

E F F E C T I V E   M E T H O D S

for

T E A C H I N G   A G R I C U L T U R E

Effective methods for teaching agriculture.

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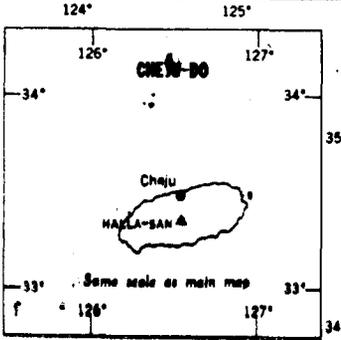
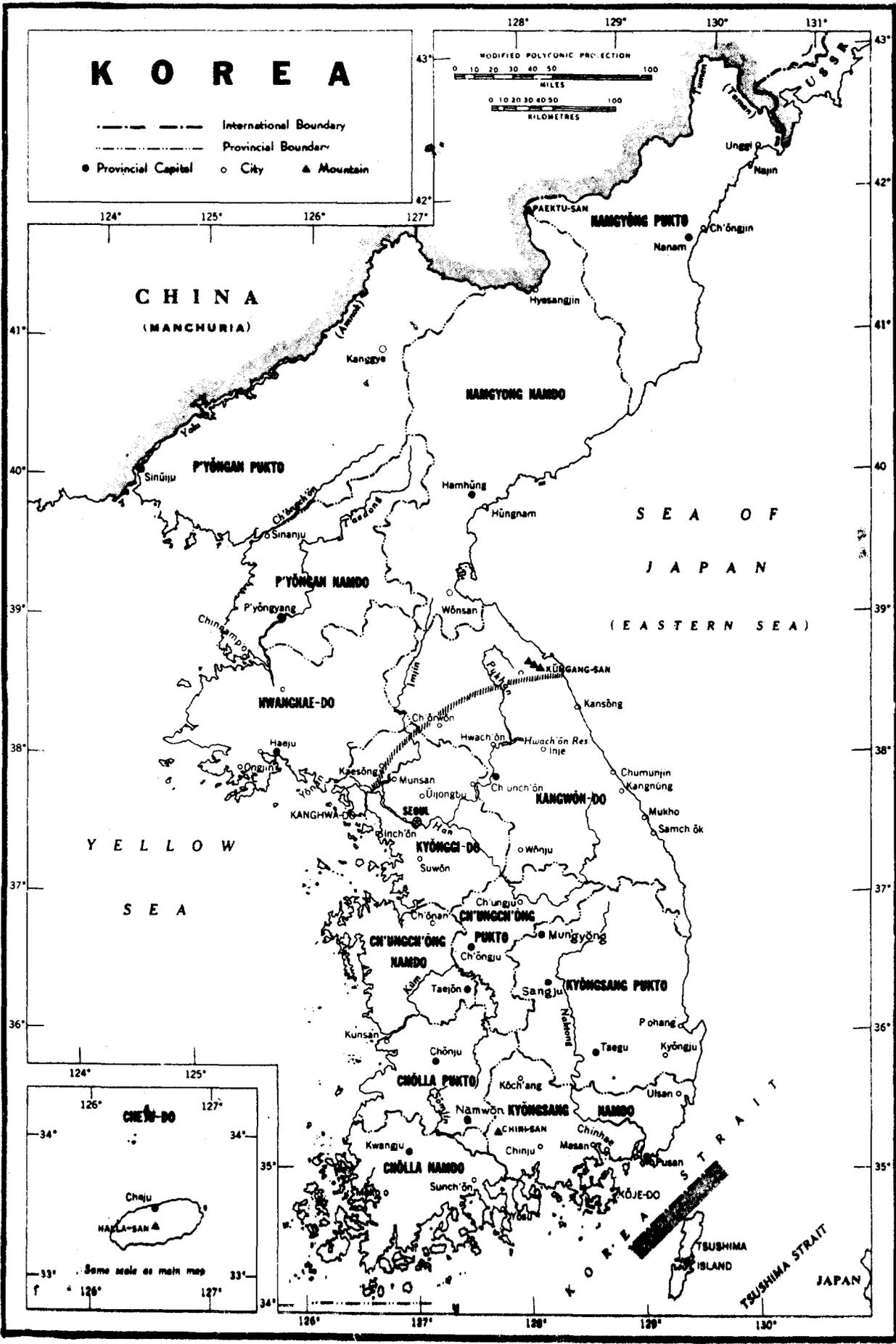
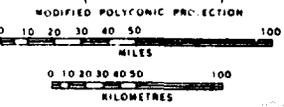


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## P R E F A C E

This publication is prepared primarily for use by personnel who, in one way or another, are responsible for disseminating agriculture information, practices and policies to farmers and their families.

It should be of particular interest to the following groups:

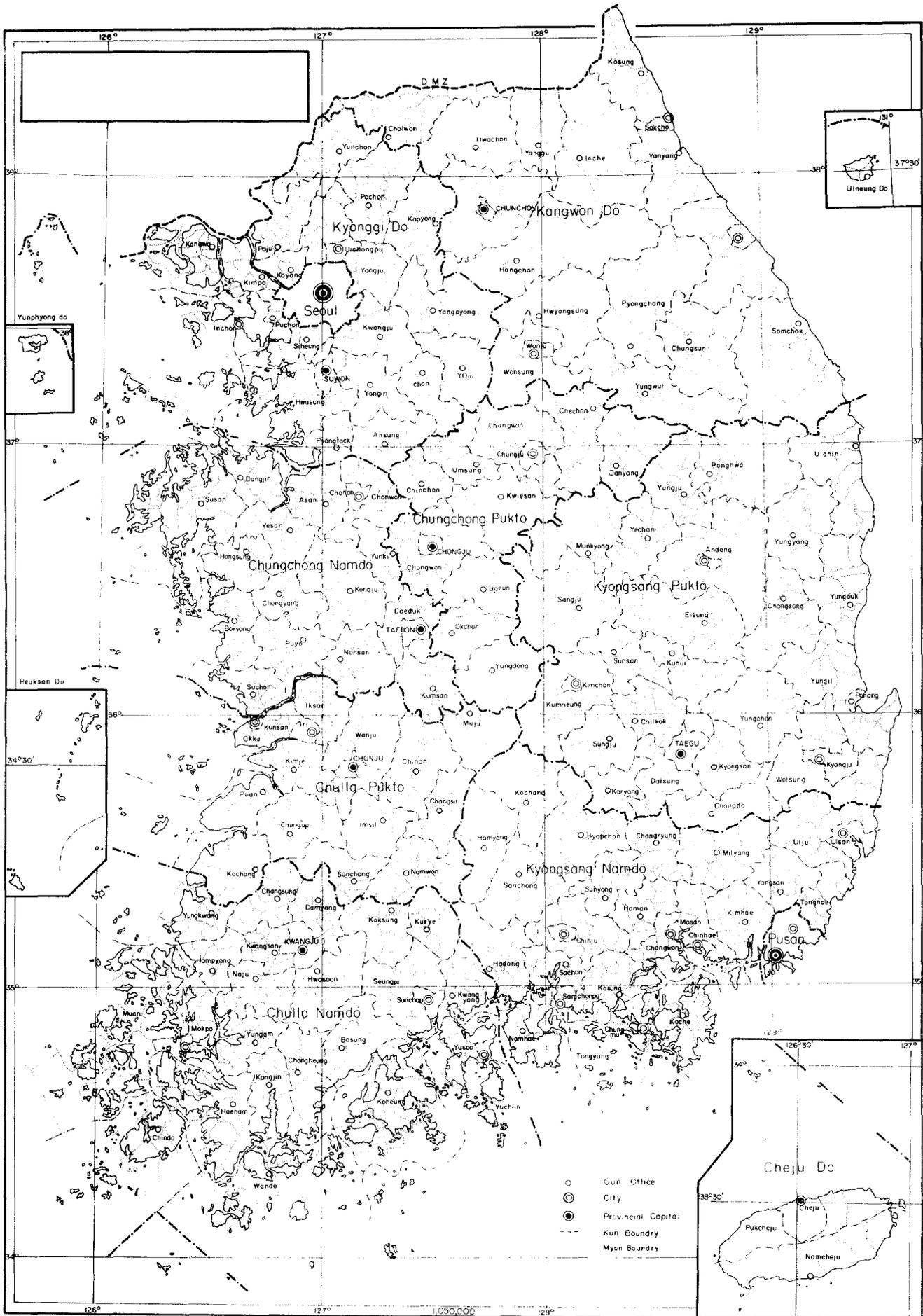
(1) Faculty members of Training Institutes, (2) Extension personnel, (3) College professors, (4) Agriculture high school teachers, and (5) Employees of farmer cooperatives. It should also be of value to administrators and supervisors who are responsible for the development and implementation of agricultural training programs in their designated areas.

A purpose of the publication is to suggest that the role of a teacher is to direct the learning process in a democratic manner rather than attempt to impart knowledge through facts and information by methods that are autocratic and directive.

Teaching represents more than a mastery of classroom devices. It is an intellectual adventure or experience that involves the growth and development of people. Teaching has been greatly stimulated during the past decade by the introduction of new and improved teaching methods, techniques and procedures which have been perfected to a large degree. This publication attempts to lace together and present educational concepts, psychological and philosophical knowledge, and practical experiences through the medium of teaching devices referred to above.

The material and ideas contained in the publication have been collected from many sources. It is impossible to acknowledge all. However, because very liberal use was made of materials found in Efficient Classroom Instruction for High School and Adult Students, a special appreciation is reserved for Professor Howard Deems, Department of Agricultural Education, College of Agriculture and Home Economics, The University of Nebraska, for permission to use these materials. Ideas obtained from materials prepared by staff members Department of Agriculture Education, West Virginia University, were very useful in preparing and organizing certain sections of the publication.

