circling the number five, three least important innovations by circling the number one, and out of 22 remaining innovations five were to be rated by circling the number four, five were to be rated by circling the number two, and the remaining twelve were to be rated by circling the number three. (The
list of program innovations along with the rating scale and the covering letter appear as Appendix A.)

This set of innovations was sent to 11 members of the administrative cabinet of the Ohio Cooperative Extension Service out of which four failed to respond. On the basis of information received from seven members of the administrative cabinet the five most important innovations were selected through cumulative frequency. The five most important innovations identified by this group of people were:

1. Use of area agents in program development.
2. Long time program planning.
3. In-depth teaching.
4. The industry approach to extension education in agriculture.
5. Comprehensive representation on county extension advisory committee.

Sources of data

Basic information about role performance were procured from five different groups; namely, assistant directors, district supervisors, state, district and assistant state leaders, state extension specialists, and county extension agent chairmen.

Two sets of questionnaires were prepared, one for county extension agent chairmen and another for state extension staff members.

The first questionnaire which was prepared for county extension agents was sent to 43 county extension agent chairmen of those counties which were served by area extension centers and had three years of
experience. Out of 43 respondents two failed to respond to the questionnaires. This provided a 95 per cent return.

Another questionnaire was sent to 47 members of the state extension staff. It was sent to all assistant directors, district supervisors; state, district and assistant state leaders, and to a sample of state extension specialists. The sample of state extension specialists was drawn through random selection. Out of 47 respondents 13 failed to respond to the questionnaire producing a return of 72 per cent.

Development of data collection instrument

The instrument designed to gather field data was developed after a search of literature, after conferring with personnel in the Ohio Cooperative Extension Service and after pretesting.

A primary draft of the instrument was tested for clarity and understanding with 15 county extension agents other than those included in the sample. As a result of this pretest, suggestions made by these individuals were incorporated in the revised instrument. However, no major changes were necessary. Field data were then collected using the revised questionnaire as it appears in the Appendix by sending it to each member by mail. The data were collected during the month of April, 1966.

Analysis of Data

The data provided by the respondents through the questionnaire in the study were coded and punched on IBM cards. Sorting and tabulation
of data pertaining to the description of the respondents in the sample was done on an IBM sorter.

**Statistical analysis**

Statistical analysis is employed in social science research as a way of formalizing procedures for drawing conclusions about the characteristics of populations and testing hypotheses based on the theoretical constructs. Researchers in the social science field have relied heavily on statistical analysis, both to judge the importance of observed differences and to untangle the separate effects of multiple factors.

The statistical treatment of the data was based on the hypotheses which were established at the inception of the research study, on the level of significance which was determined arbitrarily prior to analysis, and on the descriptive and inferential statistics which were utilized.

**Statistical tests and models**

Several different descriptive and inferential statistical models were employed in the analysis of the quantitative data and in the interpretation of the findings. Frequency distribution, percentages, rank order correlation and the Mann-Whitney U test have been used to analyze the data.
The Spearman rank correlation was employed to measure the degree of relationship between two sets of ranks. The formula used to obtain the correlation values between the ranks was:

\[ r_s = 1 - \frac{6 \frac{\sum d^2}{N(N^2-1)}} \]

In the above formula, the \( r_s \) is the calculated correlation coefficient, \( \sum \) denotes summation, \( d \) denotes rank differences, and \( N \) denotes the number of ranked values. The rank correlation coefficient may range in value from -1.0 to 1.0, the former indicating a perfect negative correlation, the latter a perfect positive relationship. In the absence of any relationship between the two sets of ranks, the value of \( r_s \) is zero. The \( r_s \) values as used in this study measure the degree of agreement or similarity of the rankings of program innovations between two groups of respondents.\(^\text{10}\)

Since two different groups were compared in this study, it was possible to use or apply an inferential statistical model as a test of significance. The Table of Critical Values of \( r_s \) adapted by Siegel was used to make a two-tailed test of significance of the correlation coefficients between the two groups. If the observed value was equal to or greater than the critical values indicated in the table, then one may conclude that there was sufficient evidence to show that the agreement between two groups as to the rankings is more than just a chance occurrence or probability.

The Mann-Whitney U test was employed to test the significance of difference in role performance score of various respondent groups and role expectations held by county extension agents for various groups.

**Level of significance**

As a part of the decisionmaking procedure in the statistical analysis of the data, it became necessary to establish a level of significance. This value was used to determine the level at which the null hypotheses could be rejected. The level of significance chosen for this research study was established arbitrarily at the .05 level. However, it was recognized that with the general exploratory nature of this study that the findings which were not significant but which moved in the direction predicted from the theoretical base and logical structure could be useful and important findings in suggesting further investigation. In appropriate cases this procedure will be followed.

**Definition of Terms**

The terms listed below have been defined in order to provide a common basis for understanding the conduct of the investigation.

**Adoption.**—The continued use of a practice by an individual, group of people or an institution after being satisfied with its results.

**Adoption period.**—"The time which is required for the adoption of a new practice to take place. It is empirically measured by the number of time units (years, months, or weeks) that an individual requires
to pass from the awareness stage to the adoption stage; i.e. through the adoption process.**

**Change agent.**—"A professional person who attempts to influence adoption decisions in a direction that he feels is desirable."**

**Diffusion process.**—"The spread of a new idea from its source of invention or creation to its ultimate users or adopters. The essence of the diffusion process is the human interaction in which one person communicates a new idea to another person....The adoption process deals with adoption of a new idea by one individual while the diffusion process deals with the spread of new ideas in a social system, or with the spread of innovations between social systems or societies."**

**Innovation.**—"Any element or idea perceived as new by the individual."** It really matters little, as far as human behavior is concerned, whether or not an idea is 'objectively' new as measured by the amount of time elapsed since its first use or discovery. It is the newness of the idea to the individual that determines his reaction to it."**

11 George M. Beal and Everett M. Rogers, "The Adoption of Two Farm Practices in a Central Iowa Community," Special Report No. 26 (Ames, Iowa, Agriculture and Home Economics Experiment Station, 1960), pp.4-5.


13 Ibid., pp. 13 and 17-18.


15 Rogers, op. cit., p. 13.
Program innovation.--A program innovation may be either a new development for programming by county extension agents or an approach to programming that while not completely new is perceived as new and different by county extension agents. This type of innovation pertains to method, technique or approach of programming rather than to content of the program.

Program innovation, "Use of area agents in program development."--This program innovation includes the involvement of clientele from a county in area educational activities such as "in-depth" schools as well as the involvement of area extension agents in local county program activities.

Program innovation, "Long-time program planning."--This innovation is defined as the projection of long-time objectives (five years in the future) for relevant program areas based upon a knowledge of the current situation plus a knowledge of social and economic trends. Included in this innovation is the establishment of specific "goals" for the state, district, area and county.

Program innovation, "In-depth teaching."--This innovation is defined as the development of organized educational experiences based upon specific teaching objectives in a clearly defined content area. Further, the innovation implies a series of sequential learning experiences with the same audience extending over a period of time with each subsequent experience "building upon" the learning achieved by clientele in the previous setting (i.e. a series of meetings or clinics held once a week for four or five weeks). This innovation is
dedicated to an increased understanding of central concepts of principles in an area and their application to "life" situations rather than a "how to do it" or "quick answer" session.

**Program innovation, "The industry approach to extension education in agriculture."**—This innovation is defined as the development of educational programs which involve the total agricultural industry rather than just the production aspect of agriculture. The program focuses upon the problems confronting the total agricultural industry. Priority areas identified may be in marketing, production, or other significant areas.

**Program innovation, "Comprehensive representation on county extension advisory committee."**—This innovation is defined as the structuring of the county extension advisory committee in such a way that this committee can adequately perform its defined functions. The extension personnel and existing committees should clearly understand the functions of the county advisory committee before structuring. The members selected should represent the people's present and future needs and interests. Membership should include representation from established specialized county program committees including representatives from the agricultural industry, home economics, family living, county extension 4-H committee. Key influential leaders from chamber of commerce, civic clubs, schools, business and industry, utilities, labor groups, church groups, press, radio and T.V. and public officials should be a part of the committee.
A search of literature revealed the lack of a general theory of social change or innovation diffusion. Miles pointed out that

The 250-odd generalizations produced by the authors (of these papers) come in various sizes, shapes, and degrees of potency. There is no systematically drawn theory of social change within which they can be elegantly (or even compulsively) organized.¹

Nevertheless, the studies that have been completed provide an excellent base for an attempt to formulate a general theory of diffusion and adoption of innovations. Miles was also aware of available schemas and models bearing on or related to the process of change and innovation diffusion, but the implication of his remark was that available models, useful as they are, do not go far enough. These available formulations have indeed clarified the process of change, have identified the stages of innovation - adoption and suggested taxonomies and categories of tasks that must be performed to make change more or less certain rather than merely random and accidental. But often they are descriptive, contextual or much too global.²


²Ibid.
With this difficulty in mind the first task for this investigator was to review the research completed in different traditions which seemed most likely to contribute to an understanding of the process of innovation diffusion. It was not the intent of this investigator to review all the literature related to innovation-diffusion in all the traditions, but rather to make a sincere effort to be as comprehensive as possible. A mere listing of references bearing on innovation diffusion processes from the different research traditions and subject matter areas would cover many pages. The critical review presented below is, therefore, not as comprehensive as one might have wished but has been shortened to fit the scope and requirement of this study.

In this section a brief review of innovation research and theory is presented organized around four major sections:

1. Nature and content of innovation
2. Innovators and adopters as individuals and organizations
3. Adoption process
4. Process and tactics of diffusion

**Nature and Content of Innovation**

A review of the literature revealed that the content of innovation is an ill defined concept. There are many unresolved questions in this area such as;

1. Is innovation a tangible thing or is it a process?
2. If it is a thing, is it an innovation in an **absolute** sense or is it an innovation only for persons, communities or cultures for whom it is new?

3. Can innovations be categorized to ascertain whether they will be more or less capable of diffusion?

Freeman\(^3\) has defined an innovation as an invention, a fundamental and radical new idea as, for example, Einstein's theory of gravitation. Lionberger\(^4\) has used innovation to mean (1) an idea or practice which departs from those generally prevailing among an aggregate of people who may be regarded as targets of change directed effort; or (2) a change in technology (a material object with definitions of its use).

Innovation has been looked upon as a creative process by Homer;\(^5\) a personal goal seeking activity by Wilkening;\(^6\) and adaptability -- the capacity to take on new practices and discard out-moded ones.\(^7\)

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Dubin used innovation within a sociological model of deviant behavior and looked at innovation as one of the four types of deviant adaptations -- innovations, ritualism, retreatism, and rebellion. He suggested a typology such as the following:

1. Behavioral innovation
   a. Institutional invention
   b. Normative invention
   c. Operating invention

2. Value innovation
   a. Intellectual invention
   b. Organizational invention
   c. Social movement

Bratton stated a systems analysis point of view of innovation as a process that provides for ongoing orderly change and not as one-shot, event oriented something.

Purdy defined innovation in education as

The creative selection, organization, and utilization of human and material resources in new and unique ways which result in the attainment of a higher level of achievement for the defined goals and objectives. It is emphasized that it is innovation, if, within this framework, the outcome is unique, distinctive from the

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status quo, and is readily identifiable. It is significantly innovational when the concept, the idea, the process, the media, or the tool through which the innovation is given expression has meaning to others, is accepted and approved by them, and the process for a more general implementation becomes operative.10

Rogers11 defined innovation as an idea perceived as new by the individual.

Bhola12 defined innovation as a concept (about military organization, curriculum construction, marketing practices, agricultural methods), an attitude (about communal or racial harmony, women voting rights), a tool with accompanying skills (16 mm film projector, an insecticide spraying machine) or two or more of these together introduced to an individual, group, institution, or culture that had not functionally incorporated it before.

From the standpoint of this study the program innovation has been defined as a new development for programming by county extension agents or an approach to programming that while not completely new is perceived as new and different by county extension agents. This type of innovation pertains to method, technique, or approach to programming rather than to content of the program.


12 Harbans S. Bhola, Innovation Research and Theory (Columbus: School of Education, The Ohio State University, 1965), p. 5.
There seems to be a general agreement among researchers that an innovation need not be an addition to human knowledge but that it can be new in terms of individual or group perceptions of ideas, skills or tools being diffused in a society.

Among the members of a social system, some innovations diffuse from first introduction to widespread use in a few years. Other innovations require fifty years. The characteristics of innovations which affect the rate at which they diffuse and are adopted, is a central question. Generally speaking, there have been fewer research studies designed to probe these points than other aspects of innovation. Most studies have focused primarily upon the diffusion and adoption of new ideas, but not upon the innovations themselves. Researchers have tended to regard all innovations as equivalent units from the viewpoint of analysis, which seems to be an oversimplification of the situation. There are evidences in the literature that all innovations are not equivalent units.

Some researchers have studied characteristics of innovations that may make them more or less acceptable to adopters. Rogers identified five basic characteristics of innovations: (1) relative advantage -- the degree to which an innovation is superior to ideas it supersedes, (2) compatibility -- the degree to which an innovation is consistent with existing values and past experiences of adopters, (3) complexity -- the degree to which an innovation is relatively difficult to understand.

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13Rogers, op. cit., pp. 124-133.
and use, (4) divisibility -- the degree to which an innovation may be tried on a limited basis, (5) communicability -- the degree to which the results of an innovation may be diffused to others. Work of other researchers\textsuperscript{14} tends to support the validity of the system of classification proposed by Rogers.

Lionberger\textsuperscript{15} has summarised characteristics of innovations that have a bearing on rates of acceptance as being complexity, utility, initial cost, continuing cost, rate of cost recovery, compatibility, communicability, relative advantage, mechanical attraction, saving of time, saving of discomfort, and divisibility. Varying degrees of support have been found for most of these factors with the cost perhaps being in greatest dispute and complexity, compatibility and relative advantage being best supported as important factors.


\textsuperscript{15} Herbert F. Lionberger, "The Diffusion Research Tradition in Rural Sociology and Its Relation to Implemented Change in Public School Systems," \textit{Nebraska Symposium}, \textit{op. cit.}
A few research studies show that innovations requiring inordinate outlays of money, energy or time by the adoptive person or group are likely to move slowly. These costs may be incurred during preliminary procurement operations (if the innovation is a technological device) as well as at the point of purchase and during use (maintenance costs). Thomas suggests, in the absence of good measures of output, educational organizations tend to stress cost reduction, as other potential rewards of the innovation remain only vaguely seen.

It is often pointed out by researchers that technological innovations are relatively easy to adopt. This is not so and such innovations are equally easy to reject or discontinue.

In his concluding remarks Miles suggests that motivational reactions of potential users aside, the difficulty of use or implementation of a particular innovation is a genuine barrier to adoption and continued use. Although complexity or simplicity of innovations has been asserted not to influence innovation rates, it does seem very


17 Louis Forsdale, "8 mm Motion Pictures in Education: Incipient Innovation," in Matthew B. Miles, op. cit.

18 J. A. Thomas, "Efficiency in Education," in Matthew B. Miles, op. cit.

19 Matthew B. Miles, op. cit.

20 Matthew B. Miles, op. cit., p. 637.
likely that innovations which are difficult to operate (that is, require extra administrative energy, are disruptive to the local system, or are puzzling or threatening in technical sense) will diffuse relatively slowly. Thus the potential use of technological innovations in the classroom depends on a number of anticipated implementation factors, such as availability of the device, how easy it is to use, the working condition of the equipment, authorization from the local organization, and the skill of the operator. Therefore, innovations with built in implementation supports should diffuse more rapidly than those not so supported.

Wayland\textsuperscript{21} puts forth the point that an innovation which is relatively easy to institutionalize is more likely of acceptance than innovations (such as "meeting the individual needs of children") which require creativity and cannot be routinely managed.

Many studies have shown that innovations implying or requiring important value changes in accepters (such as those dealing with interpersonal relationships, race relations, religious commitments, etc.) encounter difficulty, since much more than the nature of the innovation is at stake.\textsuperscript{22}

\begin{itemize}
  \item \textsuperscript{21}Sloan R. Wayland, "Structural Features of American Education as Basic Factors in Innovation," in Miles, Innovation in Education, op. cit.
\end{itemize}
Atwood points out that the kind of interaction a particular innovation requires affect adoption and continued use. Innovations which, in a particular system, will have the consequence of decreasing personal initiation, increasing dependence on others, and violating important values are likely to be resisted by persons in the accepting system.

Researchers have found it difficult to specify in priory terms what characteristics of an innovation-vis-a-vis the adopting system will block or aid innovativeness. However, a kind of axiom seems visible in most of the studies that educational innovations are almost never installed on their merits. Characteristics of the local system, of the innovating person or group, and of other relevant groups often outweigh the impact of what the innovation is. Nevertheless, other things being equal, innovations which are perceived as threats to existing practice, rather than mere additions to it, are less likely of acceptance. Generally, innovations which can be added to an existing program without seriously disturbing other parts of it are likely to be adopted.

In view of the literature cited above it became apparent that the innovations with built in implementation support are adopted easily. Consequently, while selecting program innovations for this study, the investigator requested the respondents to identify only those program

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innovations which were important to the total Ohio Cooperative Extension Service and were supported by the administrators on an organization-wide basis. Five program innovations were selected for the study rather than the one or two commonly explored by other researchers so as to be able to gain a better composite picture of the factors influencing the adoption or rejection of program innovations among county extension agent chairmen.

Innovators and Adopters as Individuals and Organizations

Individuals as Variates

For a categorization of individuals with respect to susceptibility to change one must look to personality psychology or sociology to find individual types that could be classed as more or less compatible with innovation diffusion process.

One such classification is suggested by Riesman who classifies individuals as tradition-directed, inner-directed, and other-directed. The three personality types are seen as subject to different emotional sanctions and controls.

The tradition-directed person according to Riesman reacts to his culture as a unit which is mediated to him through a small number of people that he comes in contact with every day of his life. He is expected to behave in an approved way and the operative sanction in his case is the fear of being ashamed.

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The inner-directed person acts in tune with his psychic gyroscope incorporated early in life under the influence of his parents and other authority figures and is capable of great stability because of the internalization of a number of principles and guides that he feels guilty about violating.

The other-directed person is attentive to a large social environment but unlike the tradition-directed individual he is cosmopolitan, susceptible to quick changes to fall in line, and capable of a superficial intimacy with every new and unfamiliar person and idea.

An individual who plays the role of an initiator with respect to an innovation so that it may be accepted by another individual or group for reasons such as personal profit, social idealism, or official duty he is termed an initiator or an innovator.

