The methodology used in the study of communication concepts by the adult educator in agriculture is explained, in order to develop more effective training programs and materials. Four stages were delineated to clarify procedural aspects of the study: (1) determination of anticipated behavioral requirements for future competence in communication of social change, through assessment of technical, social, and economic trends in society; (2) identification of relevant communication concepts by reviewing literature and submitting them to a screening process; (3) definition and description of most important concepts; (4) suggestion of educational objectives useful in increasing competency in communication to implement educational change. Twelve of the more important intellectual behavior requirements for adult agricultural educators, and 31 concept groupings are listed, including an example of the concept "persuasion." General objectives to provide a basis for more specific teaching objectives and learning experiences are listed and an illustration given. (pt)
Adult educators must be informed about, and efficient in the use of new developments in media and alert to the possibilities of applying new learning experiences.

The existing competencies of adult educators must be greatly accelerated if they are to be instrumental in implementing educational innovations in their own programs and recommend economically and socially sound changes for their clientele. The increased need to develop programs directed toward the economically disadvantaged at home and abroad accentuates the need for an improved understanding of the relevant concepts in communication. Effective communication can greatly assist in destroying the barriers in the social structure; in creating a greater understanding and appreciation of innovations beneficial to the individual, nation and the world in accelerating economic development.

METHODOLOGY

It was with these ideas in mind that a study was undertaken at The Ohio State University\(^2\) to:

1. Determine the anticipated intellectual behavioral requirements for future competence in the communication of social change.

2. Identify the relevant communication concepts needed to execute these requirements.

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\(^1\)Presented by Dr. Douglas H. Pletsch, Assistant Professor, Department of Extension Education, University of Guelph, to the tenth National Seminar on Adult Education Research, February 11, 1969, in Toronto, Canada.

\(^2\)This study was supported by a grant from the U.S. Office of Education with Dr. Robert W. McCormick, Assistant Vice President of Continuing Education, The Ohio State University, as principal investigator.
3. Define and describe the most important of these concepts.

4. Suggest educational objectives useful in increasing competency in communication to implement educational change.

This paper explains the methodology used in the study of communication concepts. However, the basic principles involved are applicable to many areas in the behavioral sciences. By using a similar procedure it is possible to identify those concepts most central and most critical to numerous areas of study.\(^3\)

The stages given above were suggested to help achieve clarity in the procedural aspects of the study and were not conceived of as being discrete, since it is quite obvious that there is a relationship among each of the stages mentioned.

Under the first stage, determining the anticipated intellectual behavioral requirements in communication for social change, a review of the relevant technical, social and economic trends in society was conducted. In reviewing appropriate research reports and appropriate projections by experts in relevant fields, changes which needed to be effected in adult education programs to cope with the identified trends became apparent. Based on this review, a list of anticipated intellectual behavioral requirements for future competence in communication was developed.

In stage two, the identification of relevant concepts, a large number of communication concepts were identified by consulting the books written by

\(^3\) The National Extension Education Curriculum Seminar with Dr. Ralph Tyler acting as Consultant, meet twice yearly for the purpose of identifying those concepts from the behavioral sciences most relevant to the Agricultural Extension worker. The identification of concepts in the areas of Sociology, Anthropology, Administration, Social Psychology, Adult Education, Educational Psychology and Communications are among those receiving priority.
specialists in communication. After formulating the list of concepts thought to be useful in explaining communication, a screening procedure was set up in order to focus on those concepts thought to be most important. The screening process included the following five steps:

1. Authorities in the field of Agricultural Education were consulted to identify those concepts thought to be most relevant to their particular field of specialization,
2. The indexes of books on communication were again consulted to determine the frequencies that certain concepts were mentioned,
3. Definitions of communications were examined to determine the concepts mentioned, and their frequency,
4. Case study situations in Agricultural Education were analyzed respective to their effectiveness or ineffectiveness and an attempt was made to determine those concepts that could have contributed to this effectiveness or ineffectiveness,
5. Finally, the intellectual behavioral requirements identified were summarized and systematically grouped. These groups were compared and contrasted to determine the important concepts involved. For example, to clarify this procedure, one need only to think of twelve magazines with which he is familiar. By comparing these he is able to isolate some similarities - they may all deal with one particular area or

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4 Material collected by Frank Alexander, Cornell University, "Pretest of Critical Incident Technique With County Extension Agents," was used at this stage.