The authors are indebted to Bert S. Miripolsky, Chief, Communications Media Branch, and members of his staff; Lee, Kyung Soo, Art Director, and Lee, Han Koo, Illustrator, for providing the illustrations, lay-out and other invaluable professional assistance in organizing and reproducing the publication.



## I N T R O D U C T I O N

The purpose of classroom teaching in agriculture and perhaps in other subjects as well, is to: (1) promote understandings, (2) build proper attitudes and appreciations, and (3) develop the ability to perform skills and practices.

Effective teaching is dependent upon many factors. They are divided into three main areas, namely:

1. Knowledge of subject matter to be taught.
2. Knowledge of class members and the community.
3. Knowledge of teaching methods and techniques.

This publication deals primarily with "knowledge of teaching methods and techniques". However, it should be kept in mind that learning will result only where all factors pertaining to teaching are mastered and applied.

In the modern concept of education, regardless of the subject taught, the teacher must have a working knowledge of a broad area of subject matter. This is especially true in the field of agriculture, which includes the crop and animal sciences in addition to farm mechanics and farm management.

Today agriculture workers deal with farmers and others who are better informed on many subjects than they were a few years ago. In some cases they may have more information on a specific subject than the teacher. Therefore, it is important that agriculture workers be able to discuss with confidence a wide range of subject material. In addition, they must be able to find quickly significant source material to give support in specific subjects where there is a feeling of inadequacy.

To know the student, is the first step towards effective teaching. Each student has a personality of his own which is influenced by the home, the community and the social level. To know him well requires time and study. As a general rule, the more a teacher knows about a student the more he becomes concerned about his educational progress.

A few years ago classroom teaching revolved around the textbook, the lecture and the formal recitation. Now teaching methods must be adjusted to meet the needs of students, youth and adults, who are living in an age marked by day to day changes in their environment. Research has made available a wealth of agriculture information to be disseminated to the farmers and his family. This has been a major stimulant for students to acquire basic information through individual and group study outside the classroom. The modern practice of using this basic information in the solving of problems has brought about a reconstruction of teaching methods and techniques. As a result the act of teaching has changed from an information

exchange process to one that involves the teacher as a director of learning activities. The agriculture worker who desires to be an effective teacher will pay heed to the statement, "What one is taught matters a great deal, however, how one is taught greatly affects the amount, kind and quality of learning that takes place".

Each of three prominent characteristics of a successful teacher, power of leadership, knowledge of subject matter, and skill in stimulating thought is basic to effective teaching. Of the many challenges faced by teachers, none is greater than the development of skill in organizing and directing learning activities in such a manner that each student is stimulated to think and to act as an individual.



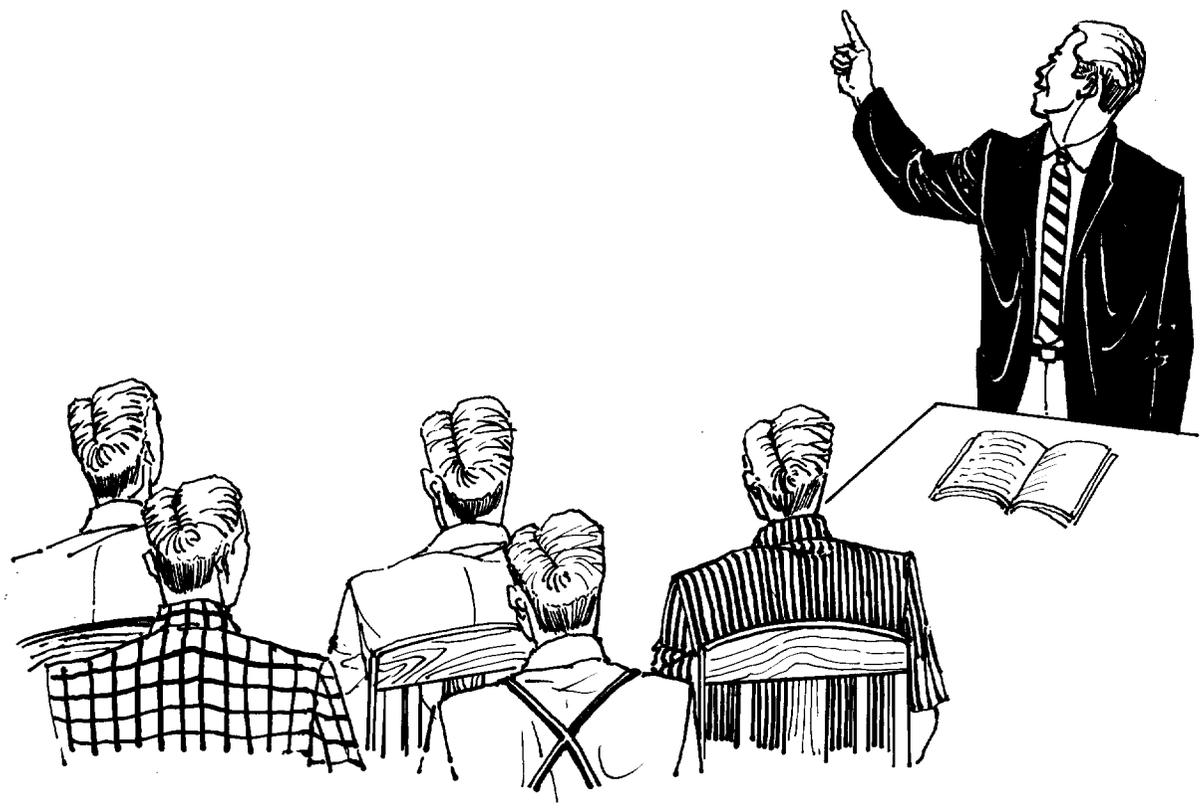
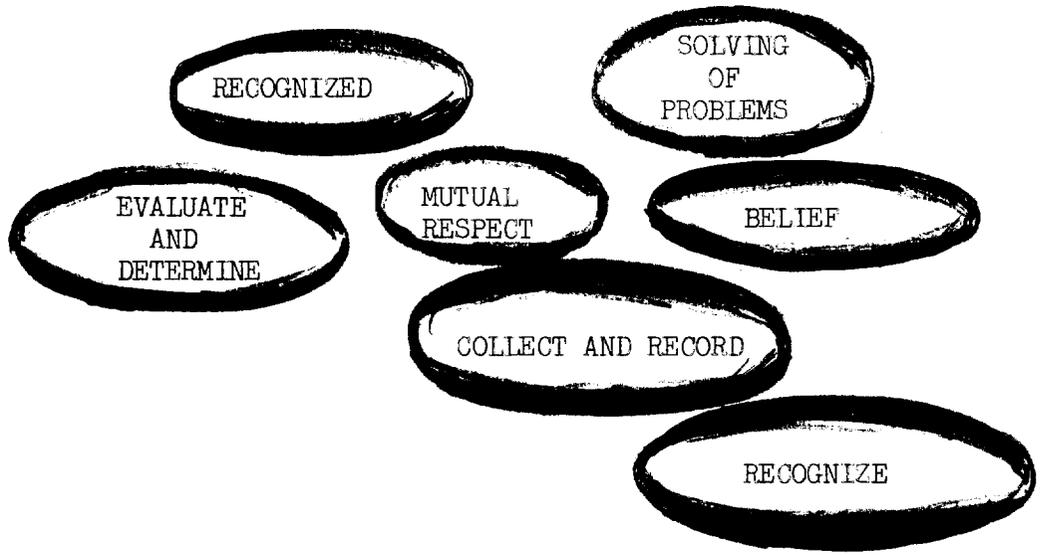
## THE TEACHER-LEARNER RELATIONSHIP

A teacher-learner relationship is built upon the feelings, the purposes, and the sense of accomplishment of the students and the teacher, It includes the interest and enthusiasm, or a lack thereof, with which students and the teacher enter into learning situations. A good or close teacher-learner relationship is essential for effective teaching.

The students or trainees who comprise a single class come from different environments. There is a great deal of disparity in the farms, the homes and in some cases the community represented in a class of rural youth or adults. Some of the students have not outgrown the need for supervision and direction. This must be recognized and given due consideration. Others are more advanced in self-control and self-reliance and will react differently to a teaching process. Certainly the degree that a teacher-learner relationship is satisfactory will depend largely upon the teacher's ability to recognize individual differences and see the learning situation through the eyes of each student.

A teacher must never fail to consider how a given situation will be interpreted by the student and in particular how it will affect his sense of personal significance. There are at least seven distinguishable and important conditions that are prerequisites to favorable teacher-learner relationship. They are:

1. The importance of the individual must be recognized.
2. There must be a commitment to the solving of problems that are meaningful and significant.
3. To evaluate and determine the worth of the teaching effort must be a right of the learner as well as the teacher.
4. A mutual respect must exist between teacher and learner.
5. The belief that every person is a learner must be strictly adhered to.
6. The teacher must collect, record and make use of information regarding class members.
7. The teacher must recognize that students have a right to freedom in the learning process.



## PREPARING TO TEACH

When poor or ineffective teaching results it is not unlikely that some, if not all, of the cause can be traced directly to inadequate preparation on the part of the teacher. Consequently, it is difficult to overemphasize the importance of preparation in a discussion that is primarily concerned with improving the quality of teaching.