The "innovator" role is perhaps the most researched. Rogers who used the word innovator synonymously with early adopter, suggested five categories as ideal types: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards, and presented general characteristics of innovators as follows:

1. Innovators generally are young.
2. Innovators have relatively high social status, in terms of amount of education, prestige ratings, and income.
3. Impersonal and cosmopolite sources of information are important to innovators.

25Rogers, op. cit.
4. Innovators are cosmopolite.
5. Innovators exert opinion leadership.
6. Innovators are likely to be viewed as deviants by their peers and by themselves.

Some desirable qualities of innovators have been suggested as being the following:

1. Ability to understand the value system of the group they are trying to influence;
2. Capacity to analyze the power structure in a group or institution; and
3. An understanding of communication processes.26

Miles27 summarizes the personality traits of innovative administrators as strong, benevolent, intelligent, verbally facile, individualistic, and creative. On the other hand, they also have been found to be rebellious, alienated, over-idealistic, emotionally unstable and prone to disillusionment and resentment. He further emphasizes that administrators as authority figures are crucial in introducing innovations, particularly those which involve structural change, as they have more power since organizations are hierarchically ordered. They can handle the system problems ordinarily associated with the introduction of an innovation more effectively than other members.

26 Harbans S. Bhola, Innovation Research and Theory (Columbus: School of Education, The Ohio State University, 1965).
27 Miles, op. cit.
Parallel to the above findings some researchers have reported that local innovative efforts by teachers are restricted by the fact that their role is actually that of bureaucratic functionary who has little power to initiate system wide change, but because of the ideology concerning professionalism alluded to above - tends to resist innovative demands, like most professionals in bureaucratic organizations.  

Groups as variates

Some researchers have suggested that the concept of innovator as an isolated hero seems inappropriate, but the progress of any innovation must be examined in relationship to a complex network of groups, individuals, and organisations having a stake in the innovation.

The group concept is indeed a complex one. Groups have been defined in terms of their foundations, types and levels, interaction patterns, and values. From the standpoint of whether or not one kind of group is more amenable to innovation diffusion than another, a categorization based on leader-member interactions within groups has been found useful than any other.

In terms of leadership styles four types of groups have been suggested: (1) laissez-faire, (2) authoritarian (or aggregate), (3) democratic (or organic group), and (4) group-centered groups.  

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In the laissez-faire groups there is complete permissiveness. The leadership style require no planning, initiating, or influencing of group members. Everybody is on his own. Such groups are likely to be very heterogeneous, might involve differential decisions and thus make innovation-adoption event very unpredictable.

In authoritarian (or aggregate) groups the leader controls all members. He plans in advance the content, method and outcome of learning or innovation-adooption processes. Such groups would probably make clearcut and quick decisions to accept innovations without necessarily being committed to the innovation and incorporating or internalising it.

In democratic or organic groups the leader and members act cooperatively through a process of selection, initiation, discussion and community action. Decision making in such groups may be frustrating and take longer times but once a decision is arrived at it may mean innovation acceptance with commitment and positive affective behavior.

In the group centered group the leader will only establish and maintain a psychological climate of acceptance and understanding leaving everything else to the members. Here again the decision making will be frustrating but once a decision has been made it will involve group commitment and group action.

The study of the group in relation to leadership styles in the four categories mentioned above is of great help in analysis of change situation and for making better qualitative judgements of the probability of innovation diffusion.
Institutions as variates

Classification of institutions, based on some structural features that make more or less susceptible to decision making for change should similarly help a more refined analysis of innovation diffusion event within institutions or organizations.

An organization is an ensemble of individuals who perform distinct but interrelated and coordinated functions, in order that one or more tasks may be completed.\(^{30}\) As we have defined and discussed the characteristics of innovators and adopters in the preceding section it was not intended to present them as "islands unto themselves." It has been emphasized in the literature that their effectiveness as innovators and adopters is the result of an interaction between their personality characteristics, social environment, status hierarchy, mass media availability and use, possession of influence means, etc.

Bhola\(^ {31}\) has recognized in his configurational theory that innovations are adopted by individuals and they are the locus of adoption but at the same time accepts the reality of groups and organizations to which individuals contribute for reasons of personal commitment or social contact. Individuals submit to group decisions or organizational decisions, to a more or lesser degree, depending upon the nature of group or organizational structure. This submission consists in accepting leader follower relationships within groups or the

\(^{30}\) Daniel E. Griffiths, "Administrative Theory and Change in Organizations," in Miles, op. cit.

\(^{31}\) Harbans S. Bhola, The Configurational Theory of Innovation Diffusion (Columbus: School of Education, The Ohio State University, October, 1965).
recognition of decision making rights of bureaucratic hierarchies within organizations. It has been theorised that molar (between groups or organizations) adoption relationships are mediated through molecular (between individuals) adoption relationships; but in most cases the innovator does not have to work directly with individuals or at least with all individuals. He could utilize the existing compliance relationships within groups and organizations by working at the molar level and later work with individuals, if necessary, and if worthwhile.

Institutions and organizations have been found to be differential in terms of operating characteristics like motivational structures, character of communication, character of interaction-influence processes, and performance. Etsioni's classification of organizations correlating the structure of power in organizations on the one hand and the motivations of members of institutions on the other hand is very relevant to innovation diffusion and change within institutions and organizations.

Etsioni suggests three types of organizations coercive, remunerative, and normative. Coercive organizations could achieve formal (if not functional) change even with considerable dissent. Remunerative organizations need consensus at least with regard to instrumental activities for operational changes whereas normative organizations

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require high consensus of both ends and means for any innovation or change to occur.

Bhola\textsuperscript{33} has pointed out that institutions though often composed of many members have a bureaucratised structure with fixed and well defined decision making and compliance roles. Once an institutional decision is made the institution provides few alternatives, if at all, to members who are expected to fall in line. Those who do not accept an innovation must tolerate it. Those who cannot even tolerate must quit (or sometimes stay and sabotage). He further suggests that institutions cannot be considered homogeneous because of the latent heterogeneity that must always exist in institutions because of a number of "small groups" within them. Institutions can be considered homogeneous only for the purposes of formal acceptance of innovations but not necessarily for functional acceptance of innovations. The nature of the problems of diffusion thus depend upon what kind of diffusion is in view - formal or functional?

It has been suggested that the organisational context is an important variable in innovation-diffusion. Social systems or subsystems operating within them, do have certain ideological beliefs, they provide or deny incentives, they have or not have change agents roles, and they are more or less stable as organisations.

The word "change" with reference to organization is used to mean an alteration in the structure of the organization in any of its

\textsuperscript{33} Harbans S. Bhola, The Configurational Theory of Innovation Diffusion, op. cit.
processes or in its goals or purposes. The revision of a rule, the introduction of a new procedure, or the revision of the purposes or direction of the organization are all subsumed under the concept of change.

Griffiths has proposed a system theory as a model for a theory of administrative change and suggests that changes in organizations are relatively infrequent. Open systems maintain themselves in a steady state thus major impetus for change comes from outside rather than inside an organization. Again, all the organizations exhibit some form of progressive segregation or hierarchical order which makes it possible for change to occur from the top to down but practically impossible for it to occur from the bottom up. Many of the characteristics of organizations are such that they make the initiation of change difficult. When organizations are viewed in terms of system theory model these characteristics appear very clearly.

In his concluding commentary Miles suggests that systems tend not to change for a variety of reasons. First, maximum energy goes into current operations and maintenance; the development and implementation of new programs appear to require the addition of money and staff over and beyond that required for regular operations. Second, the hierarchically arranged subsystems in the overall organization tend, over time, to become progressively segregated and independent.

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34 Griffiths, op. cit.
35 Miles, op. cit.
from each other. Third, durable feedback loops tend to develop be-
tween individuals and subsystems and operate to restrict communication
in self confirming, stabilising ways. Thus, the longer the tenure of
individuals, either administrators or those lower in the structure,
the more stable the patterns of interaction which develop, and the
more difficult change becomes.

One basic concept that has been emphasised in organizational
type is the concept of organizational health. Healthy organizations
are postulated to take care of innovations as an adaptive response.
Healthy organisations are hypothesized to be open systems which make
them more susceptible to change and innovation adoption. Miles sets
forth the following requirements for organizational health: goal ap­
propriateness; communications adequacy and power equalization; resource
utilization, cohesiveness and morale; innovativeness, autonomy, adap­
tation and problem-solving adequacy.

Argyris' analyzes three major areas of organizational interest
as (1) task accomplishment, (2) internal integration, and (3) mutual
adaptation of the organization and its environment and suggests some
requirements in these areas for organisational health.

According to him in the task accomplishment area a healthy or­
ganization is required to have (1) clear, accepted, achievable, ap­
propriate goals, (2) undistorted vertical and horizontal communication

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36 Miles, op. cit.
37 Argyris, Integrating the Individual and the Organisation (New
flow, (3) optimal power equalization, and (4) collaborative styles of influence.

For internal integration organizational health is marked by (1) resource utilization with no "nomothetic and ideographic" conflict, (2) a degree of cohesiveness, and (3) good morale. For growth and adaptation organizational health demands (1) innovativeness, (2) autonomy, (3) adaptation, and (4) problem solving adequacy.

From the standpoint of this study the county extension agent has been considered the adopting unit while other extension personnel were considered as initiators of change. Seen at the level of target system, the adopter may act independently to adopt or reject the innovation. But with reference to this study the decision of county extension agents, as members of the Ohio Cooperative Extension Service, to adopt or reject these program innovations were subject to organizational policy, administrative support and community support through advisory committees.

**Adoption Process**

The adoption process is the mental process through which an individual passes from first hearing about an innovation to final adoption.  

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38 Rogers, *op. cit.*
Some researchers have postulated that definite stages in the adoption process exist and that they occur in a discernible sequence. Others have postulated that stages do occur but that the order in which they occur is not predictable.

In 1955, the Subcommittee for the Diffusion of Farm Practices of the North Central Rural Sociology Committee suggested that the adoption process was composed of five stages which occurred in the following sequence: (1) awareness, (2) interest-information, (3) evaluation, (4) trial, and (5) adoption. These five stages were modified and refined by the subcommittee in 1962 as follows:

1. **Awareness.** The individual knows of the new idea but lacks information about it.

2. **Interest-information.** The individual becomes interested in the idea and seeks more information about it.

3. **Evaluation-application-decision.** The individual makes a mental application of the new idea to his present and anticipated future situation and makes the decision either to try it or not.

4. **Trial.** The individual uses the new practice on a small scale to validate its workability on his own farm.

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5. **Adoption.** The individual uses the new practice on a full scale and incorporates it into his way of farming.  

At least four attempts have been made to use the concept of a multistage, sequential, adoption process. Probably Wilkening was the first to do so, when he postulated that four stages existed ranging from awareness through adoption. In a 1956 study of 636 Wisconsin dairy farmers Wilkening examined and established three types of information usage: (1) hearing about a change, (2) providing help in deciding whether or not to try out the change, and (3) how to put the change into effect.

Hoffer and Stagland were among others who utilized five stage concept in their study of adoption of four practices among Michigan farmers.

Copp, Sill and Brown investigated the adoption of three agricultural innovations in a Western Pennsylvania county and reported similar five stages of adoption process.

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Beal, Rogers and Bohlen attempted to validate this five stage adoption theory by asking farmers to name the sources of information used at each stage of adoption of the practice of feeding antibiotics to hogs and reported that the farmers who had adopted the practice had indeed gone through the five stages listed previously. 44

The studies reported above were made using the multistage adoption theory. On the other hand, some workers in rural sociology, sociology, and social psychology have treated adoption or change, as an act which is either accomplished or is not accomplished. These persons were not trying to prove or disprove sequential stages of adoption. Among them are: Belcher, 45 Fliegel, 46 Gross and Taves, 47 Katz and Lazarsfeld, 48

44 Beal, Rogers, and Bohlen, op. cit., pp. 166-168.


46 Frederick C. Fliegel, "A Multiple Correlation Analysis of Factors Associated with Adoption of Farm Practices," Rural Sociology, XXI (1956), pp. 204-292.


Lionberger, 49 Marsh and Coleman, 50 Mensel and Kats, 51 Ramsey, Polson and Spencer, 52 Ryan and Gross, 53 Wilkening, 54 and Young and Coleman. 55

It was not the intent of the investigator to explore all the ramifications of the existence and sequence of different stages in the


adoption process. However, the studies cited above establish the facts that such a process exists, that awareness must occur before adoption and that the information obtained at the interest-information stage is critical in influencing adoption, and that adoption of new, complex practice is not a single unit of act.

One of the main objectives of this study was to identify sources of information influential in the adoption of program innovations. In view of the nature of the program innovations studied, the county extension agent as a member of the Ohio Cooperative Extension Service may be influenced by personal sources within the organization. Consequently, the potential sources of information influential in various phases of adoption process were identified and studied.

An interesting model of change that looks at rejection rather than acceptance of innovation is presented by Eichholz. The rejection of an innovation is the antithesis of acceptance. Theoretically, rejection might be considered the opposite of adoption. If adoption is the full-scale use of an innovation, rejection is the non-use of innovation.

General reasons for failure to achieve adoption of an innovation have been suggested to be inadequate planning, insufficient attention in preparing potential adopters for change, lack of commitment by potential adopters or community, and other deficiencies in resources and power.

Looking at rejection more specifically, at the potential user level, it is suggested that steps in a theoretical process of
rejection may parallel the steps of awareness, interest, evaluation, and trial in the adoption process.

Some of the responses to the postulated form of rejection are:

1. Rejection through ignorance assumed to exist when a given innovation was unknown, or its complexity led to misunderstanding.

2. Rejection through default expressed by admitting a knowledge of the innovation without any interest in its usage.

3. Rejection by maintaining the status quo, expressed when a teacher does not accept an innovation because it had not been used in the past.

4. Rejection through societal moves, expressed when a teacher thought her society did not find an innovation acceptable, and therefore did not use it herself.

5. Rejection through interpersonal relationships, expressed by indicating that friends did not use an innovation, or that a particular school environment made using an innovation unacceptable.

6. Rejection through erroneous logic, expressed by giving "rational" but unfounded reasons for the rejection of a worthy innovation.

7. Rejection through substitution, expressed when a teacher spoke of using one practice over another that would have required the use of a particular innovation.

56 Gerhard Eichholtz and Everett M. Rogers, “Resistance to the Adoption of Audiovisual Aids by Elementary School Teachers Contrasts and Similarities to Agricultural Innovation,” in Miles, op. cit.
8. Rejection through fulfillment, expressed when a teacher was certain she knew the "best" or "only" way to teach, making any innovation completely unnecessary.

9. Rejection through experience, expressed by telling of some incident when an innovation was tried and failed.

**Process and Tactics of Diffusion**

On the basis of review of literature in the area of innovation research and theory Bhola\(^{57}\) suggested that the characteristics of an innovation are not primary in determining the probability of the diffusion of an innovation. The most important factor is the availability of resources of skills, personnel, material and influence with both innovators and adopters. If all the needed resources were available and deployed, the adoption of any innovation can be achieved for an individual, group, organization or culture, in due course of time.

According to Bhola\(^{58}\) diffusion is the process involving information consumption, social interaction, and behavioral change through which an innovation is incorporated into a configuration, tending toward a socio-psychologically stable and integrated relationship with the cognitive-affective-motor structure of that configuration.

Diffusion according to him may be seen analytically as going through the stages aiming at:

1. Disseminating information

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\(^{57}\) Harbans S. Bhola, *op. cit.*, p. 7.

2. Maximising interaction
3. Facilitating behavioral change and action
4. Providing support and service for integration

A review of literature reveals that this sub-area in the general field of innovation research and theory is probably the most researched. The fund of knowledge is immense and there is considerable sophistication in terms of theoretical structures used and suggested.

The literature in this area can be organized around three sections:

1. Communication structures
2. Influence flow
3. Adoption models and strategies of change

**Communication structures**

Studies of communication models and analysis of communication networks have helped change agents to plan better dissemination of information, through use of available communication patterns and networks in communities, through activation of dead networks, and through creating new ones. Smith in a short review suggests some twenty communication models with different theoretical and subject matter orientations.

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The Shannon and Weaver model is theoretically the most important of available models because of the fact that it has already been developed into a full fledged and highly heuristic information theory.

Another exciting idea is presented by McLechlan who analyzes seven typical communication structures: the cocktail party, the rural community, the military organization, a team for useful scientific research, the network on teaching, telephonic networks, and information retrieval systems. He points out the diffusion potential of these different communication structures and their mode of "monitoring" information - monitoring being defined by him as a system of controls over the types of information sent from the various centers.

The researchers have suggested that most important idea in communication is the "re-discovery" of the primary group. The researchers in the rural sociology tradition have always taken care of this concept but somehow the communication researchers in their early enthusiasm for mass media, advanced concepts of mass audiences, mass influence, and mass manipulation. Literature that has since grown around what is called the "Two-Step Flow of Information" hypothesis has indicated beyond a doubt, that between the media and the audiences there


are the gate keepers, and opinion leaders. It is the function of
these opinion leaders to bring small groups into touch with relevant
parts of environment through whatever media are appropriate. 62

Influence flow

Some of the researchers are of the opinion that the existence of
widely spread and elaborate communication networks and consumption by
adopters or adopter systems of information flowing over them does not
necessarily lead to adoption of innovations. They suggest that some
generalised interaction mechanism must be brought into existence to
influence adopters to accept new concepts, attitudes or tools. The
study of influence is the basic underlying concern of persuasive com­
munication, attitude change, public opinion processes, etc.

Parsons 63 discussed influence as a generalized mechanism for af­
fecting the attitudes and opinions of others through intentional
(though not necessarily rational) action. Influencing, in process
terms, is seen as guiding the direction of human interactions towards
agreed ends.

The innovator or change agent may get desired results in inter­
action among adopter units either by changing their intentions or by
effecting changes in the situations faced by them. In doing so the

62 Elihu Katz, "The Two-Step Flow of Communication: An Up-to-Date
Report on an Hypothesis," Public Opinion Quarterly, XXI (Spring,
1957-58), pp. 61-78.

63 Talcott Parsons, "On the Concept of Influence," Public
innovator may use positive or negative sanctions. The following paradigm of generalized media and sanctions is suggested by Parsons:

<table>
<thead>
<tr>
<th>Sanction</th>
<th>Intentional</th>
<th>Channel</th>
<th>Situational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>Persuasion</td>
<td>Inducement</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>Influence</td>
<td>Money</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>Activation of commitments</td>
<td>Deterrence</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>Generalization of commitments</td>
<td>Power</td>
<td></td>
</tr>
</tbody>
</table>

The different mode-media combinations are seen to have different functions. Inducement and money have primarily adaptive functions, deterrence and power have goal-attainment functions, persuasion and influence have integrative functions, and activation of commitment and the generalized commitments so activated have pattern-maintenance functions.