5 Method adapted from material prepared by Robert Monaghan, "Repertory Grid Method for Communication Research". (Paper delivered at the Annual Conference of the Speech Association of America, Chicago, December, 1966).
subject matter content and they may be professional in nature. After considering the similarities, the next step involves taking two of the magazines and contrasting them with the third. In this case he may find that one differs from the other two in price and length of articles. By doing this until all combinations of these three magazines have been examined and repeating the procedure for the eleven remaining groups, he will derive the principal concepts that are necessary considerations in producing a magazine.

Similarly, it was possible to use the intellectual behavioral requirement and by following the above procedure determine those communication concepts most necessary to the understanding of any particular intellectual behavioral requirement as it related to the job of the agricultural extension worker.

Concepts passing all of the possible steps in the screening process were identified as most important and subsequently placed in group one, those passing three of five were classified important, two of five as less important and the rest as interesting possibilities.

Stage three had to do with the definition and description of the concepts identified. The terminology used in concept identification showed a great deal of overlapping. Therefore, the first three groups were regrouped into more meaningful units. The terminology in the first and second most important groups identified the unit. The words with similar meaning or sub-concepts were placed in the unit for the purpose of defining the parameters of that particular concept. In the case of our communication study this procedure resulted in the identification of thirty major concept units, i.e. CHANNEL was supported by sub-concepts; dissemination, medium, senses, techniques and transmission. Situations or case studies, were then identified in which the concept was known to be operating. The relevance of the concept
to the situation and its relationship to other concepts also operating was shown. Finally a brief explanation or definition of the concept was given.

Stage four dealt with the identification of educational objectives regarding the teaching of communication concepts. Authorities in Communication and Agricultural Education reviewed the objectives suggested and their suggested changes were examined and used where it was thought they added to the final product.

Generally, there is more information available in any one area than can be effectively utilized. This necessitates the teaching of only those basic principles and ideas that will prove most helpful to the clientele. In the opinion of this writer, the methodology briefly explained above is an effective approach to an orderly examination of such a subject area.

RESULTS

For more effective training programs for adult educators emphasis must be placed on the identification of intellectual behavioral requirements of the job as a guideline to provide purpose, meaning and direction in developing materials for teaching. The more important intellectual behavioral requirements follow.

The adult educator in agriculture.

1. Possesses an educational and social philosophy consistent with expectations of society and authorities in adult education.

2. Understands social organization and the role of adult education agencies and is able to effectively cope with changing technological, economic and social forces.

3. Understands his role as a professional educator and his relationship to others.
4. Possesses an understanding of a theory of learning, processes of social change, and curriculum development and uses them to assist solving the students' problems through the decision-making process.

5. Understands technical subject matter appropriate to his job; is knowledgeable about reliable sources of information and actively pursues continuing study for professional growth.

6. Knows the sources of pertinent economic and social data needed to effect an educational program and is proficient in working with "lay" leaders in examining the influences of technical, economic and social forces on society.

7. Diagnoses problems arising out of such an examination of the situation and is able to identify specific problem areas, target audiences, formulate meaningful objectives and learning experiences to achieve the desired behavioral change.

8. Effectively organizes and develops the human and technical resources needed to plan, implement and carry out the program.

9. Identifies and obtains the co-operation of appropriate resources; including the selection of channels of communication to provide stimulation for learning to occur and authoritative persons skilled in using the channels, to assist in providing the needed learning experiences.

10. Maintains effective working relationships with "lay" and professional personnel providing needed educational experiences for resource persons and leaders in increasing their competencies.

11. Identifies, collects and interprets evidence as a way of evaluating accomplishments and as a basis for strengthening and/or redirecting program efforts.
12. Informs professional colleagues, public officials and his several publics of program accomplishments. 6

COMMUNICATION CONCEPTS IN GROUPS WITH SIMILAR MEANINGS

Because the orientation for the concept grouping below has been from the viewpoint of an adult educator in agriculture, it is not intended that all adult educators or communication specialists should agree on this grouping, but it is the hope that such a grouping might serve as a stepping stone to a more detailed explanation of those communication concepts most important for the individual's situation. The major concepts in a particular field of instruction enable the adult educator to provide in-depth learning experiences for studying the important central ideas in that discipline.