As a general rule, preparing to teach results in an organization for directing the learning activities so that desirable changes are brought about within the learner. In agriculture this organization is commonly referred to as a lesson plan which may be prepared for the teaching of a single skill or for the coverage of a wide problem or instructional area that involves the development of attitudes, skills, and understandings.

A distinguishing characteristic of a good teacher is the realization that effective teaching involves more than the presentation of information. When given a teaching assignment the good teacher will consider both the "what" and the "how", and prior to actual teaching he will devote a great deal of attention to preparation.

To prepare properly for teaching does not require the consistent use of a prepared format from which there can be no departure. However, both inexperienced and experienced teachers agree that specific preparatory steps are necessary if effective teaching is to result. The steps are as follows:

### Step 1: Selection of the Unit of Instruction

In agriculture the unit of instruction is commonly referred to as a problem area. It is a convenient classification within a farm enterprise or division of a farming operation, such as swine raising, rice production, barley production, poultry raising, handicrafts, farm management, etc. In addition, it includes a variety of problems all of which relate to the specific area under consideration. See example below for a farm enterprise, unit of instruction (problem area) and specific problems.'

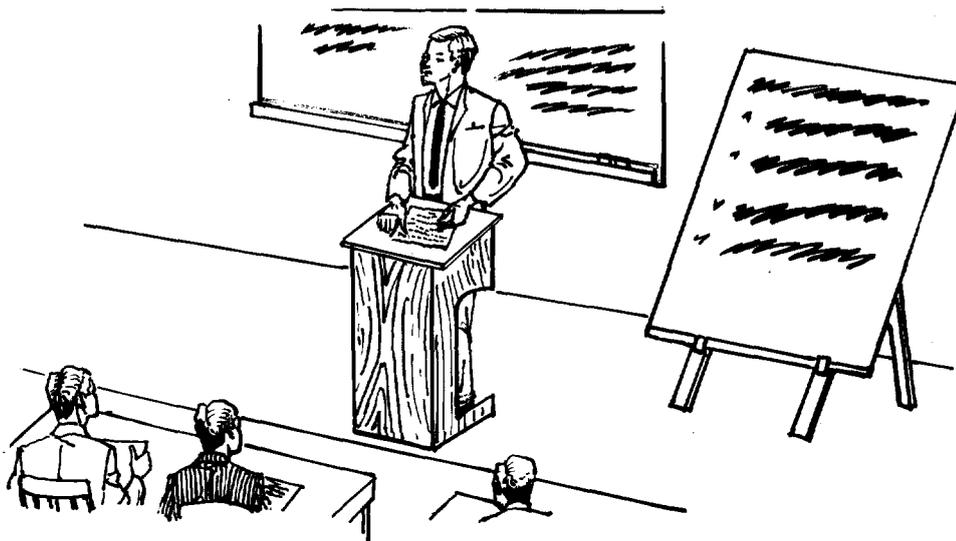
"Example"

Farm Enterprise: Rice Production

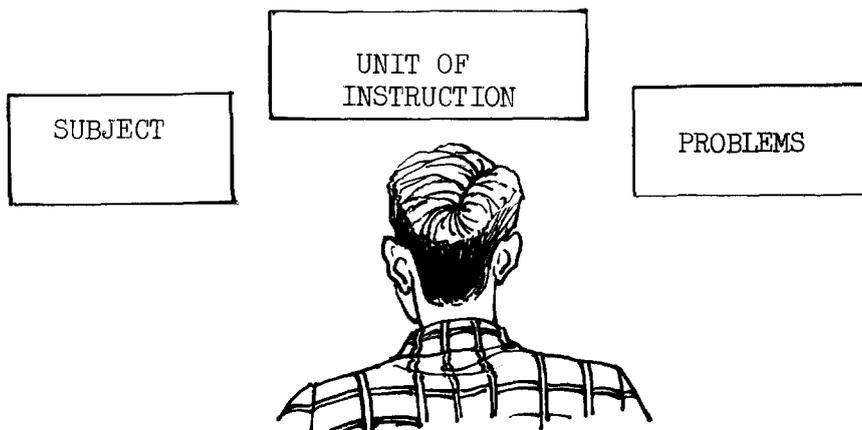
Unit of Instruction: Improving Soil Fertility  
(Problem area)

Problems:

1. Testing soils for deficiencies.
2. Determining kinds and amount of commercial fertilizer to use.
3. Determining when to apply commercial fertilizer.
4. Applying lime.
5. Others.



Selecting a unit of instruction is based upon many factors. The most important of these factors are as follows; (1) needs of trainees, (2) interests of trainees, (3) time available for teaching, (4) proficiency of personnel available for teaching. (5) teaching aids available, and (6) number of trainees enrolled.



Step 2: Analyzing the Situation

The heading "situation" in a teaching plan refers to the situation as the teacher sees it. It includes sufficient analysis for the teacher to understand thoroughly what is required in the way of subject information, methods, techniques, facilities, etc., to teach properly the unit that has been selected.

### "Example"

1. Some farmers use power equipment for preparing land, others use hand tools and equipment.
2. Only a small percentage of farmers apply lime in accordance with soil tests.
3. Only a few farmers in the village use commercial fertilizers.
4. Generally, farmers do not plow deep enough for maximum yields.
5. Others.

An analysis of a situation gives the teacher a basis for establishing teaching objectives.

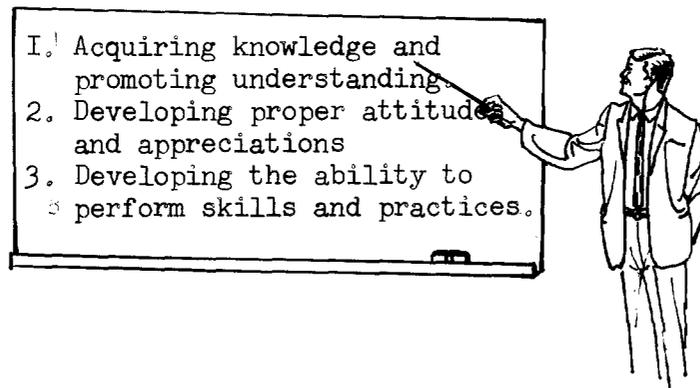
- \* SUBJECT INFORMATION
- \* METHODS
- \* TECHNIQUES
- \* FACILITIES



### Step 3: Setting up and stating Objectives

Objectives may be defined in a number of different ways. One definition simply states that "an objective is the end to be reached", another says that "an objective is the thing that we strive for", and still another, which refers directly to teaching, states that "an objective is a desirable something that we would like to see happen to those we are attempting to teach". To accept or reject one or all of these definitions is a matter for the individual to decide. The main thing to keep in mind is that in teaching, objectives play a dual role. First, they identify desirable changes that are to be expected in the learner and relate them to the specific subject area being considered. Second, they serve as a basis for measuring the extent that teaching is effective in bringing about desired changes in the learner as mentioned above. This refers to evaluation.

In developing lesson plans (preparing to teach), teaching objectives should be linked closely with the situation statements. Together they should provide guidance to the teacher in determining his teaching procedure. This will involve particular attention to objectives that are directed to fulfilling the purposes of education in agriculture and perhaps in other subjectives as well. They are; (1) acquiring knowledge and promoting understanding, (2) developing proper attitudes and appreciations, and (3) developing the ability to perform skills and practices.



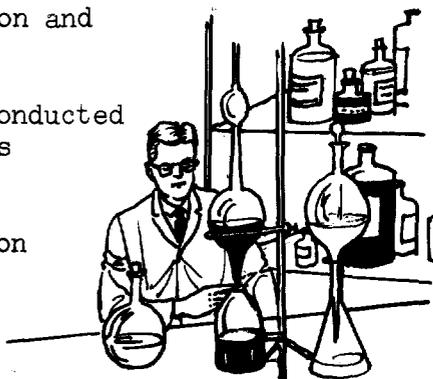
If you are to have good teaching objectives you will need to decide on how they should be stated. It is most difficult to prescribe a specific standard for setting up and stating teaching objectives, however, since they represent learnings the teacher intends to secure in the learners they should be specific, clear, justifiable, and attainable. Below are some examples of objectives that relate to the unit of instruction; "Improving Soil Fertility".

"Example"

1. Develop within trainees the ability to interpret experimental data on fertilizing rice.
2. Develop within trainees the ability to make soil tests and determine proper kinds and amounts of fertilizer to use.
3. Develop within trainees an understanding of how plants take and use nutrients from the soil.
4. Develop with trainees an appreciation for doing a good job of fertilizing.
5. Others.

In preparing and stating teaching objectives the first thing that may well be done is to decide on the important abilities that are to be developed in the learner as a result of teaching the unit selected.

1. Results of experimentation and research
2. Results from carefully conducted trials and demonstrations
3. Opinions of authorities based on their observation and their knowledge of scientific principles
4. Practices used by good farmers although they lack confirmation by research.



**Step 4: Sources of Information (References)**

Teachers of agriculture should have the soundest possible basis for the subject matter they teach. Some of the sources for such information are; (1) results of experimentation and research, (2) results from carefully conducted trials and demonstrations, (3) opinions of authorities based on their observation and their knowledge of scientific principles, and (4) practices used by good farmers although they lack confirmation by research.

A list of the sources of information for ready reference during the teaching period or for review when the unit is to be taught at a later date is very helpful to the teacher. The list should become a part of the lesson plan.

An example of a source of information for the unit of instruction relative to improving soils for rice production is as follows:

"Example"

Practical Recommendation for Improving Agriculture in 1968.  
Based on Research Work. Office of Rural Development, Suwon  
Pages 4-6.