In the area of persuasion there are two influential traditions: the learning theory research and homeostatic theory models. Research in both these traditions is too huge to be mentioned in any detail and is certainly beyond the scope of this chapter. Festinger's

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theory of cognitive dissonance may be mentioned as an example of homeostatic theory models, and Miller's drive-cue-response-reward paradigm may be mentioned as a refinement of interpretations of the classical conditioning theory.

Money as motivation has not been studied in detail in the area of education or community development which are looked upon as purely ideational enterprises.

Power as an instrument of change is considered against the democratic sentiment and has, therefore, not even been studied very seriously.

Cartwright drew attention to power as a variable in social psychology and suggested an outline of a formal system of concepts to put the construct power in a more general theory of human behavior. Etsioni has followed it up in suggesting that power in itself is neither legitimate or illegitimate, nor necessarily disruptive. He considers the use of power - coercive, remunerative, or normative

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being applied in all organizations of achieving compliance relationships in service of organizational goals.

Influencing for social change through activation of commitments is again an area much better researched than the use of money or power for social change. Most of it has been investigated under rubric of the theory of the reference group. Golembiewski recently called attention to the body of research in small group analysis and took the first step toward shaping a theory of the small group in an organizational context.

Adoption models

In the earlier section efforts were made to discuss information flow as focused on the learning of information, skills and attitudes. Motivations and incentives of commitments and obligations were discussed. It is extremely important to put them together into mutually explanatory relationships to be able to understand the process of change in its totality to suggest paradigms for planning and engineering of change.


Many models of innovation diffusion and adoption have been pro-
posed - some of them in the social science context, others in the con-
texts of rural sociology or anthropology and some by researchers with
educational orientation. A few of these formulations are in fact pre-
models suggesting only sets of variables entering innovation diffusion,
others are more inclusive. Again, they are either process models or
sequential models on a time dimension.

One of the many models pertaining to change is Kurt Lewin's
three-phase process:\textsuperscript{73} (1) unfreeze, (2) move, and (3) refreeze.
This is based on the basic assumption that people change either to
improve their present condition or to avoid a worse condition. The
unfreezing then involves creating dissatisfaction with the present,
movement to a new condition is achieved by inducement or reward, and
unfreezing involves the establishment of equilibrium set after the new
level of behavior has been reached. Lewin's model focuses on the in-
dividual and his value re-orientation. Its primary interest is in ac-
culturation and the psychological and perceptual correlates of this
process. Therein lie the limits of its application.

Farnsworth\textsuperscript{74} suggested an application model in educational change
going through the following sequence: recognize and articulate the

\textsuperscript{73}Kurt Lewin and Paul Grabbe, "Conduct, Knowledge and Acceptance

\textsuperscript{74}Philo T. Farnsworth, \textit{Adaptation Processes in Public School
need, propose a solution, create interest in the suggested solution, demonstrate usefulness, invite group and public interest, obtain official approval and community financing, and remove any legal restrictions. As an application model for use in American education it makes a lot of sense but it lacks theoretical sophistication and generalization.

A "research into action" model is presented by Guba and Clark stating objectives, criteria and relation to change of the various stages hypothesized by the authors. It is a useful tool as much as it provides categories of tasks and functions that must be performed before research and invention can deliver an innovation and an innovation can in due course, become a non-innovation, a matter of fact routine for its adopters.

The present study used this model as its basic theoretical framework. The different phases of the model have been discussed in some detail in the preceding chapter.

The ultimate aim of any particular strategy is to gain adoption of an innovation by a target system, though shaping and development of the innovation are likely during the adoption process. Seen at the level of the target system, change processes are said to involve the following stages following the design of innovations: the development of awareness and interest concerning the innovation; evaluation (in the sense of reaching a judgemental decision about the potential

75 Guba and Clark, op. cit.
rewards and costs of the innovation); actual trial of the innovation in the local system. This process results in a decision to adopt, adapt or reject the innovation. Once adoption is gained, the usual hope is that the system will continue or accelerate the use of the innovation.

Stage formulations such as these lead to operational suggestions. It has been proposed, that the stages of design, scientific evaluation, and dissemination of innovation require mutually incompatible skills, personnel, and operations and, therefore, should be clearly separated and assigned to different decision making bodies.

The Cooperative Extension Service has been able to devise a suitable means of communication between researcher and the farmer (actual practitioner). A similar type of approach is needed with reference to program innovations in order to close the theory-practice gap. The fundamental differences between agricultural innovations and program innovations are obvious and the mechanism to close the gap with reference to program innovations may be different from agricultural innovations. Nevertheless, there can be no doubt that some kind of mechanism is needed.

In the Ohio Cooperative Extension Service, it is necessary to assign the roles of developer, disseminator, and demonstrator linking them into a mutual web of responsibility and decision making with reference to program innovations, to systematically translate research and theory into practice. The central problem with which this study
is concerned is to suggest appropriate roles which will integrate re-
search into action with reference to program innovations.
CHAPTER III
PERSONAL CHARACTERISTICS AND BACKGROUND STATUS OF THE RESPONDENT

This chapter provides information regarding the personal characteristics and background status of the respondents. Five factors were considered as part of the background information. The five areas of general information included in this chapter are (1) position in the organization, (2) mean extension tenure, (3) mean tenure in current position, (4) formal degree held, and (5) mean age.

Position in organization

An analysis of the 75 respondents whose schedules were used in the study by their professional position is shown in Table 1.

The data in Table 1 indicate that 17 or 22.7 per cent of the respondents were administrators (associate director, assistant directors, state, district or assistant state leaders, and district supervisors are included in this category), another 17 or 22.7 per cent of the respondents were state extension specialists and remaining 41 comprising 54.7 per cent of the sample were county extension agent chairmen.
TABLE 1
Respondents by Position
(N=75)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>17</td>
<td>22.7</td>
</tr>
<tr>
<td>Specialists</td>
<td>17</td>
<td>22.7</td>
</tr>
<tr>
<td>County agents</td>
<td>41</td>
<td>54.6</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Tenure in Cooperative Extension Service

Table 2 provides information about the tenure of the respondents in terms of total length of service with the Cooperative Extension Service by position.

TABLE 2
Mean Extension Tenure of Respondents by Position

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean Tenure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>15.2 years</td>
</tr>
<tr>
<td>Specialists</td>
<td>12.4 years</td>
</tr>
<tr>
<td>County agents</td>
<td>13.2 years</td>
</tr>
</tbody>
</table>
The administrators had a mean tenure of 15.2 years, the state extension specialists had a mean tenure of 12.4 years and the county extension agents had a mean tenure of 13.2 years.

The data pertaining to the tenure of respondents were quite important. The longer the tenure of the individual, the more familiar he should be with these program innovations studied and thus he should provide better information. In this connection it might be remembered that care was taken to select only those county agent chairmen with three years or more experience so that they could provide the information requested.

Tenure in current position

The data relative to tenure of respondents in current position is presented in Table 3.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean Tenure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>5.2 years</td>
</tr>
<tr>
<td>Specialists</td>
<td>9.6 years</td>
</tr>
<tr>
<td>County agents</td>
<td>10.0 years</td>
</tr>
</tbody>
</table>

A perusal of the data presented in Table 3 show that administrators had a mean tenure of 5.2 years in their current position, the extension specialists had a mean tenure of 9.6 years and the county agents had a mean tenure of ten years.
Educational qualifications

The data relative to educational qualifications of the respondents has been recorded in Table 4. The data indicates that among administrators one had Bachelor's degree, 13 or 76.5 per cent had a Master's degree and three or about 17.6 per cent had Ph.D. degrees. Among the extension specialists none had only a Bachelor's degree, while 12 or about 70.6 per cent of them had a Master's degree and remaining five comprising 29.4 per cent of the sample had Ph.D. degrees. Among the county agents 20 or 48.8 per cent had only a Bachelor's degree, another 21 or 51.2 per cent had a Master's degree while none of them held the Ph.D. degree.

<table>
<thead>
<tr>
<th>Groups</th>
<th>B.S.</th>
<th>M.S.</th>
<th>Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per cent</td>
<td>Number</td>
</tr>
<tr>
<td>Administrator (N=17)</td>
<td>1</td>
<td>5.9</td>
<td>13</td>
</tr>
<tr>
<td>Specialists (N=17)</td>
<td>0</td>
<td>0.0</td>
<td>12</td>
</tr>
<tr>
<td>County agents (N=41)</td>
<td>20</td>
<td>48.8</td>
<td>21</td>
</tr>
</tbody>
</table>

There appeared to be some difference in the educational qualifications among the groups. The Master's degree was found to be the most common degree held by all of these groups.
Age distribution and mean age of respondents

Table 5 provides data concerning the age distribution of the respondents by position. As indicated in the table all of the administrators fall within the age limit of 30 years and 60 years. Similarly among the specialists no one was below 30 years of age and only one was over 60 years. Among county agents most of the respondents were within the age range of 30 to 50 years. A perusal of the data suggests that the majority of respondents in all of the three categories were between 40 and 50 years of age.

TABLE 5

Age Distribution of Respondents by Position

<table>
<thead>
<tr>
<th>Years</th>
<th>Administrator N=17</th>
<th>Specialists N=17</th>
<th>County Agents N=41</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per cent</td>
<td>Number</td>
</tr>
<tr>
<td>Under 30</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>31 - 40</td>
<td>6</td>
<td>35.3</td>
<td>3</td>
</tr>
<tr>
<td>41 - 50</td>
<td>7</td>
<td>41.2</td>
<td>11</td>
</tr>
<tr>
<td>51 - 60</td>
<td>4</td>
<td>23.5</td>
<td>2</td>
</tr>
<tr>
<td>Over 60</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>Mean age</td>
<td>44.3 yrs.</td>
<td>46.0 yrs.</td>
<td>42.6 yrs.</td>
</tr>
</tbody>
</table>

The mean age of administrators was 44.3 years, that of specialists 46 years and that of county agents 42.6 years.
Respondents Ranking of Program Innovations on Personal Usefulness and Organizational Usefulness

The respondents were asked to rank the five program innovations based upon their personal usefulness and organizational usefulness.

Administrators' ranking of program innovations on personal usefulness and organizational usefulness

Table 6 shows the administrators' ranking on personal usefulness and organizational usefulness. There was not complete consensus between the administrators ranking on personal usefulness and organizational usefulness although the correlation was very high.

TABLE 6

Administrators' Ranking of Program Innovations on Personal Usefulness and Organizational Usefulness

<table>
<thead>
<tr>
<th>Program Innovations</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personal Usefulness</td>
</tr>
<tr>
<td>1. Long-time program planning</td>
<td>1</td>
</tr>
<tr>
<td>2. Use of area agent</td>
<td>2</td>
</tr>
<tr>
<td>3. In-depth teaching</td>
<td>3</td>
</tr>
<tr>
<td>4. Comprehensive advisory committee</td>
<td>4</td>
</tr>
<tr>
<td>5. Industry approach in extension</td>
<td>5</td>
</tr>
</tbody>
</table>

$r_s = .90$

$P < .05$
The figures tend to indicate that administrators attached greater importance to program innovation, "Long time program planning" with regards to personal usefulness whereas to, "Use of area agents" for organizational usefulness. They attached least importance to program innovation, "Industry approach in extension" on both the variables - personal usefulness and organizational usefulness.

The computation of data yielded a rank order correlation of \( r = 0.90 \) which is significant at the .05 level.

**Specialists' ranking of program innovations on personal usefulness and organizational usefulness**

Table 7 presents the specialists ranking of these innovations on personal usefulness and organizational usefulness.

**TABLE 7**

*Specialists' Ranking of Program Innovations on Personal Usefulness and Organizational Usefulness*

<table>
<thead>
<tr>
<th>Program Innovations</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personal Usefulness</td>
</tr>
<tr>
<td>1. In-depth teaching</td>
<td>1</td>
</tr>
<tr>
<td>2. Long-time program planning</td>
<td>2</td>
</tr>
<tr>
<td>3. Use of area agents</td>
<td>3</td>
</tr>
<tr>
<td>4. Industry approach in extension</td>
<td>4</td>
</tr>
<tr>
<td>5. Comprehensive advisory committee</td>
<td>5</td>
</tr>
</tbody>
</table>

\[ r_s = 0.88 \]
\[ p > 0.05 \]
Here again there was not complete consensus between specialists ranking on personal usefulness and organizational usefulness, although the correlation was very high.

As evident from the data the specialists attached greater importance to program innovation, "In-depth teaching" on personal usefulness and to, "Long time program planning" for organizational usefulness. They ranked program innovation, "Comprehensive representation on advisory committee" on both the dimensions - personal usefulness and organizational usefulness.

The computation of data yielded rank order correlation of .88 which was not significant at the .05 level.

County agents' ranking of program innovations on personal usefulness and organizational usefulness

The ranking of county agents on personal usefulness and organizational usefulness has been recorded in Table 8.

As evident from the data there did not exist complete consensus between county agent's ranking on personal usefulness and organizational usefulness although the correlation was very high.

The county agents attached greater importance to the program innovation, "In-depth teaching" on both the variables - personal usefulness and organizational usefulness. Similarly they attached least importance to program innovation, "Comprehensive representation on advisory committee" with respect to personal usefulness and organizational usefulness.
TABLE 8
County Agents' Ranking of Program Innovations on Personal Usefulness and Organizational Usefulness

<table>
<thead>
<tr>
<th>Program Innovations</th>
<th>Rankings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personal Usefulness</td>
</tr>
<tr>
<td>1. In-depth teaching</td>
<td>1</td>
</tr>
<tr>
<td>2. Use of area agents</td>
<td>2</td>
</tr>
<tr>
<td>3. Long time program planning</td>
<td>3</td>
</tr>
<tr>
<td>4. Industry approach in extension</td>
<td>4</td>
</tr>
<tr>
<td>5. Comprehensive advisory committee</td>
<td>5</td>
</tr>
</tbody>
</table>

\[ r_s = 0.98 \]
\[ P < 0.05 \]

The computation of data yielded rank order correlation of 0.98 which was significant at .05 level.

Table 9 presents rank order of program innovations based upon personal usefulness by position groups.

Perusal of data in the table indicates the differences in the perception of these groups, since there was not complete consensus in the rankings.

The rankings by the administrators, the specialists and the county agents on personal usefulness were tested for correlation by Spearman's rank order correlation.
TABLE 9

Rank Order of Program Innovations Based Upon Their Usefulness in Fulfilling Personal Responsibilities by Position Groups

<table>
<thead>
<tr>
<th>Program Innovations</th>
<th>Total</th>
<th>Administrators</th>
<th>Specialists</th>
<th>County Agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In-depth teaching</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2. Long-time program planning</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3. Use of area agents</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4. Industry approach in extension</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5. Comprehensive advisory committee</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

The coefficient of correlation between these groups on personal usefulness were:

- Rank order correlation between administrators and specialists on personal usefulness \( r_s = .60 \)
- Rank order correlation between administrators and county agents on personal usefulness \( r_s = .50 \)
- Rank order correlation between specialists and county agents on personal usefulness \( r_s = .90 \)

As evident from the table there did not exist complete consensus between the administrators and specialists ranking on personal usefulness. The administrators seem to have attached greater importance to the program innovation. Long time program planning and least
importance to, "Industry approach in extension." On the other hand, the specialists have ranked program innovation, "In-depth teaching" as highest and "Comprehensive representation on advisory committee" as lowest.

Computation of data yielded rank order correlation of \( r = 0.60 \) which was not significant at \( .05 \) level.

**Administrators' and county agents' ranking on personal usefulness**

The data in Table 9 indicates that there was not complete consensus between administrators' ranking and county agents' ranking on personal usefulness. The administrators attached greater importance to the program innovation, "Long time program planning" and the least importance to "Industry approach in extension" whereas county agents attached greater importance to "In-depth teaching" and least importance to "Comprehensive representation on advisory committee."

The computation of data yielded rank order correlation of \( r = 0.50 \) which was not significant at \( .05 \) level.

**Specialists' and county agents' ranking on personal usefulness**

As indicated in Table 9 both the specialists and county agents attached greater importance to the program innovation concerned with in-depth teaching and least importance to comprehensive representation on advisory committees. Although there was consensus between these two groups with regards to highest and lowest ranking on personal usefulness, complete consensus did not exist.
The computation of data yielded rank order correlation of .90 which was significant at .05 level.

**Rankings by the respondents on organizational usefulness**

Table 10 presents rank order of program innovations based upon organizational usefulness by position groups.

**TABLE 10**

Rank Order of Program Innovations Based Upon Usefulness to the Total Cooperative Extension Service by Position Groups

<table>
<thead>
<tr>
<th>Program Innovations</th>
<th>Total</th>
<th>Administrators</th>
<th>Specialists</th>
<th>County Agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In-depth teaching</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. Long time program planning</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. Comprehensive advisory committee</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4. Use of area agents</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5. Industry approach in extension</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Perusal of data in the table indicates the differences in the perception of these groups, since there was not complete consensus in the rankings.

The rankings by the administrators, specialists and county agents on organizational usefulness were tested for correlation by Spearman's rank order correlation.
Rank order correlation between administrators and specialists on organizational usefulness $r_s = .69$

Rank order correlation between administrators and county agents on organizational usefulness $r_s = .50$

Rank order correlation between specialists and county agents on organizational usefulness $r_s = .88$

**Administrators' and specialists' ranking on organizational usefulness**

Table 10 provides ranking of administrators and specialists on organizational usefulness. As indicated in the table administrators considered the program innovation, "Use of area agent" to be of first importance to the organization while specialists regarded, "Long time program planning" as of first importance. On the other hand the administrators considered the program innovation, "Industry approach in extension" to be of least importance to the organization while specialists considered, "Comprehensive representation on advisory committee" as of least importance for the organization.

This shows that there was not complete consensus between administrators' ranking and specialists' ranking on organizational usefulness.

The computation of data yielded a rank order correlation of .69 which was not significant at the .05 level.

**Administrators' and county agents' ranking on organizational usefulness**

There was not complete consensus between administrators' and county agents' ranking on organizational usefulness. As evident from
the data administrators attached greater importance to the program innovation, "Use of area agent" and least importance to, "Industry approach in extension." The county agents on the other hand attached greater importance to the program innovation, "In-depth teaching" and least importance to, "Comprehensive representation on advisory committee."

The computation of data yielded rank order correlation of .90 which was not significant at .05 level.

Specialists' and county agents' ranking on organizational usefulness

A perusal of data in Table 10 shows that there was not complete consensus between the specialists' and county agents' ranking, although there was very high correlation. Specialists considered the program innovation, "Long time program planning" to be of first importance while county agents regarded the program innovation, "In-depth teaching" as of first importance to the organization. Both groups, specialists and county agents considered the program innovation concerned with "Comprehensive representation on advisory committee" as of least importance.