Those concepts categorized in groups of most importance, of much importance and of some importance, were regrouped into more meaningful units. The capitalized words are descriptive of the groups and are arranged in alphabetical order:

6 Note: The following papers were used extensively in formulating this list of intellectual behavioral requirements:


1. AFFECTIVE BEHAVIOR
   Emotion
   Feeling

2. ATTITUDES
   Opinions

3. AUTHORITY
   Dynamic (force)
   Influence
   Personality
   Role
   Prestige

4. CAPABILITY
   Competency
   Skills

5. CHANNEL
   Dissemination
   Medium
   Senses
   Techniques
   Transmission

6. COMMITMENT
   Action
   Decision-making
   Problem-solving
   Thinking

7. CREDIBILITY
   Expertness
   Intelligence
   Known

8. DIVISIBILITY
   Breakdown

9. EXPERIENCE
   Exposure

10. FIDELITY - NOISE
    Clarity
    Barriers

11. FREQUENCY
    Redundant
    Repetition

12. INFORMAL - FORMAL
    Indirect
    Interaction
    Person-to-person
    Mass

13. INFORMATION
    Propaganda

14. INTEREST
    Attention
    Empathy
    Ideas
    Participation

15. INTERPRETATION
    Representation

16. LANGUAGE
    Code
    Gestures
    Signal
    Symbols
    Vocabulary
    Words

17. MESSAGE
    Connotative
    Content
    Meaning
    Preparation
    Presentation
    Treatment

18. NEEDS
    Acceptability
    Desires

19. PERCEPTION
    Expectation
    Image

20. PERSUASION
    Effects
    Motivation
    Reward
    Stimulation

21. PLANNING
    Co-operation
    Organization

22. PRIMACY - LATENCY
    Recency

23. PROCESS
    Linkage

24. PURPOSE
    Emphasis
    Focus
    Objectives
### 31. TIMING

The thirty-one groups designated above were further explained by choosing a situation where the major concept was known to be operating and a situation that was easily related to the adult educator's own experience. The relevance of this concept to the situation was noted and the relationship of the concept to other communication concepts inherent in the situation was illustrated. Finally a short explanation or definition of the concept was given to further clarify its meaning. For example the concept 'Persuasion' was presented as follows:

**Persuasion**

**Situation**

J. L. Clark, an agronomist and county agent in a midwestern state could see the need for increased emphasis on fertility as a means of increasing production resulting in higher net income to farmers. Very little had been done before Clark came to the county. He began an intensive program with a large number of commercial farmers. Fertilizer dealers, farm suppliers, vocational agricultural teachers, bankers, The Production Credit Association and various committees throughout the county were also advised of the program and their help was solicited.
The program started out with an intensive two week campaign to increase the number of soil samples being received by the county office. Tools for taking samples, soil sample boxes and information on sampling were made available at key locations in the county. The number of samples received increased from two-hundred and fifty to over one-thousand in the first year of the program.

A similar increase occurred in a southern state where the county agent began a program with a survey of the effects of using soil test recommendations on crop yields. Publicity for a soil testing drive was subsequently based on this survey information and used in news articles, on radio and television, and given to farm supply and fertilizer dealers for use in their publicity programs.

Relevance of the Concept

The county agent's problem was to show how soil sampling could lead to increased profits. The communication problem was one of persuasion. That is, farmers already knew of the existence of soil testing, however their indifference to its importance had to be replaced with a desire to meet an existing need.

The program was well planned with persons of authority acting as reinforcing agents. The objectives of the program were clearly understood. Several different channels were used to disseminate the information. Increased profit acted as a stimulus to motivate the audience. Information and equipment were readily available.

Definition of Persuasion

Persuasion is the process of obtaining another person's adoption of a course of action, or his assent to a proposition, by an appeal to both feeling
and intellect.

The long-run effectiveness of a persuasive communication, however, depends on the willingness of the receiver to show the desired response and continue to maintain this new behavior in spite of pressures to pull or push him into making undesirable responses.