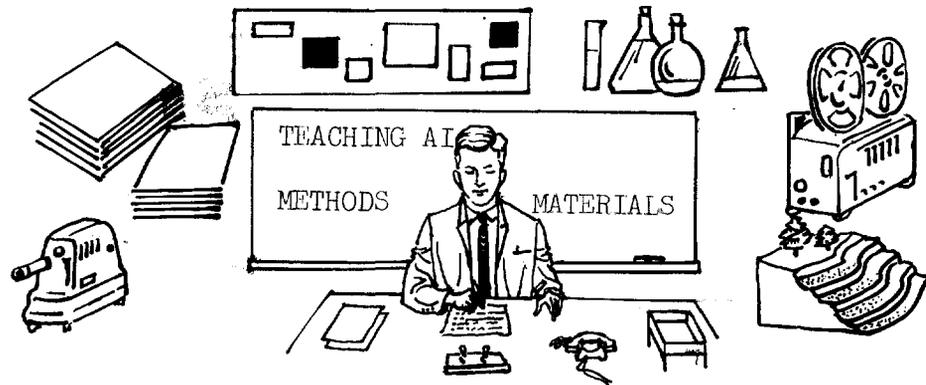
### Step 5: Determining Learning Activities and Teaching Aids

The selection and implementation of activities that may enhance the learning process is a very important part of preparing to teach. This also applies to selection and development of teaching aids. Methods, materials, techniques and procedures are involved.

Examples of activities and teaching aids which may be used for the unit of instruction, improving soil fertility are as follows:

"Example"

1. Use brainstorming to introduce the unit of instruction.
2. Use lecture and chalkboard to present factual information.
3. Use charts to show results of research dealing with different applications of a complete fertilizer.
4. Conduct a field trip to observe result demonstration plots on a local farm.
5. Others.



### Step 6: Presentation

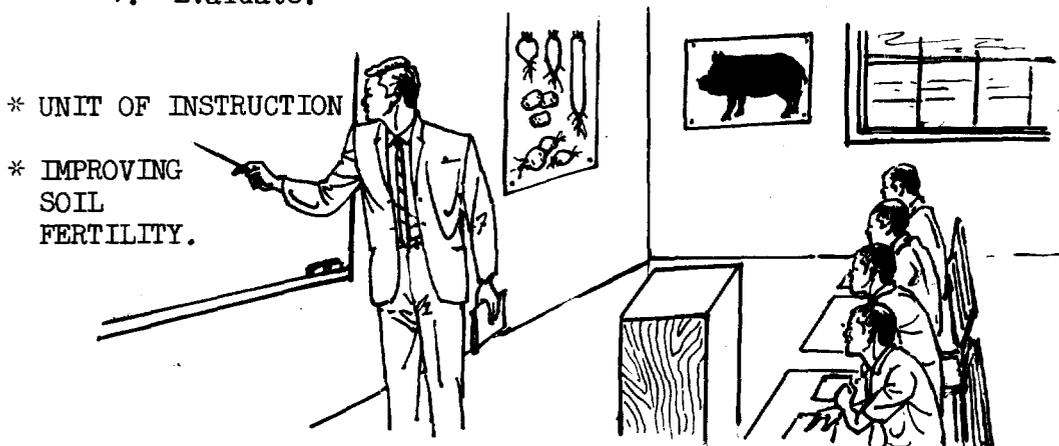
Presentation is an answer to the question, "how will I teach this unit of instruction?" To answer the question so that teaching is effective, a teacher must understand that learning is the process by which one, through his own activities, becomes changed in behavior. In addition, he must recognize that teaching is directing the learning process. This implies that one learns through what he does. Each person must do his own learning and no one can learn for him. Also learning can not be imparted or given to another. Therefore, the teacher directs or influences the learning process only by directing or influencing the activities of the learner. In the final

analysis presentation, as it refers to teaching, is the implementation of learning activities that are directed to bringing about desirable change in the learner.

Due to individual differences in teachers it is difficult if not impossible to prescribe a format for presenting all teaching situations. In general, for the experienced teacher the presentation part of the lesson plan - stated or not, is an organization of the activities and teaching aids that were discussed in 5 above. For the inexperienced teacher and in many cases for the experienced teacher, as well, it should be a step by step procedure as to how subject matter is to be presented and by what method, technique or procedure. Note example below.

"Example"

1. Write on blackboard - Unit of Instruction, "Improving Soil Fertility".
2. Use Brainstorming, questions and answers, or other suitable techniques to introduce the unit of instruction.
3. Use a strip chart to show results of research involving different applications of commercial fertilizer.'
4. Use slides to show results of fertilizer practices of good farmers.
5. Use field trip to a nearby farm to observe fertilizer demonstrations.
6. Use problem solving methods to determine practices.
7. Evaluate.



## Step 7: Evaluation

As it is used here, evaluation is an attempt to arrive at a correct judgment of the value or worth of an agriculture training program. Teaching objectives should be the basis for evaluations. Therefore, to evaluate is to apply selected methods that will determine the extent or degree that teaching objectives have been realized.

In order to secure the evidence or information required, evaluation methods are usually applied at three different periods. They are: (1) during the training period, (2) at the conclusion of training, and (3) after training. Evaluations that are conducted during and at the conclusion of training sessions are usually for the purpose of determining the effectiveness of the training based upon the opinions of trainees and others that are closely associated with the program. Both subjective and objective evaluation methods may be employed.

Evaluations after training are usually made in the field and are primarily concerned with measuring the effectiveness of training based upon actual changes that have resulted. In this respect changes of two kinds are measured. They are; changes in the trainees, and changes in agriculture which resulted from the training.

In preparing to teach, methods of evaluation and procedures for their implementation should become a part of the lesson plan. Reports of evaluations should become a part of the training records and should be used for planning the curriculum for future programs and determining methods, techniques and procedures for presenting instructional materials.

Examples of evaluation instruments and methods which may be used as guides are as follows:

### "Example"

1. An evaluation report of Provincial Workshops to Improve the Teaching Methods of Guidance Personnel, conducted by the Training Institute and Guidance Bureau, ORD, Suwon.
2. An Evaluation of the Outcomes of the Pilot Training Program for Organizing and Conducting Agriculture Training Programs in and through Gun Training Centers, Training Institute, ORD, Suwon.

- \* DURING THE TRAINING PERIOD
- \* AT THE CONCLUSION OF TRAINING, AND
- \* AFTER TRAINING

- \* DURING THE TRAINING PERIOD
- \* AT THE CONCLUSION OF TRAINING, AND
- \* AFTER TRAINING

EVALUATION INSTRUMENTS  
AND METHODS



## THE PROBLEM SOLVING METHOD

### Introduction

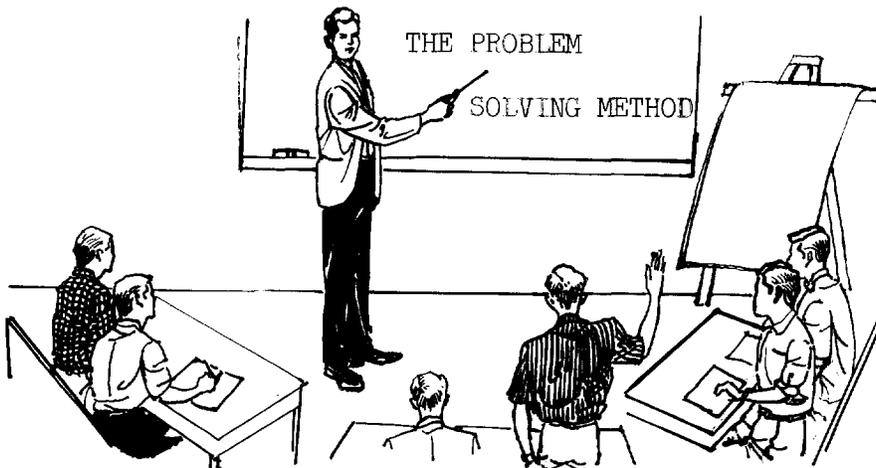
The problem solving method refers to a means, or a course of action involving the scientific approach to the solution of an actual life situation. The problem is generally stated as a question, implies a difficulty to be overcome, and is of such magnitude as to challenge the students.

The use of the problem solving method involves the organization of teaching materials in such a way as to present to the minds of the students real problems with which they are confronted. In agriculture most of these problems center around production farming. This method may be used as a class, group or individual procedure.

In the ideal problem situation the learner is perplexed but not necessarily confused. He faces a difficulty and is willing to find a solution. A problem implies a difficulty to be overcome.

Most good teachers of agriculture do their teaching partly or wholly on a problem basis. They guide or direct their students in solving problems rather than trying to teach facts from textbooks. In solving problems the students engage in an active process which is important in learning. The process requires thinking on the part of the students, a factor present in good teaching. Therefore, it may be concluded that thinking and problem solving are intimately related.

The problem solving method of teaching is of utmost importance, because today as never before the democratic processes are challenged by the ability of citizens to make correct decisions on local, national, and world issues. Obviously, it is impossible for the school to teach students how to react to all situations, especially future problems of the space age. The solution is to teach pupils how to think and make accurate decisions.



Farming consists, to a great extent, of problem solving. It deals with unstable and changing situations.