The computation of data yielded a rank order correlation of .88 which was not significant at the .05 level.

General attitude of respondents toward program innovations

Questions were asked to note the general attitude of respondents toward program innovations in the Cooperative Extension Service. Data
with reference to the general attitude of respondents toward program
innovation are presented in Table 11.

TABLE 11
General Attitudes Toward Program Innovations in the
Cooperative Extension Service by Position

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Administrator N=17</th>
<th>Specialists N=17</th>
<th>County Agents N=41</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program innovations generally are required to meet changing conditions &amp; must constantly be adopted by extension staff if they are to be effective as educators</td>
<td>17 100.0</td>
<td>16 94.1</td>
<td>38 92.7</td>
</tr>
<tr>
<td>2. Caution should be exercised in adoption of program innovations since our existing educational procedures have generally proved to be effective</td>
<td>0 0.0</td>
<td>1 5.9</td>
<td>3 7.3</td>
</tr>
</tbody>
</table>

As apparent from the table all the administrators, 94.1 per cent of the specialists and 92.7 per cent county agents expressed that program innovations generally are required to meet changing conditions and must constantly be adopted by extension staff if they are to be effective as educators. On the other hand, none of the administrators, one of the specialists and three county agents expressed that caution should be exercised in adoption of program innovations since existing educational procedures have generally proved to be effective.
On the basis of these findings the respondents in these three groups may be divided into two categories: (1) more innovative individuals and (2) less innovative individuals. More innovative were those who have expressed that program innovations should constantly be adopted while less innovative were those individuals who were of the opinion that caution should be exercised in adoption of program innovations. It is evident that majority of the people included in our sample for this study were more innovative and only a few were less innovative.

**County Agents Using Program Innovations**

Table 12 provides information about county agents using the program innovations.

**TABLE 12**

**Extent of Use of Program Innovations by County Extension Agent Chairmen**

<table>
<thead>
<tr>
<th>Program Innovation</th>
<th>Using Intensively</th>
<th>Not Intensively</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per cent</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td>1. Long time program planning</td>
<td>35</td>
<td>85.4</td>
</tr>
<tr>
<td>2. Use of area agents</td>
<td>34</td>
<td>82.9</td>
</tr>
<tr>
<td>3. In-depth teaching</td>
<td>32</td>
<td>80.0</td>
</tr>
<tr>
<td>4. Comprehensive advisory committee</td>
<td>30</td>
<td>73.2</td>
</tr>
<tr>
<td>5. Industry approach in extension</td>
<td>28</td>
<td>68.3</td>
</tr>
</tbody>
</table>

*One agent did not respond to this question.*
As indicated in Table 12, 35 or 85.4 per cent of the county extension agents included in the sample used the program innovation, "Long time program planning" while the remaining six failed to use it intensively. With respect to the program innovation, "Use of area agents" 34 or 82.9 per cent of agents used it intensively and the remaining seven did not use it intensively. Another 32 or 80 per cent of agents used "In-depth teaching" intensively while eight of them did not use it intensively. The program innovation, "Comprehensive representation on advisory committee" was reported to be used intensively by 30 or 73.2 per cent of the agents while 11 of them failed to use it intensively. The program innovation, "Industry approach in extension" was intensively used by 28 or 68.3 per cent of the county agents included in the sample while another 13 did not use it intensively.

This shows that majority of the agents were using these innovations intensively and see them favorably.

Major reasons for adopting program innovations

For the innovations studied, the county extension agents had been asked, "If you are now using this program innovation rather intensively why are you doing so?"

Table 13 provides the major reasons given by county extension agents for using these innovations intensively.
<table>
<thead>
<tr>
<th>Reasons</th>
<th>Use of Area Agent</th>
<th>Long Time Program Planning</th>
<th>In-Depth Teaching</th>
<th>Industry Approach in Extension</th>
<th>Comprehensive Advisory Committees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>1. Program innovation was being used before joining the position</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2.9</td>
<td>5.7</td>
<td>6.2</td>
<td>14.3</td>
<td>5</td>
</tr>
<tr>
<td>2. Felt it was worth doing</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.8</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>2.8</td>
<td>21.9</td>
<td>7.1</td>
<td>0</td>
</tr>
<tr>
<td>3. Decided it was needed based upon local needs</td>
<td>17</td>
<td>50.0</td>
<td>10</td>
<td>28.6</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>50.0</td>
<td>28.6</td>
<td>31.2</td>
<td>50.0</td>
<td>23.3</td>
</tr>
<tr>
<td>4. County ext. advisory committee recommended using this innovation</td>
<td>3</td>
<td>8.8</td>
<td>7</td>
<td>20.0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>8.8</td>
<td>20.0</td>
<td>9.4</td>
<td>14.3</td>
<td>40.0</td>
</tr>
<tr>
<td>5. Supervisor indicated innovation should be used</td>
<td>7</td>
<td>20.6</td>
<td>11</td>
<td>31.4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>20.6</td>
<td>31.4</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
</tr>
<tr>
<td>6. Other agents convinced agent this innovation to be used</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>7. Other reasons</td>
<td>5</td>
<td>14.7</td>
<td>3</td>
<td>8.6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>14.7</td>
<td>8.6</td>
<td>21.9</td>
<td>7.1</td>
<td>6.7</td>
</tr>
<tr>
<td>Total Number</td>
<td>14</td>
<td>10</td>
<td>58</td>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>
Use of area agents

Over 50 per cent of the agents indicated they used this innovation based upon local needs. Another seven of them expressed that it was indicated by the district supervisor that they should use this innovation, while three of them used the innovation on the recommendation of their advisory committees. One of them expressed the opinion that the innovation was a good way to reach top farmers, another one indicated he used the innovation because of organizational policy. One respondent indicated he used the innovation based upon increased demand for specialized assistance.

Long time program planning

The program innovation "Long time program planning" was used intensively by 31.4 per cent of the agents because it was indicated by their district supervisors, while 20.6 per cent of them happened to decide to use based upon local needs. Two of the agents indicated that before assuming this position it was being used in that county. This may suggest that these agents were using this innovation whether they wanted to use it or not and that it was not easy to discontinue use of an innovation once it was installed in the system. Three respondents expressed the opinion that the use of the innovation was a state pattern and that they wanted to use it.

In-depth teaching

The program innovation "In-depth teaching" was used intensively by 80 per cent of the agents. Over 30 per cent of these agents decided
to use this innovation based upon local needs, while seven or 21.9 per cent felt that it was worth using. Three of the agents indicated that they were convinced by fellow extension agents whereas another three of them expressed that their advisory committees recommended using this innovation. One of the agents used it before and was satisfied while two of them expressed that local committees were interested in using this innovation.

Industry approach in extension

With reference to use of program innovation "Industry approach in extension" 50 per cent of the agents using this innovation decided to use it based upon local needs, four of them used it upon the recommendation of their advisory committees while another four indicated that it was being used before they joined that position. Two agents felt it was worth using, one of them was convinced by fellow agents, and another one used because it was indicated by his advisory committee. One of the agents was using it because it accomplished good results with the clientele and they appreciated this kind of approach.

Comprehensive representation on advisory committee

The program innovation "Comprehensive representation on advisory committee" was used intensively by 73.2 per cent of county extension agents included in the sample. A variety of reasons were given by the respondents. About 40 per cent of the agents used this innovation upon the recommendation of their advisory committees. Based upon local needs 23.3 per cent decided to use this innovation, while five
of them used the innovation because it was being used before they joined this position. Three county extension agents used it because it was indicated by their supervisors.

Major reasons for not using the innovations intensively

Use of area agents

With reference to the program innovation "Use of area agents" one agent expressed that his current procedure was superior to this innovation. One of them was not convinced of the advantages, another one could not use because of insufficient staff, while one expressed that this innovation was fairly new and it would take some time to adopt it.

Long time program planning

The program innovation "Long time program planning" was not used intensively by six extension agents included in the sample. Out of six agents, two felt that current procedure was superior to the innovation. One agent felt he could not use the innovation since his advisory committee objected to it. One of the respondents indicated that situations change at a rapid rate and plans cannot be projected for a longer period.

In-depth teaching

With regards to the program innovation, "In-depth teaching" two agents felt that present procedure was superior and one indicated that it was not applicable in his situation. One expressed that he needed
### TABLE 14

**Major Reasons Indicated by Agents for Not Using the Innovations Intensively**

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Use of Area Agent N=7</th>
<th>Long Time Program Planning N=6</th>
<th>In-Depth Teaching N=9</th>
<th>Industry Approach in Extension N=13</th>
<th>Comprehensive Advisory Committees N=11</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Not applicable in the situation</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>1 11.1</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>1</td>
</tr>
<tr>
<td>2. Do not understand nature of innovation</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0</td>
</tr>
<tr>
<td>3. Need additional training to use innovation</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>1 11.1</td>
<td>6 46.1</td>
<td>1 9.1</td>
<td>8</td>
</tr>
<tr>
<td>4. County ext.advisory committee objects to using innovation</td>
<td>0 0.0</td>
<td>1 16.7</td>
<td>0 0.0</td>
<td>1 7.7</td>
<td>4 36.4</td>
<td>6</td>
</tr>
<tr>
<td>5. Not convinced of value of innovation</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>3 27.3</td>
<td>3</td>
</tr>
<tr>
<td>6. It is felt that current procedures are superior to this innovation</td>
<td>1 14.3</td>
<td>2 33.3</td>
<td>2 22.2</td>
<td>1 7.7</td>
<td>0 0.0</td>
<td>6</td>
</tr>
<tr>
<td>7. Never heard of innovation</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0 0.0</td>
<td>0</td>
</tr>
<tr>
<td>8. Other reasons</td>
<td>6 85.7</td>
<td>3 50.0</td>
<td>5 55.5</td>
<td>5 38.5</td>
<td>3 27.3</td>
<td>22</td>
</tr>
</tbody>
</table>
additional training to use the innovation and one of them was concerned about the lack of time. One of them expressed that people did not want to attend and another one said it takes time to convince people.

Industry approach in extension

The program innovation "Industry approach in extension" was not used intensively by 13 agents. Six of them expressed that they need additional training to use the innovation and one of them felt that current procedure was superior to this innovation. Three of the respondents were concerned about the lack of time and manpower.

Comprehensive representation on advisory committee

With reference to the program innovation "Comprehensive representation on advisory committee" four indicated that their advisory committees objected to its use, three of them were not convinced of the value of innovation, and one of them needed additional training.

Summary

In this chapter data pertaining to the respondents regarding personal characteristics and background information have been presented.

Seventeen of the respondents were administrators, another 17 were specialists and remaining 41 were county agents in the sample of respondents.

Mean extension tenure of administrators was 15.2 years, of state extension specialists 12.4 years and of county agents 13.2 years. The
administrators, specialists and county agents in current position had mean tenure of 5.2 years, 9.6 years and 10 years respectively. The Master's degree was found to be most common degree held by all of these groups. Among the administrators one had a Bachelor's degree and three had the Ph.D. degree, while among specialists none had only a Bachelor's degree, 12 had Master's and five had Ph.D. degrees. Among county agents 20 of them had only a Bachelor's degree, 21 had Master's degrees and none held the Ph.D. degree.

All of the administrators fell within the age limit of 30 and 60 years, one of the specialist was below 30 years of age and just one was over 60 years, whereas majority of the county agents were within the age range of 30 to 50 years. The age of administrators, specialists and county agents was 44.3, 46, and 42.6 years respectively.

There was noteworthy differences in the perception of these groups with regards to the usefulness of these program innovations to fulfill personal responsibilities and to the organization. There was never a complete consensus among these groups in the ranking of program innovations on personal usefulness and organisational usefulness.

Data with reference to the general attitude of respondents toward program innovations in the Cooperative Extension Service revealed that all the administrators, 94.1 per cent of the specialists and 92.7 per cent of the county agents were of the opinion that program innovations generally are required and must constantly be adopted by extension staff. On the other hand one specialist and three county agents
expressed that caution should be exercised in adoption of program innovations.

The majority of the county extension agents included in the sample were using these program innovations. Most of the agents decided to use these innovations based on local needs. Agents not using these innovations gave various reasons rather than any one specific reason.
CHAPTER IV

ROLE PERFORMANCE AND COUNTY AGENT ROLE EXPECTATIONS OF
EXTENSION PERSONNEL AND ADVISORY COMMITTEES IN THE
ADOPTION OF PROGRAM INNOVATIONS

One of the challenges confronting the Ohio Cooperative Extension Service, is the need to help people meet their needs by developing educational programs in subject areas relating to agriculture and home economics. The extension personnel direct their energies toward this end, which makes essential for them the adoption of program innovations which meet more effectively the needs of the people. In fact the effectiveness of the organization and its staff depend upon its ability to invent and adopt appropriate program innovations.

Role Performance of Extension Personnel
and Advisory Committees

One of the objectives of this study was to determine the actual role performed by extension personnel and advisory committees in the adoption of program innovations. In the following section the data pertaining to the actual role performed by these groups have been analyzed and presented.

The mean weighted score and the ranks for various groups regarding their role in relation to different phases of adoption process have been recorded in Table 15.
TABLE 15
Mean Performance Score of Various Extension Personnel in
Different Phases of the Adoption Process

<table>
<thead>
<tr>
<th>Phase</th>
<th>Administrators M.W.S.</th>
<th>Rank</th>
<th>Specialists M.W.S.</th>
<th>Rank</th>
<th>County Agents M.W.S.</th>
<th>Rank</th>
<th>Advisory Committees M.W.S.</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>1.20</td>
<td>8</td>
<td>1.58</td>
<td>8</td>
<td>2.41</td>
<td>3</td>
<td>1.30</td>
<td>5</td>
</tr>
<tr>
<td>Invention</td>
<td>2.82</td>
<td>3</td>
<td>3.23</td>
<td>2</td>
<td>3.02</td>
<td>2</td>
<td>2.70</td>
<td>1</td>
</tr>
<tr>
<td>Design</td>
<td>2.79</td>
<td>4</td>
<td>2.55</td>
<td>4</td>
<td>2.18</td>
<td>6</td>
<td>1.83</td>
<td>3</td>
</tr>
<tr>
<td>Dissemination</td>
<td>3.88</td>
<td>1.5</td>
<td>2.47</td>
<td>6.5</td>
<td>2.12</td>
<td>7</td>
<td>1.12</td>
<td>7</td>
</tr>
<tr>
<td>Demonstration</td>
<td>2.11</td>
<td>7</td>
<td>2.58</td>
<td>3</td>
<td>1.77</td>
<td>8</td>
<td>1.00</td>
<td>8</td>
</tr>
<tr>
<td>Trial</td>
<td>2.47</td>
<td>8</td>
<td>2.47</td>
<td>6.5</td>
<td>2.37</td>
<td>4.5</td>
<td>1.35</td>
<td>6</td>
</tr>
<tr>
<td>Installation</td>
<td>2.58</td>
<td>5</td>
<td>2.52</td>
<td>5</td>
<td>2.37</td>
<td>4.5</td>
<td>1.52</td>
<td>4</td>
</tr>
<tr>
<td>Institutionalization</td>
<td>3.88</td>
<td>1.5</td>
<td>3.29</td>
<td>1</td>
<td>3.60</td>
<td>1</td>
<td>2.09</td>
<td>2</td>
</tr>
</tbody>
</table>

*M.W.S. indicates a mean weighted score.*
The mean weighted scores for various groups relevant to their performance relative to different phases of adoption process were determined in the following way. Values were assigned to six positions or categories on a performance (or involvement) rating scale which was designed and included on the mailed questionnaire. A value of zero was given to the "little or no involvement" category, and a value of five was assigned to "deep involvement" category. The distance between zero and five was divided into five equal distances and were designated by number in ascending order from "little or no involvement" to "deep involvement." The mean weighted scores for different groups were then determined. To ascertain the mean weighted scores the number of responses to each scale value for each item was multiplied by the assigned value and the summation of the products was divided by the number of individuals responding to the item. This coefficient then became the mean score for that item and it represented the extent of performance by that particular group.

Mann-Whitney U test was employed to test the significance of difference in role performance score of various respondent groups and role expectations held by county extension agents for various groups.

**Logical Structure**

Based upon the schema of Clark and Guba and upon the administrative theory of Griffiths on *a priori* derivation of the probable functions of the various extension personnel and advisory committees is set forth.
1. If research is perceived as the advancement of knowledge, the research resources of the Extension Service directed toward the advancement of knowledge about the practice of education is so limited that this function will be performed primarily by non-extension personnel.

2. The development function (invention and design of innovation) will logically be a function of the program administrators within the Extension Service. This is in reality the function of the assistant directors of the Cooperative Extension Service.

3. The diffusion process (dissemination and demonstration) based upon the process schema and organizational theory must logically be assigned to the district supervisors. The job description of the district supervisors clearly indicate that they are the communication link between the administrative staff and the county and area extension agents.

4. Since the extension specialists serve a staff function with respect to the organization and provide specialized assistance to the adopter unit (county extension agents) within the framework of this study, this role is less clearly defined. However, on a logical basis it would seem that these specialists could perform a role in development (providing specialized assistance to the assistant directors on programs), dissemination, demonstration and trial.

5. The county extension agents as the adopter unit would logically be most deeply involved in the adoption process.
6. Since the county advisory committees work directly in an advisory capacity with the county extension agents within the context of the adoption of statewide innovations, one would logically assume that these committees would be most deeply involved in the adoption process.

The role of administrators, specialists, county agents and advisory committees relative to different phases of adoption process have been discussed separately in the following pages.

Administrators' role

Administrators as authority figures are crucial in introducing innovations. They may promote or prevent innovation because they have authority to precipitate decisions. Hence, they have an important role to play in various phases of adoption process.

The data in Table 15 reveals that the administrators had the lowest score on the research process phase, and as apparent from the data they felt they had very little involvement in this process phase. On the other hand, the administrators scored highest on the dissemination and institutionalization phases. This suggests that administrators were deeply involved in dissemination and institutionalization of program innovation in the Ohio Cooperative Extension Service.

Griffiths proposed a system theory as a model for a theory of administrative change and suggested that the organisations exhibit some form of progressive segregation or hierarchial order which makes it possible for change to occur from the top down but practically impossible for it to occur from the bottom up.
Consequently the following hypothesis relative to role performance of the administrators was formulated and tested.

Research hypothesis \((H_1)\).—The administrators will have a significantly higher role performance score in the development (invention and design) and diffusion (dissemination and demonstration) process phases than they will in the other process phases.

\(H_0\).—There is no significant difference in role performance score of administrators in the development (invention and design) and diffusion (dissemination and demonstration) process phases and other process phases.