In the case of persuasion communication, motivation to accept or to reject becomes a major consideration, and may sometimes even influence the degree of attention and of comprehension.

Educational Objectives

The final stage of the study included the identification of educational objectives for familiarizing the target audience with the concepts identified. The objectives were presented as broad in scope and application as possible to provide a basis for more specific teaching objectives and learning experiences. The most general of these objectives were:

1. To understand communication as a dynamic process involving a number of concepts in action.
   a) To be able to construct a meaningful communication model that explains the various concepts of communication; source, message, channel and receiver.
   b) To explain those influences that affect the above mentioned concepts within the model.

9 Ibid., p.290
2. To understand the importance of the concepts of communication in introducing educational change in agriculture.
   a) Be able to identify the relevant situational information needed for communication.
   b) Be able to identify educational problems through a situational analysis of the communication process.
   c) To be able to design educational experiences using the concepts of communication.
   d) To increase the ability to evaluate the effectiveness of the communication or the use of communication procedures in Agricultural Educational efforts.

3. To understand the concepts and principles of communication and their relationship to Agricultural Education.
   a) Be able to describe the educational role of Agricultural Education and its contribution to the total field of adult education.
   b) Be able to describe the role of the agricultural education communicator.

4. To understand the importance of the communicator in presenting valid information.
   a) Be able to state the purpose of the intended message.
   b) Be able to identify the needs and desires of the audience.
   c) Be able to identify the needed skills and competencies of the communicator.
   d) Be able to collect, organize and deliver content that is meaningful and will give lasting satisfaction to the audience.
4. e) Be able to identify and use the relevant concepts of communication in the development and delivery of a presentation for a specific interest area.

f) Be able to evaluate the results of the communication.

5. To understand the sources of communication difficulties.

a) To be aware of the dangers of misunderstood perceptions, mismatched experience, lack of credibility, misuse of communication channels, too strict control over the communication effort, role conflict, norm conflict, lack of attention to feedback and informal network.

6. To understand the sender - receiver relationship in the communication process.

a) Be able to state a philosophy of involvement of people in communication which is consistent with the principles of adult learning and the objectives of the organization.

b) To become better listeners by hunting for the useful and practical in every situation.

c) To realize the importance of motivation as a factor in attaining interest and meeting needs of the audience.

d) To recognize the importance of perception in communication.

7. To understand qualities desirable for communicators to improve the dissemination of information.

a) To develop ability as a small group discussion leader.

b) To develop ability to instruct and inspire persons on a person-to-person or mass basis.

c) Be able to understand the value system of the group to be influenced by the communication.
7. d) Be able to analyse the power structure in a group or institution.

**Suggested Material for Explaining the Educational Objectives**

The material related to the various objectives previously mentioned is not intended to be inclusive. At best, it will suggest some of the major areas to be considered under each of the general objectives. Further explanation of the general objectives was given. Objective one is shown here for the purpose of illustration.

**Objective I.** - To understand communication as a dynamic process involving a number of elements in action.

The model given here is an example of one of the many models that could be illustrated.

**Communication Process**

\[ S \quad \text{Encode} \quad M \quad \text{C} \quad \text{Decode} \quad R \]

Source sends a message through a channel to a receiver.

- Source may be a person, organization, government.
- Message may seek to report, interpret, persuade.
- Channel may be speaking, writing, visualizing.
- Receiver may be one person, small group, mass audience.

**Feedback**

- Who says what through what channel to whom?
- For what purpose?
- With what effect?
- In what situation?
The above model shows the relationship of many of the communication concepts identified in this study. Persuasion, the example used in this paper, is shown here as one of three possible objectives of message. Other concepts considered in the example affect the persuasiveness of the message.

The results of this study provide a beginning point for an instructor, interested in adult education in agriculture, to focus on what appears to be the most critical areas in communication.

The final report is available as listed below:


(b) Pletsch, Douglas H. (et.al.) "Communication Concepts Used by Adult Educators in Agriculture to Implement Educational Change. A Research Report issued by the Department of Agricultural Education, College of Agriculture and Home Economics, The Ohio State University, Columbus, Ohio, 43210, June, 1968, (47 pages).