The chief reasons for using problem solving in teaching are listed as follows:

1. The problem acts as an agency in gathering pertinent facts and organizing them into a connected viewpoint.
2. In problem solving, significant facts are taught in useful association and will be used when the need arises. The facts take on a meaning they would not otherwise have; they become items of experience rather than external realities.
3. Problem solving places emphasis on use of material rather than on memorization of it.
4. The solving of a problem by the learner calls for the use of old things in new ways; thus there is desirable practice of what is to be learned or retained.
5. Problem solving develops within learners the ability to evaluate and use data intelligently in a new situation.
6. Since problem solving calls for the weighing of possibilities and factors, it contributes to the development of open-mindedness.
7. Proper use of problem solving should contribute to teaching students how to anticipate and discover problems.
8. When problems are used in teaching, the students often know something about the problem to be solved and perhaps what should be learned.
9. Problem solving lends itself to learner participation in all its phases or aspects. The teacher has the opportunity to direct the learner's activities.
10. Problem solving gives opportunity for flexibility in teaching procedure.
11. Problem solving lends itself to both cooperative and individual effort.

Although the teacher may not appear to have an important role in problem solving, he is the key person in the success or failure of this method. A teacher must have the ability to see problems clearly, to judge the value of such work to the class, to analyze the facts secured, and to guide students in arriving at a proper solution.

## SELECTING PROBLEM AREAS



### Selecting Problem Areas

The problem area indicates the specific area for study within a particular enterprise or division. It is called a problem area because it includes a variety of problems, all of which relate to the specific area under consideration. See "Preparing to Teach."

The proper determination of the problem area is an important aspect of the problem solving approach. Each problem area should be a meaningful whole by itself, with a minimum of overlapping with other problem areas within the same enterprise or division. Improper determination of problem areas will render the problem solving approach ineffective. One should attempt to use a functional approach, not too narrow in that it limits the amount of analyzing which can be done by the pupils and not too broad so as to result in confusion. When possible, the problem areas should be taught seasonal, to permit seasonal planning as well as seasonal doing.

Not all educators agree on the size and scope of problem areas. The importance of a particular enterprise in a community, the ability of class members and the desired depth of study are all factors that must be considered.



### Selecting the Problem

The determination of the enterprise or section under which a particular problem area should be listed is not a critical issue. The important matter is the proper selection of the problem area.

The teacher's "course of study" should include the enterprises or main divisions, problem areas and many of the most common problems. However, the final selection of specific problems is, as a rule, the decision of the class members.

The procedure works about as follows:

1. The teacher or the teacher and students select a problem area that is important and seasonal.
2. The teacher introduces the problem area.
3. The teacher secures from the class specific problems in this area. He may ask such questions as:
  - a. How is this problem solved by farmers in the area?
  - b. What are some known basic facts about this problem?
  - c. Why is it so important that we solve this problem correctly?
4. The class members select the problems where study is needed and decide on order of teaching.
5. Teacher prepares his plans for teaching.

The importance of securing and selecting the right kind and size of problems cannot be overemphasized. In many instances the instructors will need to guide and sometimes train students in the art of proper problem selection.

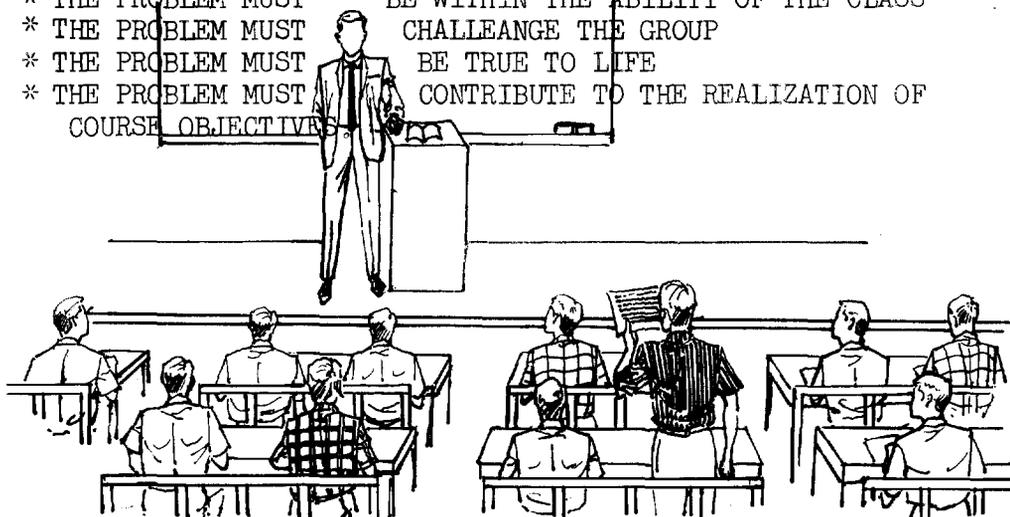
There is no best set of problems to use in each course. The community situation, the needs of the students, the resources at hand, and units of instruction to be taught, all tend to determine the problems that should be selected.

A good problem possesses certain qualities or characteristics.

1. The problem must be a real and actual condition or situation.  
Example: Should purebred pigs be purchased for foundation stock?
2. The problem must appeal to the class.  
Example: What cash crop will produce the greatest income per acre?

3. The problem must be within the ability of the class.  
Example: What method should be used to transplant rice?
4. The problem must challenge the group and call for thinking of superior quality (avoid problems that can be answered in five to ten minutes or ones that require many hours to solve).  
Example: To what extent should farmers depend on improved varieties to increase rice fields in Korea?
5. The problem must be true to life.  
Example: Should barley be transplanted or direct seeded?
6. The problem must contribute to the realization of course objectives.  
Example: What is the relationship between cultural methods and recommended applications of fertilizer to control lodging in rice?

\* THE PROBLEM MUST BE A REAL AND ACTUAL CONDITION  
 \* THE PROBLEM MUST APPEAL  
 \* THE PROBLEM MUST BE WITHIN THE ABILITY OF THE CLASS  
 \* THE PROBLEM MUST CHALLENGE THE GROUP  
 \* THE PROBLEM MUST BE TRUE TO LIFE  
 \* THE PROBLEM MUST CONTRIBUTE TO THE REALIZATION OF COURSE OBJECTIVES



## Problem Solving

People are challenged by problems that are close to their individual lives. They tend to learn from what they do and not necessarily from what they are told. The teacher should remember that both youth and adults remember those facts, concepts, and skills that are meaningful.

Problem solving, whether individual or group, involves several rather personal steps. They are:

1. The learner becomes aware of the problem.
2. He identifies and then delimits the problem.
3. He analyzes the problem and studies how it may be solved.
4. He gathers evidence, collects relevant data, makes necessary observation and conducts needed experimentation.
5. He determines tentative solutions or forms a hypothesis of what the solution to the problem is.
6. He verifies and evaluates the recommended solution.

If students are to receive maximum benefits from solving problems the instructor must develop a lesson plan that will stimulate thought and create a desire to find facts. A teacher must not present a problem to a class unless he has worked out an acceptable solution himself.

After the problem has been selected and the teacher has developed his plan, the next step is to introduce the problem to the class for solving. The following basic steps should be observed:

1. Establish a relaxed but businesslike class setting.
2. Write the problem area on the chalkboard.
3. Discuss and develop a class interest in the problem. Review objectives and goals. Motivate to the point where students are anxious to start solving the problem.
4. Have the problem stated and put on the chalkboard.
5. Secure statements as needed on the situation (students understand what they are doing).
6. Discuss problem. Some students may have a suggestion for solution, others may have information that will aid in reaching a decision.
7. Make extensive use of chalkboard for proper problem analysis.
8. Record unanswered questions and discover areas where additional information is needed. Discuss ways to locate source materials.
9. Secure facts and other information as needed. Not all problems can be solved through the use of literature. In some cases it may be necessary for the instructor to supply needed material, or take students on field trips, or secure resource persons, or conduct some experimentation.
10. Have final discussion. Evaluate facts. Keep attention focused on main problem.

11. Formulate a tentative or final solution for the problem.
12. Discuss and prepare a solution for application. Organize collected data for future use. List approved practices to use. Show how the solution reached can be applied on all farms.



## THE DISCUSSION

### Introduction

The class discussion, properly understood and conducted, is an effective method for intelligent and productive self-expression. The informal relationships that result from group discussion are acceptable to adults and young alike. It aids in organizing thought and often brings about effective individual and cooperative action.

The discussion method of instruction may be defined as a group of students meeting together with the teacher or a trained leader to discuss and deliberate informally on a topic of mutual interest and concern. Discussion is the flow of words which takes place among the members of a group and their leader. It implies that all or most class members have some knowledge of the subject being discussed, or are willing to acquaint themselves with the topic through reading and research. It is a form of group work that is planned.

It involves questions and responses which in turn imply thinking, listening and speaking. It encourages diversity of opinion and when properly conducted establishes a natural, calm and informal atmosphere conducive to learning. This method of teaching will aid students in developing ability to examine topics and then organize their remarks so that they have meaning and value.

The discussion method has an important place in agricultural education. Rural people have many topics and problems on which an exchange of ideas may bring about a better understanding. Informal discussions in the home, at church, or school and during social functions are a definite part of the rural way of life. Training in the art of discussion is an important part of modern education.



## The Instructor

Many untrained teachers believe that an easy way to prepare for a lesson is by the use of the discussion. Such an assumption merely implies the lack of understanding in the use and purpose of this method. One of the prerequisites for a good classroom discussion is a qualified leader. The task of the discussion leader is not to impart information but to create and maintain a learning procedure which will stimulate each individual student to contribute more and more of his own background to a growing field of information. The leader must also aid in developing an environment that encourages thinking, reasoning, and decision-making.



### Selecting Discussion Topics

It is the duty of the leader to help select the topics to be discussed. Although it is possible to discuss almost any topic or problem, a few guiding principles will aid in making a wise selection.