The application of the Mann-Whitney U test to these data to determine whether or not there was a significant difference in the role performance scores of the administrators in the development and diffusion phases of the process schema compared with the other process phases at the .05 level \((U = 5, \ P < .243)\). We fail to reject the null hypothesis. However, it is evident from the data in Table 15 that the administrators rank the dissemination, invention and design functions in the top group of functions which they perform. They do not rate the demonstration function high and rate the institutionalization function at the top along with dissemination. Since these findings are in the general direction predicted, these findings suggest that further exploration of this area could prove very fruitful.

**Specialists' role**

As apparent from the data presented in Table 15 the specialists scored highest on institutionalization process phase and lowest on
**TABLE 16**

Mean Performance Scores and Rank Order of Extension Personnel Relative to Research, Development, Diffusion and Adoption Process Phases

<table>
<thead>
<tr>
<th></th>
<th>Administrators</th>
<th>Specialists</th>
<th>County Agents</th>
<th>Advisory Committees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M.W.S. a Rank</td>
<td>M.W.S. a Rank</td>
<td>M.W.S. a Rank</td>
<td>M.W.S. a Rank</td>
</tr>
<tr>
<td>Research</td>
<td>1.20 4</td>
<td>1.58 4 4</td>
<td>2.41 3</td>
<td>1.38 3</td>
</tr>
<tr>
<td>Development</td>
<td>2.80 2.5</td>
<td>2.80 2</td>
<td>2.46 2</td>
<td>2.11 1</td>
</tr>
<tr>
<td>Diffusion</td>
<td>2.80 2.5</td>
<td>2.50 3</td>
<td>2.09 4</td>
<td>1.15 4</td>
</tr>
<tr>
<td>Adoption</td>
<td>3.23 1</td>
<td>2.91 1</td>
<td>3.00 1</td>
<td>1.81 2</td>
</tr>
</tbody>
</table>

*M.W.S. indicates a mean weighted score.*
research process phase. This shows that the maximum involvement of the specialists was in institutionalization process phase. The next highest score of the specialists was on the invention phase, then on demonstration, design, installation, dissemination, trial and research process phases.

As it is evident from the data presented in Table 15 both the administrators and the specialists were least involved in the research process phase. In the Ohio Cooperative Extension Service the administrators and specialists hold high positions in the administrative hierarchy yet they have failed to perform significant role relative to research process phase in adoption of program innovation. This may suggest that research is not conducted to develop program innovations in the Ohio Cooperative Extension Service, or if it is conducted, it is conducted by non-extension personnel.

From our logical structure, it was suggested that the extension specialists would perform the function of development, dissemination and trial.

Research hypothesis (H2).--Extension specialists will have a significantly higher role performance score in the invention, design, dissemination, demonstration and trial process phases than they will in the other process phases.

H0.--There is no significant difference in role performance score of extension specialists in invention, design, dissemination, demonstration, and trial process phases and other process phases.
The Mann-Whitney U test indicated there was no significant differences in the role performance scores of extension specialists in the development, dissemination, demonstration and trial phases compared with the other process phases ($U = 7 \ P < .50$). We fail to reject the null hypothesis.

It is evident from an analysis of the data that the role extension specialists feel they performed in the adoption of these program innovations was not consistent with the logical structure. This suggests that the role of the extension specialists in the adoption of a program innovation is not clearly defined or understood. On an a priori basis it seems doubtful if the primary role of the specialists is that of institutionalization.

Role of county extension agent chairmen

The county is a basic unit where a major portion of the programs are developed and much of the teaching is done. From the standpoint of this research study the county extension agent has been considered as the practitioner or adopter of innovation, hence he has an important role in adoption process phase.

The data in Table 15 reveals that the county agents scored highest on the institutionalization process phase but scored fairly low on trial and installation process phases. On overall scoring as presented in Table 16 they have scored highest on adoption process phase.

Research hypothesis (H3).—County extension agents will have significantly higher role performance score in the adoption process phase than in the other process phases.
H₀ -- There is no significant difference in role performance score of county extension agents in the adoption (trial, installation, and institutionalization) process phase and other process phases.

The Mann-Whitney U test produced a U value of 4 with P < .196. This difference was not significant at the .05 level and we fail to reject the null hypothesis. However, the data do suggest that the primary role of the county extension agents is in the adoption process phase compared with the other process phases. This is particularly true in view of the consistency of the data with the direction predicted in the logical structure established.

Role of extension advisory committees

According to system theory model suggested by Griffiths, the organization tend to maintain study state, therefore the major impetus for change comes from outside rather than inside organization. This suggests that advisory committees and other consultant groups play an important role in bringing about change in the organization. With reference to program innovations this is to be seen whether these committees are really outside the organization, if these are part of the organization, they would provide little impetus for change.

Table 15 provides the scores obtained by advisory committee relative to various process phases as perceived by county extension agents.

As evident from the data county extension agents scored advisory committees highest on invention process phase and lowest on demonstration process phase.
Research hypothesis ($H_4$).—County extension advisory committees will have significantly higher role performance scores in the installation and institutionalization process phases than they will in other process phases.

$H_0$.—There is no significant difference in role performance score of county extension advisory committees in the installation and institutionalization process phases and other process phases.

The statistical analysis of these data by the Mann-Whitney U test indicates that there is not a significant difference between the role performed by county extension advisory committees in the installation and institutionalization phases of the process schema compared with other processes ($U = 3\ P < .214$). One must keep in mind that these performance scores were reported by the county extension agents for the county extension advisory committees.

While these data were not significant at the .05 level, they do suggest that the county extension advisory committees tend to perform the roles of installation and institutionalization and that further, more precise investigation in this area would be useful.

The highest ranked process that of invention attributed to the advisory committees by the extension agents is quite inconsistent with our logical structure. Since these program innovations under consideration were by definitions those which were system-wide in nature it is almost inconceivable that each county extension advisory committee could "invent" this innovation.
County extension agents have been encouraged to involve county extension advisory committees in the formulation of program plans for the county.\footnote{Patrick G. Boyle, \textit{The Program Planning Process} (Madison: National Agricultural Extension Center for Advanced Study, 1965).} It is quite possible that this has developed into a feeling that any "good" program innovation must be the product of the county extension advisory committee or must be rationalized through that committee. Thus, the county extension agents interpret these program innovations as being invented by these advisory committees.

\textbf{Role Expectations of Extension Personnel and Advisory Committees as Perceived by County Extension Agent Chairmen}

A second dimension of this chapter was to present the reactions of county extension agent chairmen with respect to the expected role of various extension personnel in the adoption of program innovations. The county extension agents were asked to indicate a number in the square under each group to indicate their feelings for each activity whether or not that group should perform the activity. A five point scale was developed for noting the feelings of the respondents. Values were assigned to five positions on a performance rating scale which was designed and included on the mailed questionnaire. A value of one was given to "definitely should not" category, a value of two was assigned to "preferably should not," a value of three was given to "may or may not," a value of four was assigned to "preferably
should" and a value of five was given to "definitely should" category. The mean scores were determined. To achieve this the number of responses to each scale value for each item was multiplied by the assigned value and the summation of the products was divided by the number of individuals responding to the item. This coefficient then became the mean score for that item and it represented the extent of performance relative to that phase of adoption process.

The expected role of extension personnel, advisory committees and non-extension personnel relative to various phases of adoption process, as perceived by county extension agents have been discussed separately in the following pages.

Expected role of extension personnel and advisory committees relative to research process phase

Research provides the basis for inventing program innovations. It is one of the most important functions of an organization to conduct research for the invention of program innovations. It was the intent of this study to find out who county extension agent chairmen felt should perform this role in the Ohio Cooperative Extension Service which will help the organization to invent and adopt program innovations on a continuing basis.

A perusal of data presented in Table 17 shows that the highest score on research process phase has been obtained by county agents. This suggests that county agent chairmen feel they should conduct research relative to program innovations.
<table>
<thead>
<tr>
<th></th>
<th>Research</th>
<th>Invention</th>
<th>Design</th>
<th>Dissemination</th>
<th>Demonstration</th>
<th>Trial</th>
<th>Installation</th>
<th>Institutionalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-extension personnel</td>
<td>2.76</td>
<td>8</td>
<td>3.05</td>
<td>8</td>
<td>3.16</td>
<td>8</td>
<td>2.13</td>
<td>8</td>
</tr>
<tr>
<td>Director, etc.</td>
<td>3.98</td>
<td>4</td>
<td>3.97</td>
<td>6</td>
<td>4.18</td>
<td>7</td>
<td>4.58</td>
<td>2</td>
</tr>
<tr>
<td>District supervisors</td>
<td>3.97</td>
<td>5</td>
<td>4.25</td>
<td>4</td>
<td>4.28</td>
<td>5</td>
<td>4.71</td>
<td>1</td>
</tr>
<tr>
<td>Specialists</td>
<td>4.01</td>
<td>3</td>
<td>3.75</td>
<td>7</td>
<td>4.20</td>
<td>6</td>
<td>2.97</td>
<td>4</td>
</tr>
<tr>
<td>Area agents</td>
<td>4.10</td>
<td>2</td>
<td>4.05</td>
<td>5</td>
<td>4.23</td>
<td>3.5</td>
<td>3.00</td>
<td>3</td>
</tr>
<tr>
<td>County agents</td>
<td>4.20</td>
<td>1</td>
<td>4.30</td>
<td>3</td>
<td>4.38</td>
<td>1</td>
<td>2.75</td>
<td>5</td>
</tr>
<tr>
<td>State advisory committee</td>
<td>3.51</td>
<td>6</td>
<td>4.84</td>
<td>1</td>
<td>4.25</td>
<td>2</td>
<td>2.51</td>
<td>6</td>
</tr>
<tr>
<td>County advisory committee</td>
<td>3.34</td>
<td>7</td>
<td>4.53</td>
<td>2</td>
<td>4.23</td>
<td>3.5</td>
<td>2.38</td>
<td>7</td>
</tr>
</tbody>
</table>

Note: M.W.S. indicates a mean weighted score and R indicates rank.
As it has been mentioned earlier that county agents from the standpoint of this research study were the adopters of program innovations as most of the teaching is done at the county level. The county agents were in fact the consumers of the program innovations rather than originators. This suggests that the county agents have not clearly understood the research role.

Research hypothesis (H₅).--County extension agent chairmen expect non-extension personnel to perform the role of research.

H₀.--There is no significant difference in the role expectations held by county extension agent chairmen for non-extension personnel in the research used to develop program innovations and their role expectations for other respondent groups.

It is clear from our inspection of data that the null hypothesis cannot be rejected (U = 7 P > .625). While an effective case can be built on a logical basis for the research phase of the process schema being performed by non-extension personnel, it is evident that county extension agent chairmen do not feel that non-extension personnel should perform this function but rather than the county extension agent chairmen should perform the research function. A further look at the data in Table 17 shows that county extension agent chairmen do not expect non-extension personnel to perform any of the process functions in the adoption of innovations. In fact, with the exception of the invention phase, county agents feel that they themselves should perform all of the process functions. This seems to suggest a
generalized attitude on the part of the county extension agent chairmen that any new program innovations should be developed within each county. Since Griffiths points out that organization and systems tend to maintain the status quo and that innovations come from pressure from outside the system, it would seem that in reality these county extension agent chairmen are indicating a preference for the status quo.

**Expected role of extension personnel and advisory committees relative to development process phase**

This process phase involves two stages - invention and design.

**Invention process phase.**—Invention has been defined as the formulation of a new solution to an operating problem or class of problems.

The mean scores obtained by various groups relative to invention process phase have been presented in Table 17. As evident from the data state advisory committee obtained a mean score of 4.84 and was ranked highest. This shows that county agents expect the state advisory committee to perform the role of invention relative to program innovations.

**Design process phase.**—A "raw" invention is always unusable in a practical sense. It is the design of packaging stage which orders and systematizes the invented solution into a package appropriate for institutional use.

As apparent from data presented in Table 17 the county agents received a mean score of 4.38 and were ranked at the top.
Combined ranking on invention and design process phases as shown in Table 18 the state advisory committee obtained a score of 4.43 and received the highest rank.

Research hypothesis (H₀).—County extension agents expect the administrators to perform the role of development (invention and design) of program innovations.

H₀.—There is no significant difference in the role expectations held by county extension agents for administrators in the development (invention and design) of innovation and their role expectations for other respondent groups.

The data clearly indicate that the null hypothesis cannot be rejected (U = 6  P > .625). The data show that county extension agent chairmen expect the development function to be performed by the state extension advisory committee and by the county extension agents and by the county extension advisory committee. Administrators, supervisors and specialists rate at the low end of the scale as important persons in the development phase of program innovations.

**Expected role of extension personnel and advisory committees relative to diffusion process phase**

The diffusion process phase has two subphases, namely (1) dissemination and (2) demonstration.

**Dissemination process phase.**—Dissemination phase is connected with creating widespread awareness of the existence and general nature of the invention among practitioners. When properly carried out,
TABLE 18

Mean Weighted Role Expectation Scores and Rank Order of Various Extension Personnel Groups as Perceived by County Extension Agent Chairman on Research, Development, Diffusion and Adoption Process Phases

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-extension personnel</td>
<td>2.76</td>
<td>8</td>
<td>3.12</td>
<td>8</td>
<td>2.59</td>
<td>8</td>
<td>2.73</td>
<td>8</td>
</tr>
<tr>
<td>Director, etc.</td>
<td>3.98</td>
<td>4</td>
<td>4.11</td>
<td>6</td>
<td>4.16</td>
<td>2</td>
<td>4.04</td>
<td>5</td>
</tr>
<tr>
<td>District supervisors</td>
<td>3.97</td>
<td>5</td>
<td>4.27</td>
<td>4</td>
<td>4.52</td>
<td>1</td>
<td>4.41</td>
<td>3</td>
</tr>
<tr>
<td>Specialists</td>
<td>4.01</td>
<td>3</td>
<td>4.05</td>
<td>7</td>
<td>3.45</td>
<td>5</td>
<td>4.12</td>
<td>4</td>
</tr>
<tr>
<td>Area agents</td>
<td>4.10</td>
<td>2</td>
<td>4.23</td>
<td>5</td>
<td>3.61</td>
<td>4</td>
<td>4.43</td>
<td>2</td>
</tr>
<tr>
<td>County agents</td>
<td>4.20</td>
<td>1</td>
<td>4.35</td>
<td>2</td>
<td>3.71</td>
<td>3</td>
<td>4.48</td>
<td>1</td>
</tr>
<tr>
<td>State advisory committee</td>
<td>3.51</td>
<td>6</td>
<td>4.43</td>
<td>1</td>
<td>2.82</td>
<td>7</td>
<td>3.57</td>
<td>7</td>
</tr>
<tr>
<td>County advisory committee</td>
<td>3.34</td>
<td>7</td>
<td>4.33</td>
<td>3</td>
<td>3.02</td>
<td>6</td>
<td>4.06</td>
<td>6</td>
</tr>
</tbody>
</table>

*M.W.S. indicates a mean weighted score.*
dissemination increases the number of options available to the professional from which he may choose in practice.

A perusal of data presented in Table 17 indicates that with respect to dissemination process phase the district supervisors obtained a mean score of 4.71 and were ranked highest. As apparent from the data the county extension agents expect district supervisors to perform the role of dissemination of information about program innovations.

Research hypothesis (H7).—County extension agents expect the district supervisors to perform the role of dissemination of information about program innovations.

H₀.—There is no significant difference in the role expectations held by county extension agents for district supervisors in the dissemination of information about program innovations and their role expectation held for other respondent groups.

The data indicate that county extension agent chairmen do in fact rank the district supervisors first in the diffusion phase of the process of adoption of program innovations. While these findings are not completely conclusive (U = 0  P < .125) the findings suggest that the null hypothesis should be rejected. Since the logical structure indicated that the findings would occur in the direction which these findings were obtained, it seems reasonable to reject the null hypothesis.

These findings suggest that county extension agent chairmen, while generally believing that innovation should be developed within the county do seem to recognize that they have a need to receive
information about new developments from outside the county and look to
the district supervisors to perform this function.

**Demonstration process phase.**—Demonstration from the standpoint
of this research schema, means the provision of an opportunity for the
target system to examine and access the operating qualities of the
innovation. This implies interaction between the demonstrator or
demonstration and the target system, a real chance for evidential as-
essment of the invention by a competent professional.

Table 17 provides the mean scores obtained by various groups
relative to demonstration process phase. As evident from the data
county agents scored highest and were ranked at the top.

Research hypothesis (Hg).—County extension agents expect the
area agents to perform the role of demonstration of program innovation.

Hₙ.---There is no significant difference in the role expectations
held by county extension agents for area agents in the demonstration
of program innovation and their role expectation for other respondent
groups.

The data are such that we fail to reject the null hypothesis
(U = 3  P < .500). It is quite possible that because of the relatively
recent assignment of area extension agents to area centers that these
findings are influential by this phenomenon as well as the fact that
the area extension agents themselves were among the innovations
studied.
Expected role of extension personnel and advisory committees relative to adoption process phase

Adoption process phase has three subphases, namely (1) trial, (2) installation, and (3) institutionalisation.

Trial process phase.--Assuming that the target system is convinced of the efficacy of the invention there should be an opportunity to try out the invention, without substantial fear of failure, in the context of a particular institution. The trial period is not a period of simple "trial and error" but time during which familiarity with the invention can be established and during which a basis can be provided for assessing the quality, value, fit and utility of the invention in a particular institution.

Mean scores obtained by various groups relative to trial phase have been presented in Table 17. As apparent from the data, county agents obtained the highest score 4.47 and received the first rank.

Installation process phase.--The process of installation, or fitting the characteristics of the invention to the characteristics of the adopting institution, may be an exceedingly complex and time consuming stage. It may require substantial redesigning, extensive personnel retraining, or modification of other elements of the operating system which conflict with the invention.

A perusal of data in Table 17 indicates that area agents obtained a mean score of 4.47 and received the first rank. As evident from the data county agents expected area agents to perform the role of installation of program innovations.
Research hypothesis (H₀).—County extension agents expect the county extension advisory committees to perform the role of installation of program innovation.

H₀.—There is no significant difference in the role-expectations held by county extension advisory committees in the installation of program innovation and their role expectations for other respondent groups.

The data indicate that we fail to reject the null hypothesis \((U = 3 \ P \leq .500)\). The data suggest that county extension agent chairmen look to area extension agents and the district supervisors for assistance in installing a program innovation in their county before they look to the county extension advisory committee.

**Institutionalization process.**—Institutionalization phase is concerned with establishing the invention over an extended period of time and valuing and supporting it as a regularly accepted component of the system.