1. Avoid the selection of topics that are broad and general. Students find it difficult to grasp and discuss such subjects in a meaningful way.
2. Select topics in which students have some information or ones in which information can be secured.
3. Select topics that are of interest and value to the students and aid in meeting the educational needs of the group.

Some educators believe that topics of a controversial nature which will draw the support of persons holding different points of view, are the kind that provide opportunity for good discussions.

Following are several topics which meet most or all of the principles mentioned. These are examples and must not be taken as ideal discussion topics for all groups.

1. The value of a methane burner on the farm.
2. Kinds of farm records to keep.
3. The value of farmer cooperatives.
4. The value of an export market for farm products.
5. Selling livestock by auction.
6. Harvesting vegetables.
7. Conducting result demonstrations.
8. Utilizing farm machinery.
9. Irrigation policies and practices.
10. Price outlook for special crops.



## Planning the Discussion

Securing up to date source material and encouraging adequate reading and research on the topic is an important pre-discussion step.

A discussion is not an exchange of guesses and opinions. Students, in order to discuss intelligently, must be informed, to a degree at least, on the topic under consideration. Just talking about something may be of little value educationally.

As a rule, it is considered to be the duty of the teacher or discussion leader to provide or to indicate where to find suitable reference materials. In agriculture, information may be found in books, bulletins, extension circulars, magazines, publications from commercial concerns, local papers, and research data, etc. At times radio and TV broadcasts will provide interesting and valuable information.

Community surveys and research should be encouraged. Census data may be used to strengthen or refute local comments. A good discussion is based on important accurate information. It must not be an exchange of ignorance.

A person becomes a good discussion leader by his own efforts. Although some people have natural abilities in leadership areas the deciding factor in the achievement of quality work is the determination of the individual.

The leader must know everything possible about the topic to be discussed. This should include recent developments, local community practices, and controversial items.

It is also the duty of the leader to be informed and know as much as possible about the personalities, background and opinions of the student so that statements made can be evaluated.

After the topic for discussion has been selected, the needed reference material secured, the group selected and meeting place determined, it is then the duty of the leader to outline his plan of action.

The introduction should be brief, yet in detail enough to explain the topic and establish certain limits of discussion. As a rule, the explanation of the topic will also serve to motivate student participation.

A brief outline of the topic and a few appropriate questions should be prepared. The length and the detail of this will be dependent upon the type of material under discussion. If numerous facts and figures are needed they should be available. At times such material taken from a book or a bulletin is more meaningful than that presented by an individual.

As a leader plans a discussion he must establish the desired outcome or the objectives of the session. The purpose may be the development of understanding. In such cases the leader should perhaps ask himself: Will all sides of the question be presented? Have experts been consulted? Has adequate time been allowed so that the topic can be discussed with care and in proper depth? Will opinions from folks outside the group be considered? Have all necessary books, bulletins and magazines been made available to the group members? Should the subjects be developed by parts or as a whole?

Action may be the objective of the discussion. This involves doing something about the decisions reached during the session. In such cases the discussion may be considered a form of problem solving. When action is the objective, caution should be exercised by the leader. It may be dangerous for an over-enthusiastic group with only a limited amount of information to act on an important matter. A careful review of the whole matter should be taken before action is outlined.

Other purposes of the discussion include exchanging or securing ideas, introducing the unit of instruction, motivating students, and developing students in the ability to think, talk and discuss.

Other purposes of the discussion include exchanging or securing ideas, introducing the unit of instruction, motivating students, and developing students in the ability to think, talk and discuss.

The meeting place should be of adequate size to accommodate comfortably the expected attendance. Chairs, or chairs and tables should be so arranged that every member is able to see every other member. The teacher or the discussion leader need not have a place of prominence.



## Directing the Discussion

The size of the discussion group is important. The minimum number is from five to ten, while the maximum size of the group should be from twenty to forty.

The teacher or the discussion leader plays an important role in this teaching method. He must encourage interchanges of information between students and at the same time discourage generalization and comments that lack factual verification. He must keep the group on the topic, making step by step progress toward the discussion objective. He must be alert to see that all take part in the discussion.

Steps followed in conducting discussions vary from leader to leader. There are, however, several rather general principles that should be observed:

1. Members should know each other. In a class that meets regularly this is a problem only at the first meeting. A common practice is to have a name card in front of each person. Then, before the discussion starts have each one give his name, state where he lives and a little additional information about himself. The information presented should have a relationship to the discussion topic. If, for example, the discussion is about irrigation, the students should state whether or not irrigation is used on their farms. The leader should call each person by name as he directs the discussion.
2. The discussion should be conducted in an informal manner. The leader should maintain an atmosphere of friendliness and cooperation. Everyone, including the leader, should remain seated during the discussion. No raising of hands or addressing the leader should be necessary. The leader, however, must see that only one person is speaking at any given time and that small groups are not forming their discussion cells.

Students and leader must be courteous at all times, listening attentively to what each participant has to say. However, if any one person tends to talk too long and too much, it is the leader's responsibility to shift the discussion. He may say to the "speechmaker" as tactfully as possible, "while on this point, let's hear from others, we can have additional comment from you later".

3. The discussion must be kept on the main topic, progressing toward the objective at the proper rate of speed. Interesting sidelights will add variety, but they must not be carried too far.

If some main point or issue is being neglected the leader must point it out. He might relate an example and ask for comment from specific members.

It is, as a rule, a good practice to foster friendly disagreement. However, important issues must be stressed and the discussion turned away from matters that are not important.

Every ten or fifteen minutes the leader may want to summarize. This may be accomplished by stating: "Let's see what we have said (decided) the last quarter hour? What are the unanswered questions?"

The use of the chalkboard, an overhead projector or large sheets of newsprint tacked to an easel may aid in developing understanding of complicated issues or statements. It may also be of value in summarizing at the end of the discussion.



Discussions may be held outdoors, in the villages or on farms. In many cases the entire family is included.

## Participants' Responsibilities

The participants as well as the leader have certain responsibilities in preparing for and taking part in a discussion.

In classroom situations the grouping is by grades and subject. In other cases some consideration should be given to members making up the discussion group. For best results individuals must have some common interests.

The topic or subjects to be discussed should be planned by the group involved and not just by an individual such as the leader. As a result, everyone should be able to express an opinion and make suggestions. After a topic has been chosen it is the responsibility of each member to become informed on the subject under discussion. If it is a new or unfamiliar subject, the participants should do some reading and research so they can contribute some worthwhile information to the group.

It is very important that all members keep an open mind. However, they must also have opinions and convictions and be willing to express them. After having expressed their opinions, they must listen and consider the thoughts of others on the subject.

In a discussion group it must be realized that each person is an individual and as such is different. There will be people who have a tendency to disagree with everything discussed, those who are "yes" people, those who refrain from talking and many other types. These things will place restrictions and limitations on a group discussion. These facts must be recognized and attempts made to minimize and eliminate these effects.

During a discussion it is very common to find people who have a tendency to talk more than others and also those who talk to one another and leave out certain individuals. It is every member's duty to address his remark to the entire group and regulate his participation so that all members get a chance to discuss.

It is the responsibility of each to encourage other members to speak and develop a general discussion among the group.

People discussing must think constructively; they must meet on the same basis of mutual respect and harmony and talk in a democratic way so that subjects may be analyzed and group consensus be developed.

## Classroom Discussion

The talented teacher will develop many lessons by the use of the discussion. When all teaching methods are evaluated the discussion is rated among the best. It is a valuable type of learning activity available to classroom teachers.

Although research in the field of discussion is meager, studies appear to indicate that discussion is equal or superior to the lecture in developing understanding and is more effective in securing retention and stimulating critical thinking. It also appears to have a positive effect in the development of student attitudes and class morale. The discussion method has been described as the teaching method of democracy.

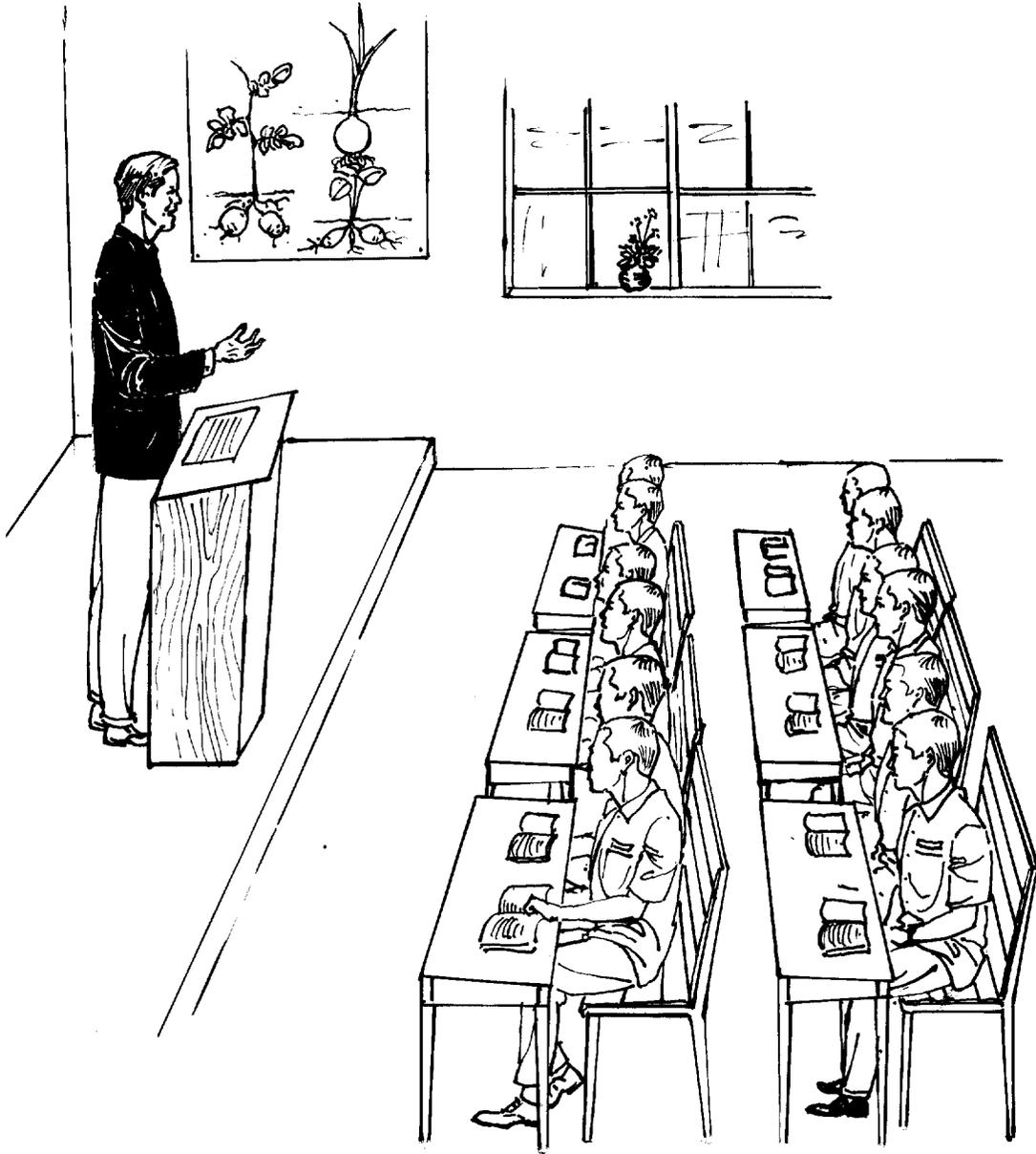
The discussion method has its limitations and its dangers. It takes time to discuss properly a topic or a problem. Some educators believe they can cover material more rapidly by the use of the lecture. If covering material is the objective of the class, the limitation is valid.

Unfortunately others assume a discussion will, after being started, carry itself along. Such unplanned discussions wander around over material and may bring about very little learning. It has been said that to be a good discussion leader requires training and experience. A young teacher may improve his ability in this method by evaluating each discussion conducted. A few questions may aid in determining the strength and weaknesses of a presentation:

1. Did the group achieve what it set out to achieve?
2. In what way did the leader fall short?
3. Did the group stay on the topic?
4. Did everyone participate?
5. Did anyone monopolize the conversation?
6. Was the choice of the topic satisfactory to everyone?
7. Were the students prepared for the discussion?

Conclusion

Discussions when well done are interesting and exciting. They provide each student with the opportunity to present his viewpoint and gives each individual a chance to challenge statements with which he does not agree. A good discussion tends to force straight thinking, and often develops a greater tolerance among people with different points of view. Leaders are trained through the use of the discussion method of teaching.



## THE PANEL

A panel is the discussion of a topic by a group of three to five persons who have a special knowledge of the topic. As a rule, they are seated in front of the class and conduct among themselves an orderly, but not prepared or memorized discussion of a topic.

The success of this teaching method is dependent to a large degree upon the right selection of panel members. Members should include persons that have worthwhile information to present, can think and react rapidly, and have a speaking voice that is pleasing.

The moderator or panel chairman should be skilled in the techniques of handling people and stimulating thought. He must have the ability to balance the discussion and keep it headed toward a solution or a climax.

Panel discussions have frequently been badly misused causing some teachers and program planners to discard this procedure. However, when properly used and conducted they present material in an interesting manner.

The panel is sometimes called the round table discussion. The members of the panel carry on a discussion of the topic among themselves and the audience "listens in" on the discussion.

Sometimes the procedure is formal, with the speakers getting permission from the leader or moderator when they wish to talk; at other times it is very informal with the panel leader simply stating the question and the members pick it up from there.

When panel members have conducted their discussion of the topic under consideration, members of the audience (class) may participate by asking questions of the members or by extending the discussion with new and relevant information. It is considered polite if members of the audience are recognized by the panel leader before asking a question or offering discussion.

### The Panel Members

The membership of the panel may differ somewhat depending on the question. Of the possible choices listed below, any may be successful. This does not preclude other possibilities.

1. You may have a panel of experts.
2. You may have a panel of persons who are known to represent different positions or points of view in relation to the question. They may be experts on the topic, but they do not need to be.
3. You may have a panel representing different ages or different occupations without knowing what their point of view might be.
4. The panel may be composed of members of your own group drawn more or less at random.

### How to use the Panel

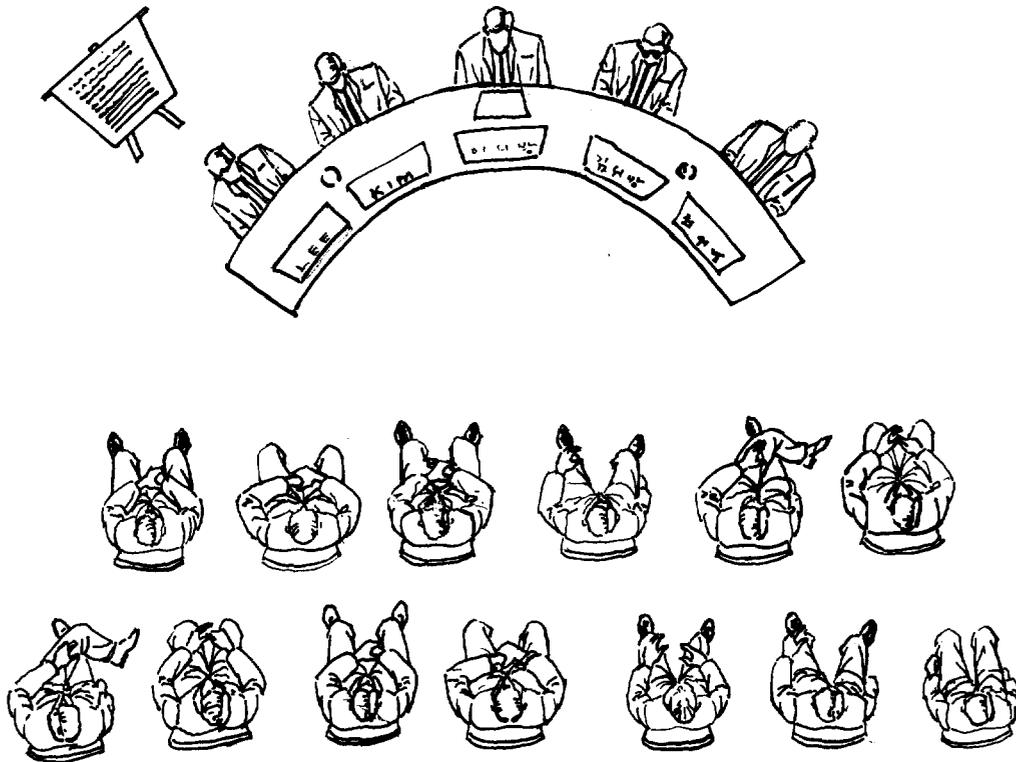
1. Seat the panel members in a V shape with the leader or moderator at the point of the V. In this position they can see each other and the audience can see them.
2. If the panel members do not know each other well, a folded card with the person's name on both sides placed on the table in front of him or her will enable both those across and those near by to refer to the person by name. Print the name large enough so it will be easy to see.
3. The leader has five or six jobs which he must be prepared to do.
  - a. Introduce the panel members.
  - b. Introduce the topic.
  - c. Be prepared to raise some provocative questions which would lead the panel to explore the various aspects of the topic.
  - d. Keep the panel on the subject and help it to move to a new question when the main points have been brought out on the one being discussed.
  - e. Be prepared to lead the audience in a discussion or a question and answer period following the panel presentation.
  - f. Be prepared to summarize or lead the panel in a summary at the end.

### Advantages

1. There is always an element of suspense as to what is going to happen next.
2. Questions and answers are likely to be raised in the way that the audience thinks of them.
3. Fast moving questions and answers create interest and participant involvement.
4. A panel under a skillful leader can cover a large amount of materials.
5. The panel is very dependable in creating interest and obtaining general audience satisfaction. Careful planning will help assure its success.

Disadvantages

1. The panel does not lend itself to a systematic presentation of a topic.
2. Many questions are only partly answered.
3. Usually the participants do not know in advance what questions will be raised, therefore, the panel is better suited to the presentation of opinions than of facts.



## THE SYMPOSIUM

A symposium defined is a series of speakers discussing different aspects of a given topic, under the direction of a leader or chairman. Strictly speaking a symposium precludes audience participation at any time during the discussion. However, in utilizing this method of teaching, the democratic oriented educator will make arrangements with the members, and the audience (class) for limited open discussion following the symposium's presentation. This is commonly referred to as a symposium-forum.

As a rule the symposium is formal, and is used to provide direct information and instruction to the class. This does not imply that visual aids and other appropriate teaching techniques cannot be used by the symposium members in presenting their materials. On the contrary, the members should be encouraged to use a wide variety of teaching techniques to include visual aids.