Table 17 provides the mean scores obtained by different groups on institutionalization process phase. As evident from the data county agents obtained a score of 4.58 and received first rank. This indicates that county agents have to play the role in institutionalization phase. This becomes apparent as they are the adopters.

Research hypothesis \((H_{10})\).—County extension agents expect to perform role of adoption (trial, installation, and institutionalization) of program innovation.
H₀ -- There is no significant difference in the role expectations held by county extension agents for themselves in the adoption (trial, installation and institutionalization) of program innovation and their role expectation for other respondent groups.

The data indicate that generally the county extension agent chairmen expect county agents to perform the adoption process (U = 0 P < .125). While these data are not significant at the .05 level they do strongly suggest that the null hypothesis can be tentatively rejected.
A review of literature in the field of innovation-diffusion suggests that people normally do not adopt a new practice or idea as soon as they hear about it. Most of the time they appear to go through series of distinguishable stages. In 1955, the sub-committee for the study of Diffusion of Farm Practices of the North Central Rural Sociology Committee suggested that the adoption process was composed of five stages which occurred in the following sequence: (1) awareness, (2) interest-information, (3) evaluation, (4) trial, and (5) adoption. These five stages were modified and redefined by the committee in 1962 as follows:

1. **Awareness.**—The individual knows of the new ideas but lacks information about it.

2. **Interest-information.**—The individual becomes interested in the idea and seeks more information about it.

---

3. Evaluation-application-decision.--The individual makes a mental application of the new idea to his present and anticipated future situation and makes the decision either to try it or not.

4. Trial.--The individual uses the new practice on a small scale to validate its workability on his own farm.

5. Adoption.--The individual uses the new practice on a full scale and incorporates it into his way of farming.  

Many researchers have used the concept of multistage, sequential, adoption process. Beal, Rogers, and Bohlen attempted to validate this five stage adoption theory by asking farmers to name the sources of information used at each stage of adoption of the practice of feeding antibiotics to hogs. The following questions were used:

1. Where or from whom did you first see or hear about the use of antibiotics in hog feed?

2. After you first heard about antibiotics, where or from whom did you get additional, more detailed information about antibiotics?

3. After you had enough information to know quite a lot about antibiotics where or from whom did you get the information that helped you decide whether or not to actually try it on your own farm?


3 Beal, Rogers and Bohlen, op. cit., pp. 166-168.
4. After you decided to try out antibiotics on your own farm, where or from whom did you get the most information or help on how much to use, how to feed it, how to handle it, where to get it, and the kind to use on your farm?

5. After you once tried antibiotics on your own farm, how did you decide whether or not to continue using it - actually adopt it?4

It has been reported that the decision to adopt new practice or idea usually takes time. Some of the decisions are made quickly, but many others require extended thought and deliberation. The final decision to use a new practice or idea is usually the result of a series of influences through personal and impersonal sources. Regardless of practice, place or person, adoption decision almost always involve other individuals as information sources. They may provide initial knowledge of the practice, definite advice as to the course of action to be taken, or reinforcement of decisions already made. The personal sources may be specialists or outsiders, but more likely to be fellow members personally known and trusted.

It was not the intent of this research study to explore the ramifications of the existence and sequence of different stages in the adoption process. One of the main objectives of this study was to identify sources of information influential in the adoption of program innovations. At this stage a question may be raised whether or not these generalizations, as discussed above apply to county extension

4Ibid., p. 167.
agents. If they do apply, then important implications are present for extension personnel and advisory committees who desire to increase the efficiency of the adoption of program innovations by all county extension agents.

Consequently the following questions were developed and used by this investigator to determine what sources of information were used by county extension agents in various phases of adoption process.

1. From whom did you first become aware of these program innovations?

2. After becoming aware, from which group did you obtain the most helpful additional information about the innovation needed to make a decision about the extent to which you would use the innovation?

3. Which group was most influential in convincing you to use these innovations with regard to your local situation?

4. Which group helped you analyze the feasibility of these innovations with regard to your local situation?

5. Which group helped you adopt or modify the characteristics of these innovations so that it would be most useful in your local situation?

6. Which group helped you build these innovations into the ongoing program procedures of the county?

These questions are found on page 6 of the questionnaire listed as Appendix B.

It was realized that respondents could, and probably would, obtain information from more than one source at the information stage.
However, it was considered desirable to force respondents to discriminate as far as possible so that a reply could be obtained that would reflect major source of information at different adoption process phases.

In the following section data pertaining to the informational sources used by county extension agents have been presented. Rank orders of information sources at various stages in the adoption of program innovations have been recorded in Table 19.

**Main sources of information at the awareness stage**

As apparent from the data presented in Table 20, 21 county agents comprising 52.5 per cent of the sample group have reported that director, associate director, assistant directors and program leaders were the most important sources of information at the awareness stage. In descending order of frequency of use of other sources were district supervisors, non-extension sources, state extension specialists, other agents in county, members of county advisory committee and area agents.

**Research hypothesis (H1)**—Director, associate director, assistant directors and program leaders are most important sources of information at the awareness stage.

**H0**—There is no significant difference in the influence of director, associate director, assistant directors and program leaders and other extension and non-extension personnel at the awareness stage.
<table>
<thead>
<tr>
<th>Sources of Information</th>
<th>Awareness Number</th>
<th>Awareness Rank</th>
<th>Additional Information Number</th>
<th>Additional Information Rank</th>
<th>Conviction Number</th>
<th>Conviction Rank</th>
<th>Trial Number</th>
<th>Trial Rank</th>
<th>Installation Number</th>
<th>Installation Rank</th>
<th>Institutionalization Number</th>
<th>Institutionalization Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Non-extension sources</td>
<td>3</td>
<td>3.5</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>6.5</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2. Director, asso. director, asst. director, program leader</td>
<td>21</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>14</td>
<td>1</td>
<td>6</td>
<td>3.5</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>3. Dist. Supervisor</td>
<td>8</td>
<td>2</td>
<td>19</td>
<td>1</td>
<td>13</td>
<td>2</td>
<td>6</td>
<td>3.5</td>
<td>4</td>
<td>4.5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. State extension specialists</td>
<td>3</td>
<td>3.5</td>
<td>2</td>
<td>5.5</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>4.5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>5. Area ext. agents</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5.5</td>
<td>0</td>
<td>6.5</td>
<td>7</td>
<td>2</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>6. Other agents in the county</td>
<td>2</td>
<td>5.5</td>
<td>2</td>
<td>5.5</td>
<td>2</td>
<td>5.5</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>7. Members of county advisory committee</td>
<td>2</td>
<td>5.5</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>18</td>
<td>1</td>
<td>19</td>
<td>1</td>
<td>22</td>
<td>1</td>
</tr>
</tbody>
</table>
### TABLE 20

**Main Sources of Information About Innovations at the Awareness Stage for County Extension Agent Chairmen**

(N=40)

<table>
<thead>
<tr>
<th>Sources of Information</th>
<th>Number</th>
<th>Per cent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Director, associate and assistant directors and program leaders</td>
<td>21</td>
<td>52.5</td>
<td>1</td>
</tr>
<tr>
<td>2. District supervisors</td>
<td>8</td>
<td>20.0</td>
<td>2</td>
</tr>
<tr>
<td>3. State extension specialists</td>
<td>3</td>
<td>7.5</td>
<td>3.5</td>
</tr>
<tr>
<td>4. Non-extension sources</td>
<td>3</td>
<td>7.5</td>
<td>3.5</td>
</tr>
<tr>
<td>5. Other agents in county</td>
<td>2</td>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>6. Members of county advisory committee</td>
<td>2</td>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>7. Area extension agents</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The data clearly indicate that the administrative group ranks first as a source of information in the Ohio Cooperative Extension Service at the awareness stage. While the data are not significant at the .05 level, the direction of the data provides sufficient evidence that the null hypothesis should be tentatively rejected ($U = 0$, $P < .125$).

*Main source of information to provide additional information about innovations*

The responses with respect to the informational sources in providing additional information about innovations have been recorded in Table 21. As evident from the data the most influential source in
providing additional information to county extension agents about program innovations were district supervisors. Nineteen county agents comprising 47.5 per cent of the sample indicated that district supervisors are most important source of providing additional information about program innovations. Other sources in descending order of frequency were members of county advisory committee, director, associate director, assistant directors and program leaders, state extension specialists, other agents in county and non-extension sources.

TABLE 21

Main Sources Which Provide Additional Information About Innovations for County Extension Agent Chairmen
(N=40)

<table>
<thead>
<tr>
<th>Sources of Information</th>
<th>Number</th>
<th>Per cent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. District supervisors</td>
<td>19</td>
<td>47.5</td>
<td>1</td>
</tr>
<tr>
<td>2. Members of county advisory committee</td>
<td>8</td>
<td>20.0</td>
<td>2</td>
</tr>
<tr>
<td>3. Director, associate director and assistant directors, and program leaders</td>
<td>6</td>
<td>15.0</td>
<td>3</td>
</tr>
<tr>
<td>4. Area extension agents</td>
<td>3</td>
<td>7.5</td>
<td>4</td>
</tr>
<tr>
<td>5. State extension specialists</td>
<td>2</td>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>6. Other agents in county</td>
<td>2</td>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>7. Non-extension sources</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
</tbody>
</table>
Main source of information at the conviction stage

Table 22 provides data with regards to influential sources in convincing the county extension agents to use the program innovations. Fourteen or 35 per cent of the county agents included in the sample reported that director, associate director, assistant directors and program leaders were most influential in convincing them to use these program innovations whereas another 13 or 32.5 per cent indicated that district supervisors were most influential. Other sources in descending order of frequency were members of county advisory committee, state extension specialists, area extension agents, other agents in county and non-extension sources.

TABLE 22
Most Influential Sources in Convincing the County Extension Agent Chairman to Use the Program Innovations
(N-40)

<table>
<thead>
<tr>
<th>Sources of Information</th>
<th>Number</th>
<th>Per cent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Director, associate and assistant directors, and program leaders</td>
<td>14</td>
<td>35</td>
<td>1</td>
</tr>
<tr>
<td>2. District supervisors</td>
<td>13</td>
<td>32.5</td>
<td>2</td>
</tr>
<tr>
<td>3. Members of county advisory committee</td>
<td>6</td>
<td>15.0</td>
<td>3</td>
</tr>
<tr>
<td>4. State extension specialists</td>
<td>3</td>
<td>7.5</td>
<td>4</td>
</tr>
<tr>
<td>5. Area extension agents</td>
<td>2</td>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>6. Other agents in county</td>
<td>2</td>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>7. Non-extension sources</td>
<td>0</td>
<td>0.0</td>
<td>7</td>
</tr>
</tbody>
</table>
Research hypothesis (H_{12}).--The administrative group is most important source of information at the conviction stage.

H_{0}.--There is no significant difference between the administrative group and other groups as an information source at the conviction stage.

The data clearly indicate that the administrative group ranks first as a source of information in the Ohio Cooperative Extension Service at the conviction stage. While the data are not significant at the .05 level, the direction of the data provides sufficient evidence that the null hypothesis should be tentatively rejected (U = 0, P < .125).

Main source of information at the adoption stage

In the adoption process (trial, installation, institutionalization) phase the members of county advisory committees were reported to be most influential. As evident from data presented in Table 23, 59 or 48.7 per cent of the county agents reported that members of the advisory committees were most helpful in analysing the feasibility of innovations in local situation, adapting the innovations to fit the local situation and in fitting the innovations into ongoing program of county.

Research hypothesis (H_{13}).--The members of county extension advisory committees are most important sources of information at trial, installation and institutionalization phases.
$H_0$: There is no significant difference between the members of county extension advisory committees and other respondent categories in their importance as a source of information at the trial, installation and institutionalization phases.

**TABLE 23**

The Groups Helpful in Analyzing, Adapting, and Fitting the Innovations Into the Ongoing Program of County
(N=121)$^a$

<table>
<thead>
<tr>
<th>Sources of Information</th>
<th>Number</th>
<th>Per cent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Members of county advisory committee</td>
<td>59</td>
<td>48.7</td>
<td>1</td>
</tr>
<tr>
<td>2. Other agents in county</td>
<td>20</td>
<td>16.5</td>
<td>2</td>
</tr>
<tr>
<td>3. District supervisors</td>
<td>13</td>
<td>10.7</td>
<td>3.5</td>
</tr>
<tr>
<td>4. Area extension agents</td>
<td>13</td>
<td>10.7</td>
<td>3.5</td>
</tr>
<tr>
<td>5. State extension specialists</td>
<td>8</td>
<td>6.6</td>
<td>5</td>
</tr>
<tr>
<td>6. Director, associate and assistant directors and program leaders</td>
<td>6</td>
<td>4.9</td>
<td>6</td>
</tr>
<tr>
<td>7. Non-extension sources</td>
<td>2</td>
<td>1.6</td>
<td>7</td>
</tr>
</tbody>
</table>

$^a$Data with respect to trial, installation and institutionalization process phases were collected separately as shown in Table 19, but here they were combined.

The data clearly indicate that the members of the county advisory committee rank first as a source of information in the Ohio Cooperative Extension Service in adoption process (trial, installation, and institutionalization) phase. While the data are not significant at
the .05 level, the direction of the data provides sufficient evidence that the null hypothesis should be tentatively rejected

\( (u = 0 \ P < .125) \).
CHAPTER VI
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Contained in this chapter is a review of the study, its purpose, objectives, method of investigation, and major findings. Also presented are the major conclusions and recommendations.

Purpose of the Study

The central purpose of this study was to determine the roles performed by extension personnel and advisory committee members in different phases of adoption process and to identify the role expectations held by county extension agents for these groups in the adoption of program innovations.

Specific Objectives

Four specific objectives pertaining to the central purpose were identified. They were:

1. To determine the actual role performed by selected categories of extension personnel and advisory committees in the adoption of program innovations in extension.

2. To identify the county extension agents expectations of the role extension personnel groups should perform at the various stages of the adoption of program innovations.
3. To identify the sources of information which were most influential with selected extension personnel groups in the adoption of program innovations.

4. To suggest implications for the Ohio Cooperative Extension Service based upon the results of the study.

**Hypotheses**

The following research hypotheses were developed to be tested.

1. Administrators will have a significantly higher role performance score in the development (invention and design) and diffusion (dissemination and demonstration) process phases than they will in other process phases.

2. Extension specialists will have a significantly higher role performance score in the invention, design, dissemination, demonstration and trial process phases than they will in other process phases.

3. County extension agents will have significantly higher role performance score in the adoption process phase than in other process phases.

4. County extension advisory committees will have significantly higher role performance scores in the installation and institutionalization process phases than they will in other process phases.

5. County extension agent chairmen expect non-extension personnel to perform the role of research.

6. County extension agents expect the administrators to perform the role of development (invention and design) of program innovations.
7. County extension agents expect the district supervisors to perform the role of dissemination of information about program innovations.

8. County extension agents expect the area agents to perform the role of demonstration of program innovations.

9. County extension agents expect the county extension advisory committees to perform the role of installation of program innovations.

10. County extension agents expect to perform role of adoption (trial, installation, and institutionalization) of program innovation.

11. Director, associate director, assistant directors are most important sources of information at the awareness stage.

12. The administrative group is most important source of information at the conviction stage.

13. The members of county extension advisory committees are most important sources of information at trial, installation and institutionalization phases.

Method of Investigation

With a view toward analyzing the role of extension personnel and advisory committees in relation to different phases of adoption process, namely research, development, dissemination and adoption, a design was developed for the systematic observation and investigation of these phenomena under field situations.
Selection of program innovations

One of the most important and most difficult tasks of this study was to identify possible program innovations for use in the investigation. For the purpose of identifying possible program innovations the investigator conducted interviews with four assistant directors and two district supervisors and made a list of 28 most important program innovations in the Ohio Cooperative Extension Service, which were initiated during the past five years period and were organization wide in nature.

This list of 28 program innovations was then sent to the members of the administrative cabinet of the Ohio Cooperative Extension Service, with a request that they rate these program innovations based upon their impact upon the effectiveness of the county extension program and the degree to which they are applicable to all county extension programs in Ohio. On the basis of information received from seven out of eleven members of administrative cabinet the following five most important program innovations were identified with the help of mean weighted scores:

1. Use of area agents in program development.
2. Long time program planning.
3. In depth teaching.
4. The industry approach to extension education in agriculture.
5. Comprehensive representation on county extension advisory committee.
Sources of data

Basic information about role performance and role expectation was procured from five different groups, namely, assistant directors, district supervisors, state, district and assistant state leaders, state extension specialists, and county extension agent chairmen.

Two sets of questionnaires were prepared, one for county extension agent chairman and another for state extension staff members.

The first questionnaire which was prepared for county extension agent chairmen was sent to 43 county extension agent chairmen of those counties which were served by area extension centers and in which the agent had three years of experience. Out of 43 respondents two failed to respond to the questionnaire, providing a return of 95 per cent.

Another questionnaire was sent to all the assistant directors, district supervisors, state, district and assistant state leaders, and to a sample of state extension specialists totaling 47 in number. The sample of state extension specialists was drawn through random selection. Out of 47 respondents in this group 13 failed to respond to the questionnaire providing a return of 72 per cent.

Data collection instrument

The instrument designed to gather field data was developed after a search of literature, after conferring with personnel in the Ohio Cooperative Extension Service, and after pretesting. A primary draft of the instrument was tested for clarity and understandability with
15 county extension agents other than those included in the sample. Weaknesses which were apparent and suggestions made by these individuals were incorporated in the revised instrument. However, no major changes were necessary. Field data were then collected using the revised questionnaire. The data were collected by mail during the month of April, 1966.

**Analysis of data**

Information provided by the respondents' instruments was checked for accuracy and usefulness, coded and punched on IBM cards. Sorting and tabulation of data pertaining to the description of the respondents in the sample was done on an IBM sorter.

Several different descriptive and inferential statistical models were employed in the analysis of the data and in the interpretation of findings. Frequency distribution, percentages, Spearman's Rank Order Correlation, and the Mann-Whitney U test were used to ascertain relationships and significant differences between different groups regarding their role performance and role expectation.

The frequency distribution and percentages were used as descriptive statistics to determine values of central tendency relative to the personal background characteristics of the respondents.

The Spearman Rank Order Correlation was used to measure the association between rankings of program innovations on personal usefulness and organizational usefulness by different groups.
The Mann-Whitney U test was employed to test the significance of difference in role performance and role expectations held by county extension agent chairmen for various groups.

The level of significance chosen for this research study was established arbitrarily at the .05 level. However, it was recognized that with the general exploratory nature of this study the findings which were not significant but which moved in the direction predicted from the theoretical base and logical structure could be useful and important in suggesting further investigation. In appropriate cases, this procedure was followed.

**Major Findings**

The findings of the research study as they relate to the research hypotheses and other findings pertinent to the study but not directly applicable to the stated hypotheses are presented.

**Findings relevant to the personal characteristics of the respondents**

Out of 75 respondents included in the sample 17 were administrators (associate director, assistant directors, district supervisors, state, district and assistant state leaders were included in this category), another 17 were state extension specialists and 41 were county extension agent chairmen. The administrators, state extension specialists and county extension agent chairmen had a mean extension tenure of 15.2, 12.4 and 13.2 years and tenure in current position 5.2, 9.6 and ten years respectively. The Master's degree was found
to be the most common degree held by these groups, as 61 per cent of the respondents had Master's degrees. Among administrators one had only a Bachelor's degree and three had Ph.D. degrees, while none of the specialists had only Bachelor's degree and five of them had a Ph.D. degree. Among county agent chairmen 20 or 49 per cent had only a Bachelor's degree, and none of them held the Ph.D. degree. The mean age of administrators, specialists and county agent chairmen was 44.3, 46, and 42.6 years respectively.

There were noteworthy differences in the perception of administrators, specialists, and county agents with regards to the importance of the program innovations studied on personal usefulness and organizational usefulness. There was never a complete consensus between these groups on ranking of the program innovations on these two dimensions.

All of the administrators, 94 per cent of specialists and 93 per cent of the county agent chairmen included in the sample were of the opinion that program innovations generally were required to meet changing conditions and must constantly be adopted by extension staff if they are to be effective as educators. On the other hand, one specialist and three county agent chairmen expressed the opinion that caution should be exercised in adoption of program innovations as the existing educational procedures according to them have generally proved to be effective. We find two types of people in this respondent group (1) more innovative individuals who expressed that program innovations should constantly be adopted and (2) less innovative individuals who
were of the opinion that caution should be exercised in adoption of program innovations.

About 78 per cent of county extension agent chairmen included in the sample were using intensively the five program innovations studied. Majority of the agents decided to use these innovations based upon local needs. The second most common reason was that their advisory committees recommended them to use these innovations. Another 22 per cent of the county agent chairmen did not use these innovations intensively. They gave variety of reasons but did not give any one specific reason for not using the innovations.

Findings relevant to role performance

The administrators felt they had very little involvement in research process phase but were deeply involved in dissemination and institutionalization process phases in the Ohio Cooperative Extension Service.

The specialists scored highest on institutionalization process phase and lowest on research process phase. Evidently the maximum involvement of specialists was in institutionalization process phase.

The county agent chairmen scored highest on the institutionalization process phase but scored fairly low on trial and installation phases. On the combined scoring on trial, installation and institutionalization process phases they scored highest. Although we failed to reject null hypothesis, in view of the consistency of the data with the direction predicted in the logical structure it is suggested that
the primary role of the county extension agents was in the adoption process phase compared with other process phases.

As perceived by county extension agent chairmen the county extension advisory committees scored highest on invention process phase and lowest on demonstration process phase. While the data were not significant at .05 level, they suggested that the county extension advisory committees tend to perform the installation and institutionalisation roles.

Findings relevant to role expectations

County extension agent chairmen feel that they should perform the research function and other process functions with the exception of invention process phase. This seems to suggest a generalised attitude on the part of county extension agents, that any new program innovation should be developed within each county.

County extension agent chairmen expect the development function to be performed by the state extension advisory committee, county extension advisory committee and county extension agents. Administrators and specialists were rated at the low end of the scale.

With respect to diffusion process phase the county agent chairmen ranked the district supervisors first and expect them to perform this function. Although they believed that the innovations should be developed within the county, county extension agent chairmen recognized the need to receive information about new developments from outside
the county and looked to the district supervisors to perform this function.

As evident from the data the county extension agent chairmen expect to perform the adoption process. While these data were not significant at the .05 level they suggested that null hypothesis could be tentatively rejected.

Findings relevant to informational sources

As reported by 53 per cent of the county agents, the director, associate director, assistant directors and program leaders were the most important source of information at the awareness stage. While the data were not significant at the .05 level, the direction of data provided sufficient evidence to tentatively reject null hypothesis and accept research hypothesis that director, associate director, assistant directors, and program leaders are most important source of information at the awareness stage.

The most important source in providing additional information to county extension agents about program innovations were district supervisors.

The administrative group ranked first as most influential in convincing the county agents to adopt the program innovations. While that data were not significant at the .05 level, the direction of the data provided sufficient evidence to tentatively reject null hypothesis and accept research hypothesis that the administrators were most important source of information at the conviction stage.
In the adoption process phase members of county advisory committees were reported to be most influential. While the data were not significant at the .05 level, the direction of the data provided sufficient evidence that the members of county extension advisory committees are most important source of information at the adoption process phase.

Conclusions

The following conclusions have been drawn based upon an analysis of the data from the study:

1. The process schema developed by Guba and Clark is a useful system for analyzing the adoption of program innovations in the Cooperative Extension Service.

2. Administrators in the Cooperative Extension Service tend to perform the invention, design, and dissemination functions but not to as great a degree as would be expected.

3. The role performed by the extension specialists in the adoption of program innovations is not well defined.

4. County extension agents primarily perform the processes of trial, installation, and institutionalization in the process of adoption of program innovations.

5. County extension advisory committees tend to perform the role of installation and institutionalization, although this conclusion must be quite tentative.
6. County extension agent chairmen do not expect non-extension personnel to perform any of the process roles in the adoption of program innovations.

7. County extension agent chairmen expect most of the processes required for the adoption of a program innovation to be performed by county extension agents and by the county extension advisory committees.

8. The evidence suggests that county extension agent chairmen are primarily interested in the status quo as opposed to innovations from outside the county.

9. County extension agent chairmen feel that the state extension advisory committee should invent program innovations which transcend county lines.

10. County extension agent chairmen expect district supervisors to provide information on new developments from outside the county.

11. Administrators are the most important informational source in the adoption of program innovations at the awareness stage.

12. Administrators are the most influential source in convincing the county extension agents to use a program innovation.

13. County extension advisory committees are the groups who are most helpful to county extension agents in adopting and fitting innovations into the ongoing program of the county.
Recommendations

On the basis of the results of the analysis of data made in this study, a review of related literature and personal experience of the writer in the field of extension, the following recommendations are set forth:

1. Extension personnel and advisory committees need to understand more fully that the adoption of a system-wide program innovation requires that series of processes be performed.

2. In-service training opportunities need to be provided for extension personnel groups to further the understanding of the processes involved in the adoption of program innovations and the role of staff in these processes.

3. County extension agent chairmen need to have a clearer understanding of the role of county extension advisory committees in the adoption of program innovations. This should be incorporated into a workshop for county extension agent chairmen.

4. Assistant directors and program leaders need to exert additional leadership in the invention and design of program innovations in the Extension Service.

5. Since relevant research from the behavioral sciences must be a part of the invention and design of most program innovations, it is recommended that a unit of the extension staff be designated to perform the function of bringing the results of this research to bear upon the invention and design of program innovations.
6. A concerted effort should be made to develop an attitude among county extension agent chairmen that important and useful program innovations need not be developed solely on a county by county basis.

7. Maximum use should be made of pilot projects in the introduction, testing and refinement of program innovations in the Extension Service.

8. Additional research should be conducted relative to the factors associated with the adoption and non-adoption of program innovations.
APPENDIX A

Questionnaire Issued to the Members of the Administrative Cabinet of the Ohio Cooperative Extension Service for the Selection of Program Innovations
February 24, 1966

To: Members of the Administrative Cabinet
   Cooperative Extension Service

Re: Research Project on Program Innovations in
   Cooperative Extension Service

Dear Co-Worker:

Our Extension Studies unit in the Cooperative Extension Service is
undertaking a study of the "Role of Extension Personnel and Advisory
Committees in the Adoption of Program Innovations by County Extension
Agents." Recent research and scholarly writing has proposed a useful
schema for classifying the essential processes which must be performed
in the adoption of educational (program) innovations. This study will
be developed to test this schema within the context of the Ohio Co­
operative Extension Service organization.

In addition to testing the applicability of this schema in an adult
education organization, the results of the study should be helpful
to the Cooperative Extension Service by identifying the members of
the staff who can most appropriately perform the essential processes
and further to identify the processes most appropriately performed
by advisory committees.

As an initial phase of this study it is important to identify clearly
the program innovations which have been initiated within the past five
years which are most important in the judgment of the members of
the Administrative Cabinet of the Ohio Cooperative Extension Service.

Please read the attached set of instructions and complete the at­
tached instrument which lists 28 program innovations by indicating the
degree of importance you would attach to each innovation.

Return the completed instrument to Robert McCormick, Leader, Extension
Studies and Evaluation, Room 109, Agricultural Administration Building
by March 1, 1966.

Sincerely yours,

Orlo Musgrave
Assistant Director

cc: Robert McCormick
Instructions for Rating the Importance of "Program" Innovations in the Ohio Cooperative Extension Service

1. Listed on the attached sheet are 28 program innovations which have been suggested by several staff members as "innovations" or new ways of developing and/or conducting the extension program in a county. These items do not purport to be innovations in technical agriculture or home economics but are instead innovations in the way county extension agents develop and conduct programs.

2. We would like for you to rate the importance of these program innovations based upon the following criteria.

   1. The impact of the adoption of the innovation upon the effectiveness of the county extension program.

   2. The degree to which the innovation is applicable to all county extension programs in Ohio.

3. Please rate each innovation on the degree of importance scale at the right of each item.

   When you have finished your rating we ask that the distribution of your ratings on the degree of importance scale follow this pattern.

   1. Rate the three most important innovations by circling 5.

   2. Rate the three least important innovations by circling 1.

   3. Of the remaining 22 innovations 5 must be rated by circling 4, and five must be rated by circling 2. The remaining 12 innovations will then be rated at the middle of the scale by circling the number 3.

N.B.

A program innovation may be either a new development for programming by county extension agents or an approach to programming that while not completely new is perceived as new and different by county extension agents.

Your cooperation in performing this rating will be most useful as we undertake this research project.

If you have questions, please call 6139.
### SUGGESTED PROGRAM INNOVATIONS

**OHIO COOPERATIVE EXTENSION SERVICE**

<table>
<thead>
<tr>
<th>Program Innovation</th>
<th>Degree of Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Most Important</strong></td>
<td><strong>Least Important</strong></td>
</tr>
<tr>
<td>1. Long time program planning</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>2. In-depth teaching</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>3. Programs designed for specialised clientele</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>4. Area extension center concept</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>5. Resource development approach</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>6. Emergency preparedness education</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>7. Role of government in agricultural adjustment</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>8. Popularly written quarterly reports</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>9. Emphasis upon agricultural industry in programs rather than exclusively</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>agricultural production</td>
<td></td>
</tr>
<tr>
<td>10. Broader representation on county advisory committees</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>11. Forced choice performance appraisal system</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>12. More specificity in teaching objectives</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>13. 4-H teaching based upon developmental needs</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>14. Development of urban 4-H club work</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>15. Involvement of 4-H advisory committee in program planning</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>16. 4-H project in entomology</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Program Innovation</td>
<td>Degree of Importance</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>17. 4-H project in photography</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>18. 4-H horse project</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>19. 4-H member evaluation approach</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>20. 4-H member age limit (10-19)</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>21. Year round local 4-H club program</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>22. Team teaching in 4-H</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>23. Use of volunteer leaders to teach low income groups in home economics</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>24. Urban home economics advisory committees</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>25. Use of newsletters to homemakers</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>26. In-depth teaching in home economics</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>27. Nutrition 4-H project</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>28. Programs in institutional management</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>
APPENDIX B

Questionnaire Issued to County Extension Agent
Chairmen of the Selected Counties of Ohio
April 6, 1966

To: Selected County Extension Agents, Agriculture

Re: A Study of Program Innovations in the Cooperative Extension Service

Dear Co-Workers:

We are conducting a study in the Ohio Cooperative Extension Service dealing with the "Role of Extension Personnel and Advisory Committees in the Adoption of Program Innovations in the Cooperative Extension Service." This letter and the attached material is sent to you as one member of a sample asked to serve as a respondent for this study.

Recent research and scholarly writing has proposed a useful schema for analysing the processes which must be performed in the adoption of educational (program) innovations. We seek to test the appropriateness of this schema for the Cooperative Extension Service. Educational or program innovations are the focus of this study rather than agricultural practice adoption by members of our clientele. For example, the classic studies of farmer adoption of hybrid corn were related to agricultural practices while the innovation of "Area Extension Agents" would be considered an educational (program) innovations. It is the latter dimension which is under investigation in this study.

Please read each set of instructions carefully and complete each section to the best of your ability.

We certainly appreciate your cooperation in this endeavor. We would like to have your completed questionnaire returned in the enclosed envelope by April 18, 1966.

Sincerely yours,

Robert W. McCormick
Leader, Extension Studies and Research

Attachment
Program Innovation: Use of Area Extension Agents in Program Development

This program innovation includes the involvement of clientele from your county in area educational activities such as "in-depth" schools as well as the involvement of area extension agents in your local county program activities. If you have been involved in encouraging participation by clientele from your county in area activities or have involved area agents in your county program planning or execution you should consider yourself as using this program innovation.

Please respond to the following questions concerning this program innovation.

1. To what extent are you currently using this program innovation in your extension educational program? (Circle one number from 1 - 6).

   Very Intensively 6
   Very Little 5 4 3 2 1

2. In what year did you first become aware of this program innovation? 19_____

3. In what year did you first use this program innovation? 19_____

   IF YOU CIRCLED 4 - 5 OR 6 IN ITEM 1 - ANSWER QUESTION 4. IF YOU CIRCLED 1 - 2 OR 3 IN ITEM 1 - ANSWER QUESTION 5.

4. If you are now using this program innovation rather intensively why are you doing so? (Even though several reasons may be applicable check only the primary reason.)

   a. It was being used when I became county extension agent chairman.
   b. I observed this in another county and felt it was worth doing.
   c. I decided this innovation was needed based upon local needs.
   d. The county extension advisory committee recommended using this innovation.
   e. My supervisor indicated that this innovation needed to be used.
   f. Another county extension agent chairman convinced me this was desirable.
   g. Other reasons (specify) ____________________________
5. If you are not using this program innovation very intensively which of the following is the primary reason for not using it? (Check the one primary reason.)

___ a. It is not applicable in my situation.
___ b. I really do not understand the nature of this innovation.
___ c. I need additional training to use this innovation.
___ d. The county extension advisory committee objects to using this innovation.
___ e. I am not convinced of the value of this innovation.
___ f. I feel our current procedures are superior to this innovation.
___ h. Other reasons (specify) ______________________________

Program Innovation: Long Time Program Planning

This innovation is defined as the projection of long time objectives (five years in the future) for relevant program areas based upon a knowledge of the current situation plus a knowledge of social and economic trends. Included in this innovation is the establishment of specific "goals" for the state, district, area and county.

Please respond to the following questions concerning this program innovation.

1. To what extent are you currently using this program innovation in your extension educational program? (Circle one number from 1 - 6.)

   Very Intensively
   6  5  4  3  2  1

   Very Little

2. In what year did you first become aware of this program innovation? 19___

3. In what year did you first use this program innovation? 19___

   IF YOU CIRCLED 4 - 5 OR 6 IN ITEM 1 - ANSWER QUESTION 4. IF YOU CIRCLED 1 - 2 OR 3 IN ITEM 1 - ANSWER QUESTION 5.

4. If you are now using this program innovation rather intensively why are you doing so? (Even though several reasons may be applicable check only the one primary reason.)

   ___ a. It was being used when I became county extension agent chairman.
   ___ b. I observed this in another county and felt it was worth doing.
c. I decided this innovation was needed based upon local needs.
d. The county extension advisory committee recommended using this innovation.
e. My supervisor indicated that this innovation needed to be used.
f. Another county extension agent chairman convinced me this was desirable.
g. Other reasons (specify) ________________________________

5. If you are not using this program innovation very intensively which of the following is the primary reason for not using it. (Check the one primary reason.)

a. It is not applicable in my situation.
b. I really do not understand the nature of this innovation.
c. I need additional training to use this innovation.
d. The county extension advisory committee objects to using this innovation.
e. I am not convinced of the value of this innovation.
f. I feel our current procedures are superior to this innovation.
g. I really have never heard of this innovation.
h. Other reasons (specify) ________________________________

Program Innovation: In-Depth Teaching

This innovation is defined as the development of organized educational experiences based upon specific teaching objectives in a clearly defined content area. Further, the innovation implies a series of sequential learning experiences with the same audience extending over a period of time with each subsequent experience "building upon" the learning achieved by clientele in the previous setting. (i.e. - a series of meetings or clinics held once a week for four or five weeks.) This innovation is dedicated to an increased understanding of central concepts or principles in an area and their application to "life" situations rather than a "how to do it" or "quick answer" session.

Please respond to the following questions concerning this program innovation.

1. To what extent are you currently using this program innovation in your Extension educational program? (Circle one number from 1 - 6.)

   Very Intensively
   6 5 4 3 2 1

   Very Little

2. In what year did you first become aware of this program innovation? 19___
3. In what year did you first use this program innovation? 19____

IF YOU CIRCLED 4 - 5 OR 6 IN ITEM 1 - ANSWER QUESTION 4. IF YOU CIRCLED 1 - 2 OR 3 IN ITEM 1 - ANSWER QUESTION 5.

4. If you are now using this program innovation rather intensively why are you doing so? (Even though several reasons may be applicable check only the one primary reason.)

___ a. It was being used when I became county extension agent chairman.
___ b. I observed this in another county and felt it was worth doing.
___ c. I decided this innovation was needed based upon local needs.
___ d. The county extension advisory committee recommended using this innovation.
___ e. My supervisor indicated that this innovation needed to be used.
___ f. Another county extension agent chairman convinced me this was desirable.
___ g. Other reasons (specify) ______________________________

5. If you are not using this program innovation very intensively which of the following is the primary reason for not using it? (Check the one primary reason.)

___ a. It is not applicable in my situation.
___ b. I really do not understand the nature of this innovation.
___ c. I need additional training to use this innovation.
___ d. The county extension advisory committee objects to using this innovation.
___ e. I am not convinced of the value of this innovation.
___ f. I feel our current procedures are superior to this innovation.
___ g. I really have never heard of this innovation.
___ h. Other reasons (specify) ______________________________

Program Innovation: The Industry Approach to Extension Education in Agriculture

This innovation is defined as the development of educational programs which involve the total agricultural industry rather than just the production aspect of agriculture. The program focuses upon the problems confronting the total agricultural industry. Priority areas identified may be in marketing, production, or other significant areas.

Please respond to the following questions concerning this program innovation.
1. To what extent are you currently using this program innovation in your extension educational program? (Circle one number from 1 - 6.)

Very Intensively
6 5 4 3 2 1

Very Little

2. In what year did you first become aware of this program innovation?  
19____

3. In what year did you first use this program innovation? 19____

IF YOU CIRCLED 4 - 5 OR 6 IN ITEM 1 - ANSWER QUESTION 4. IF YOU CIRCLED 1 - 2 OR 3 IN ITEM 1 - ANSWER QUESTION 5.

4. If you are now using this program innovation rather intensively why are you doing so? (Even though several reasons may be applicable check only the one primary reason.)

   a. It was being used when I became county extension agent chairman.
   b. I observed this in another county and felt it was worth doing.
   c. I decided this innovation was needed based upon local needs.
   d. The county extension advisory committee recommended using this innovation.
   e. My supervisor indicated that this innovation needed to be used.
   f. Another county extension agent chairman convinced me this was desirable.
   g. Other reasons (specify) ____________________________

5. If you are not using this program innovation very intensively which of the following is the primary reason for not using it. (Check the one primary reason.)

   a. It is not applicable in my situation.
   b. I really do not understand the nature of this innovation.
   c. I need additional training to use this innovation.
   d. The county extension advisory committee objects to using this innovation.
   e. I am not convinced of the value of this innovation.
   f. I feel our current procedures are superior to this innovation.
   g. I really have never heard of this innovation.
   h. Other reasons (specify) ____________________________
Program Innovation: Comprehensive Representation on County Extension Advisory Committees

This innovation is defined as the structuring of the county extension advisory committee in such a way that this committee can adequately perform its defined functions. The extension personnel and existing committees should clearly understand the functions of the county extension advisory committee before structuring. The members selected should represent the people’s present and future needs and interests. Membership should include representation from established specialized county program committees including representatives from the agricultural industry, home economics-family living, county extension 4-H committee. Key influential leaders from chamber of commerce, civic clubs, schools, business and industry, utilities, labor groups, church groups, press, radio and T.V. and public officials should be a part of the committee.

Please respond to the following questions concerning this program innovation.

1. To what extent are you currently using this program innovation in your extension educational program? (Circle one number from 1 - 6.)

   Very Intensively
   6 5 4 3 2 1
   Very Little

2. In what year did you first become aware of this program innovation? 19____

3. In what year did you first use this program innovation? 19____

IF YOU CIRCLED 4 - 5 OR 6 IN ITEM 1 - ANSWER QUESTION 4. IF YOU CIRCLED 1 - 2 OR 3 IN ITEM 1 - ANSWER QUESTION 5.

4. If you are now using this program innovation rather intensively why are you doing so? (Even though several reasons may be applicable check only the one primary reason.)

   a. It was being used when I became county extension agent chairman.

   b. I observed this in another county and felt it was worth doing.

   c. I decided this innovation was needed based upon local needs.

   d. The county extension advisory committee recommended using this innovation.

   e. My supervisor indicated that this innovation needed to be used.

   f. Another county extension agent chairman convinced me this was desirable.

   g. Other reasons (specify) ____________________________
5. If you are not using this program innovation very intensively which of the following is the primary reason for not using it. (Check the one primary reason.)

___ a. It is not applicable in my situation.
___ b. I really do not understand the nature of this innovation.
___ c. I need additional training to use this innovation.
___ d. The county extension advisory committee objects to using this innovation.
___ e. I am not convinced of the value of this innovation.
___ f. I feel our current procedures are superior to this innovation.
___ g. I really have never heard of this innovation.
___ h. Other reasons (specify)______________________________
Considering the five program innovations listed previously, please check the group of people listed below that was most helpful to you by providing needed information or assistance at the different stages of the adoption of the program innovation. Consider only those innovations you have actually adopted.

It is recognised that several of the groups listed may have provided information or assistance at each stage. However, please mark an X in the box for each stage (1 through 6) the one group that provided the most helpful information.

| Non-Extension Sources | Director, Assoc. Director, 
District Leaders | State Extension Specialists | Area Extension Agents | Other Agents in the Country | Members of County Advisory Committee |
|-----------------------|-------------------------|--------------------------|-------------------------|-----------------------------|-------------------------------------|

1. From whom did you first become aware of these program innovations?

2. After becoming aware, from which group did you obtain the most helpful additional information about the innovation needed to make a decision about the extent to which you would use the innovation?

3. Which group was most influential in convincing you use these innovations?

4. Which group helped you analyze the feasibility of these innovations with regard to your local situation?

5. Which group helped you adapt or modify the characteristics of this innovation so that it would be most useful in your local situation?

6. Which group helped you build this innovation into the ongoing program procedures of the county?
Listed below are potential activities which may need to be performed in the process of developing and installing a program innovation in the Ohio Cooperative Extension Service. It is recognized that different segments of the staff perform different functions in this process.

Please circle the numbers on the scale at the left of each statement which shows the degree of involvement of your county extension advisory committee in each activity related to the five program innovations described previously.

On the scale at the right of each statement indicate your personal degree of involvement by circling the appropriate number.

Please keep in mind that for your own involvement and for the degree of involvement for your county extension advisory committee — 0 indicates little or no involvement and 5 indicates a very deep involvement. The intervening numbers indicate a progressive degree of involvement from 0 to 5.

PLEASE CIRCLE ONE NUMBER on the left and the right of each statement.

<table>
<thead>
<tr>
<th>County Advisory Committee Involvement</th>
<th>Your Personal Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deeply Involved</td>
<td>Little or No Involvement</td>
</tr>
<tr>
<td>5 4 3 2 1 0</td>
<td>a. Conducted basic research related to the program innovations.</td>
</tr>
<tr>
<td>5 4 3 2 1 0</td>
<td>b. Conducted applied research directly related to the program innovations.</td>
</tr>
<tr>
<td>5 4 3 2 1 0</td>
<td>c. Helped to develop the program innovations by passing judgment upon its ability to help solve an Extension problem existing throughout the state of Ohio.</td>
</tr>
<tr>
<td>County Advisory Committee Involvement</td>
<td>Your Personal Involvement</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Deeply Involved</td>
<td>Little or No Involvement</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>d. Helping develop the program innovations by making modification in original proposal to make innovation more useful for Ohio Extension Service.</td>
<td></td>
</tr>
<tr>
<td>e. Served as member of group that made the judgment that this program innovation was appropriate for Ohio.</td>
<td></td>
</tr>
<tr>
<td>f. Helped inform members of Ohio Extension staff about nature of this program innovation.</td>
<td></td>
</tr>
<tr>
<td>g. Helped test usefulness of this program innovation by assisting in pilot project or field testing process prior to program innovation becoming generally available to Ohio Extension Staff.</td>
<td></td>
</tr>
<tr>
<td>h. Tested usefulness of program innovation in my particular area of responsibility on trial basis.</td>
<td></td>
</tr>
<tr>
<td>i. Suggested changes in design of program innovation after testing on trial basis.</td>
<td></td>
</tr>
<tr>
<td>j. Use program innovation in my area of responsibility as regular procedure.</td>
<td></td>
</tr>
</tbody>
</table>
In the previous section you have indicated your personal degree of involvement in activities which may need to be performed in the process of developing and installing a program innovation in the Ohio Cooperative Extension Service.

Listed below is the same list of activities. At the right of each activity are groups which may be able to perform this activity related to educational innovations in extension.

Please indicate a number in the square under each group, for each activity indicating your feelings about whether or not that group should perform the activity. Please use the numbers corresponding to the following statements: 5 - Definitely should; 4 - Preferably should; 3 - May or may not; 2 - Preferably should not; 1 - Definitely should not.

<table>
<thead>
<tr>
<th>Processes to be Performed to Bring About Adoption of Educational Innovations</th>
<th>Non-Extension Personnel</th>
<th>Director, Assoc. Director, Asst. Directors, State &amp; District Leaders</th>
<th>District Supervisor, Specialist</th>
<th>Area Agents</th>
<th>County Agents</th>
<th>State Advisory Committee</th>
<th>County Advisory Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Conduct basic research related to the program innovation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Conduct applied research directly related to the program innovation.</td>
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<tr>
<td>3. Help to develop the program innovation by passing judgment upon its ability to help solve an extension problem.</td>
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<tr>
<td>4. Help to develop the program innovation by making modifications in the original proposal to make this innovation more useful for Ohio.</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Processes to be Performed to Bring About Adoption of Educational Innovations

5. Serve as a member of the group making the judgment that this program innovation is appropriate for Ohio.

6. Inform members of the Ohio extension staff about the nature of this program innovation.

7. Test the usefulness of this program innovation by assisting in a "pilot project" or field testing process prior to the program innovation becoming generally available to the Ohio extension staff.

8. Test the usefulness of the program innovation on a trial basis.

9. Suggest changes in design of the program innovation after testing it on a trial basis.

10. Assimilate the program innovation into the regular operational procedure.
Please rank the following program innovations from 1 through 5 based upon their usefulness to you in fulfilling your responsibilities. Rank the most useful innovation 1 and the least useful 5. Recognize that all may be quite useful.

1. Use of area extension agents in program development.
2. Long time program planning.
3. In-depth teaching.
4. The industry approach to extension education in agriculture.
5. Comprehensive representation on county extension advisory committees.

Please rank the following program innovations from 1 through 5 based upon your opinion of their usefulness to the total Ohio Extension Service. Rank the most useful innovation 1 and the least useful 5. Recognize that all may be quite useful.

1. Use of area extension agents in program development.
2. Long time program planning.
3. In-depth teaching.
4. The industry approach to extension education in agriculture.
5. Comprehensive representation on county extension advisory committees.

Which of the following statements best describes your general attitude toward program innovations in the Cooperative Extension Service. (Check only one.)

1. Program innovations generally are required to meet changing conditions.
2. Program innovations wouldn't really be needed if we could do better what we are already doing.
3. Caution should be exercised in the adoption of program innovations since our existing educational procedures have generally proved to be effective.
4. Program innovations must constantly be adopted by extension staff if they are to be effective as educators.
**Personal Data**

Please complete the following personal data.

1. **Position in the Ohio Extension Service**
   -  Assistant Director
   -  District Supervisor
   -  State, District or Assistant State Leader
   -  State Extension Specialist
   -  County Extension Agent

2. **Tenure in the Ohio Extension Service**__________years.

3. **Tenure in your current position**__________years.

4. **Highest level of formal education completed.**
   -  Bachelor's degree
   -  Master's degree
   -  Ph.D. degree

5. **Age at last birthday.**
   -  Under 30
   -  31 to 40
   -  41 to 50
   -  51 to 60
   -  Over 60
APPENDIX C

Questionnaire Issued to the Selected State Staff
Members of the Ohio Cooperative Extension Service
April 4, 1966

To: Selected State Extension Staff Members

Re: A Study of Program Innovations in the Cooperative Extension Service

Dear Co-Workers:

We are conducting a study in the Ohio Cooperative Extension Service dealing with the "Role of Extension Personnel and Advisory Committees in the Adoption of Program Innovations in the Cooperative Extension Service." This letter and the attached material is sent to you as one member of a sample asked to serve as a respondent for this study.

Recent research and scholarly writing has proposed a useful schema for analysing the processes which must be performed in the adoption of educational (program) innovations. We seek to test the appropriateness of this schema for the Cooperative Extension Service. Educational or program innovations are the focus of this study rather than agricultural practice adoption by members of our clientele. For example, the classic studies of farmer adoption of hybrid corn were related to agricultural practices while the innovation of "Area Extension Agents" would be considered an educational (program) innovation. It is the latter dimension which is under investigation in this study.

Please read each set of instructions carefully and complete each section of the questionnaire.

We certainly appreciate your cooperation in this endeavor. We would like to have your completed questionnaire returned in the enclosed envelope by April 18, 1966.

Sincerely yours,

Robert W. McCormick
Leader, Extension Studies and Evaluation

Enclosures
EXAMPLES OF PROGRAM INNOVATIONS IN THE
OHIO EXTENSION SERVICE

Program Innovation: Use of Area Agents in Program Development

This program innovation includes the involvement of clientele from a county in area educational activities such as "in-depth" schools as well as the involvement of area extension agents in local county program activities.

Program Innovation: Long Time Program Planning

This innovation is defined as the projection of long time objectives (5 years in the future) for relevant program areas based upon a knowledge of the current situation plus a knowledge of social and economic trends. Included in this innovation is the establishment of specific "goals" for the state, district, area, and county.

Program Innovation: In-Depth Teaching

This innovation is defined as the development of organized educational experiences based upon specific teaching objectives in a clearly defined content area. Further, the innovation implies a series of sequential learning experiences with the same audience extending over a period of time with each subsequent experience "building upon" the learning achieved by clientele in the previous setting. (i.e. a series of meetings or clinics held once a week for four or five weeks). This innovation is dedicated to an increased understanding of central concepts or principles in an area and their application to "life" situations rather than a "how to do it" or "quick answer" session.

Program Innovation: The Industry Approach to Extension Education in Agriculture

This innovation is defined as the development of educational programs which involve the total agricultural industry rather than just the production aspect of agriculture. The program focuses upon the problems confronting the total agricultural industry. Priority areas identified may be in marketing, production, or other significant areas.
This innovation is defined as the structuring of the county extension advisory committee in such a way that this committee can adequately perform its defined functions. The extension personnel and existing committees should clearly understand the functions of the county extension advisory committee before structuring. The members selected should represent the people's present and future needs and interests. Membership should include representation from established specialized county program committees including representatives from the agricultural industry, home economics - family living, county extension 4-H committee. Key influential leaders from chamber of commerce, civic clubs, schools, business and industry, utilities, labor groups, church groups, press, radio and T.V. and public officials should be a part of the committee.

Listed below are potential activities which may need to be performed in the process of developing and installing a program innovation in the Ohio Cooperative Extension Service. It is recognized that different segments of the staff perform different functions in this process.

Please circle the number on the scale at the right of each statement which shows the degree of your involvement in each activity related to five program innovations described previously.

Please keep in mind that for your involvement - 0 indicates little or no involvement and 5 indicates a very deep involvement. The intervening numbers indicate a progressive degree of involvement from 0 to 5.

<table>
<thead>
<tr>
<th>Degree of Involvement</th>
<th>Deeply Involved</th>
<th>Little or No Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Conducted basic research related to the program innovations.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>b. Conducted applied research directly related to the program innovations.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>c. Helped to develop the program innovation by passing judgment upon its ability to help solve an extension problem.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>Degree of Involvement</td>
<td>Deeply Involved</td>
<td>Little or No Involvement</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>d. Helped to develop the program innovations by making modifications in the original proposal to make this innovation more useful for Ohio.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>e. Served as a member of the group that made the judgment that these program innovations were appropriate for Ohio.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>f. Helped to inform members of the Ohio Extension staff about the nature of these program innovations.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>g. Helped to test the usefulness of these program innovations by assisting in a &quot;pilot project&quot; or field testing process prior to the program innovation becoming generally available to Ohio Extension staff.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>h. Tested the usefulness of the program innovation in my particular area of responsibility on a trial basis.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>i. Suggested changes in the design of the program innovation after testing it on a trial basis.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>j. Use the program innovation in my area of responsibility as a regular part of my procedure.</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
</tbody>
</table>
In the previous section you have indicated your personal degree of involvement in activities which may need to be performed in the process of developing and installing a program innovation in the Ohio Cooperative Extension Service.

Below is the same list of activities. At the right of each activity are groups which may be able to perform this activity related to educational innovations in extension.

Please indicate a number in the square under each group, for each activity indicating your feelings about whether or not that group should perform the activity. Please use the numbers corresponding to the following statements: 5 - Definitely should; 4 - Preferably should; 3 - May or may not; 2 - Preferably should not; 1 - Definitely should not.

<table>
<thead>
<tr>
<th>Processes to be Performed to Bring About Adoption of Educational Innovations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Extension Personnel</td>
</tr>
<tr>
<td>1. Conduct basic research related to the program innovation.</td>
</tr>
<tr>
<td>2. Conduct applied research directly related to the program innovation.</td>
</tr>
<tr>
<td>3. Help to develop the program innovation by passing judgment upon its ability to help solve an extension problem.</td>
</tr>
<tr>
<td>4. Help to develop the program innovation by making modifications in the original proposal to make this innovation more useful for Ohio.</td>
</tr>
<tr>
<td>Processes to be Performed to Bring About Adoption of Educational Innovations</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5. Serve as a member of the group making the judgment that this program innovation is appropriate for Ohio.</td>
</tr>
<tr>
<td>6. Inform members of the Ohio Extension staff about the nature of this program innovation.</td>
</tr>
<tr>
<td>7. Test the usefulness of this program innovation by assisting in a &quot;pilot project&quot; or field testing process prior to the program innovation becoming generally available to the Ohio Extension staff.</td>
</tr>
<tr>
<td>8. Test the usefulness of the program innovation on a trial basis.</td>
</tr>
<tr>
<td>9. Suggest changes in the design of the program innovation after testing it on a trial basis.</td>
</tr>
<tr>
<td>10. Assimilate the program innovation into the regular operational procedure.</td>
</tr>
</tbody>
</table>
Please rank the following program innovations from 1 through 5 based upon their usefulness to you in fulfilling your responsibilities. Rank the most useful innovation 1 and the least useful 5. Recognize that all may be quite useful.

___1. Use of area extension agents in program development.
___2. Long time program planning.
___3. In-depth teaching.
___4. The industry approach to extension education in agriculture.
___5. Comprehensive representation on county extension advisory committees.

Please rank the following program innovations from 1 through 5 based upon your opinion of their usefulness to the total Ohio Extension Service. Rank the most useful innovation 1 and the least useful 5. Recognize that all may be quite useful.

___1. Use of area extension agents in program development.
___2. Long-time program planning.
___3. In-depth teaching.
___4. The industry approach to extension education in agriculture.
___5. Comprehensive representation on county extension advisory committees.

Which of the following statements best describes your general attitude toward program innovations in the Cooperative Extension Service. (Check only one.)

___1. Program innovations generally are required to meet changing conditions.
___2. Program innovations wouldn't really be needed if we could do better what we are already doing.
___3. Caution should be exercised in the adoption of program innovations since our existing educational procedures have generally proved to be effective.
___4. Program innovations must constantly be adopted by extension staff if they are to be effective as educators.
Personal Data

Please complete the following personal data.

1. Position in the Ohio Extension Service.
   - Assistant Director
   - District Supervisor
   - State, District or Assistant State Leader
   - State Extension Specialist
   - County Extension Agent

2. Tenure in the Ohio Extension Service _______years.

3. Tenure in your current position_______years.

4. Highest level of formal education completed.
   - Bachelor's degree
   - Master's degree
   - Ph.D. degree

5. Age at last birthday.
   - Under 30
   - 31 to 40
   - 41 to 50
   - 51 to 60
   - Over 60
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