### The Topic for Discussion

The topic for discussion will, to a large degree, determine the success or failure of a symposium. There are a number of distinguishing criteria or conditions that a topic should meet before it is referred to a symposium for discussion. They are as follows:

1. The topic should be of special interest to a large percentage of the audience (class).
2. The topic should be timely so that an action program can be applied immediately.
3. The topic should be limited in scope so that it can be discussed completely in the time allotted.
4. The topic should be specific in nature and not broad and general.
5. Members who compose the symposium should be qualified to discuss all aspects of the topic selected and present facts that are appropriate to solving problems that may arise.

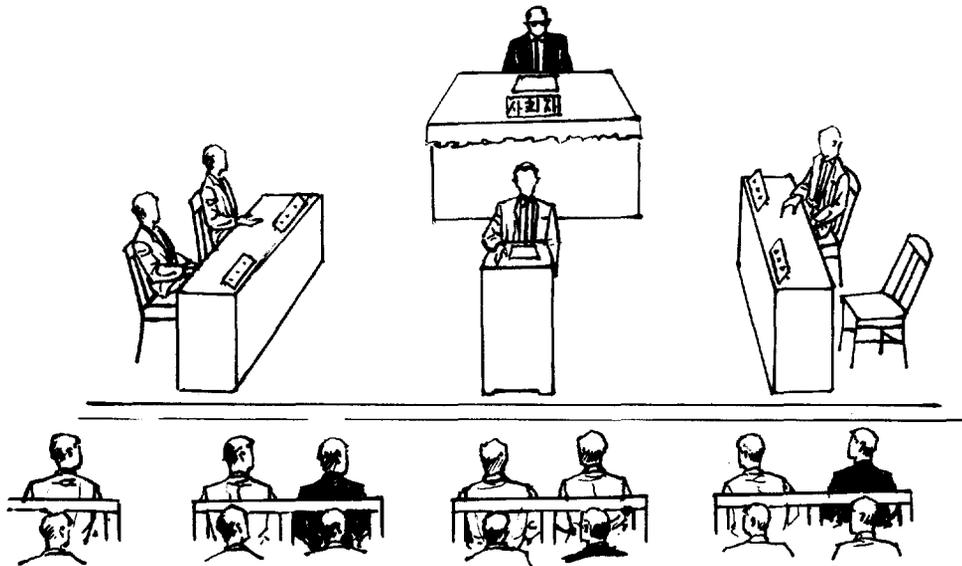
### The Symposium Members.

Usually a symposium is composed of three to four members. Each member is formally introduced by the chairman and presents his materials in a short talk of five to 15 minutes.

As with the panel, the characteristics of a symposium may differ somewhat depending on the topic and objectives to be attained. Listed below are some possible choices of which any or all may be successful. They are:

1. All of the members may be experts on the topic to be discussed.
2. The symposium may be composed of members of your own group who have prepared specifically to discuss an assigned aspect of a selected topic.
3. You may have a symposium composed of members who represent different occupations or interests and present factual information that is pertinent to that particular occupation or interest.

Note: Above all, the symposium members should be well informed on the subject matter they are presenting.



#### Using the Symposium

1. A symposium may be used with both small and large groups.
2. The seating arrangement of symposium members is relatively unimportant. Usually they are seated together in a line behind the rostrum, in plain view of the audience, with the benefit of a table and at the same level as the chairman who takes his place alongside the members after introducing the speaker.
3. The chairman introduces the topic and elaborates sufficiently for members of the audience to fully understand the educational objectives of the symposium.

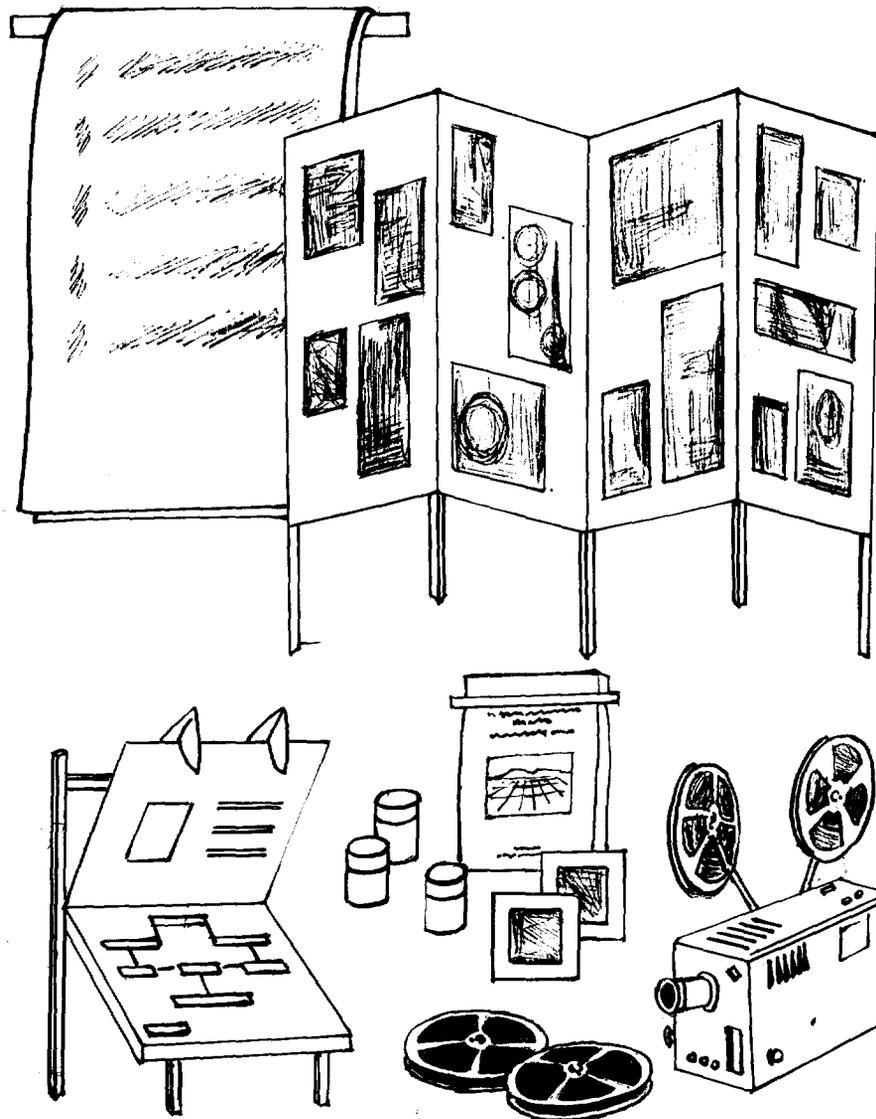
4. The chairman introduces each speaker in a prearranged sequence for an orderly coverage of the topic being discussed.
5. The chairman keeps the presentations within a time limit agreed upon by members of the symposium.
6. If arrangements have been made previously, the chairman receives and directs questions from the audience to the appropriate speaker for discussion and/or answer.
7. The chairman must be prepared to terminate the open discussion period at the will and pleasure of the symposium members.
8. The chairman must be prepared to give a summary at the end of the session.

#### Advantages of a Symposium

1. Information is presented by several speakers in talks that are short and to the point.
2. A change of speakers tends to keep the audience (class) alert.
3. There is opportunity for symposium members to use visual aids and other techniques to supplement their presentations.
4. There is assurance that all symposium members are well informed on the subject matter they are presenting.
5. Effective use is made of specialists without subjecting them to long and exhausting discussion period.
6. The symposium lends itself to a systematic presentation of a topic.

#### Disadvantages of a Symposium

1. Symposium formality may stifle, to some extent, the democratic approach to thinking and action.
2. Many questions may be left unanswered.
3. Some specialists may feel that time limitations render them ineffective.



## THE FORUM

### Introduction

The word forum, means "open-discussion". As a teaching method, the forum consists of two or more organized speeches given by qualified speakers on different sides of the same topic, and followed by a discussion.

The speeches should represent opposite viewpoints of the speakers, without entailing debate. They are followed by a question and answer period in which members of the audience (class) direct questions to the speakers.

A chairman acts as a "go-between" for the questioners and the speakers. He must be skilled in the techniques of handling an audience or class and in stimulating group participation.

Many educators believe the forum, as a teaching method, is generally superior to the lecture. The speaker, being aware of the fact that questions will follow, is more likely to stimulate the group to think. He must also be prepared to explain and defend his viewpoint.

### The Topic for Discussion

There are certain criteria or conditions that a topic should meet before it is considered by a forum. They are very similar to those listed under symposium, and are as follows:

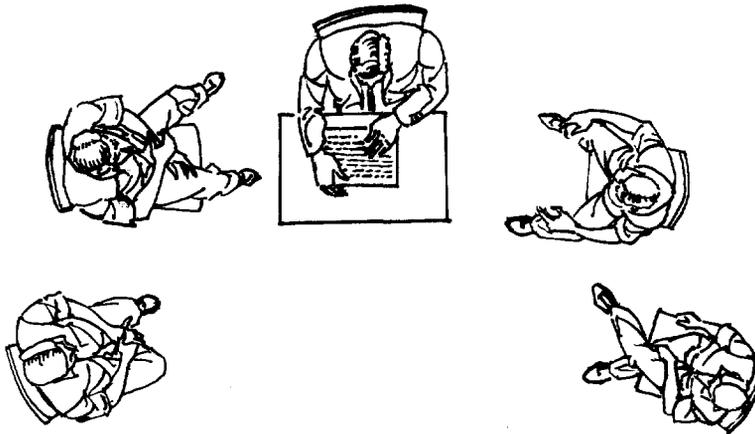
1. The topic should be controversial, or at least provide for more than one point of view.
2. The topic should be of special interest to a large percentage of the audience or class.
3. The topic should be timely in relation to bringing usable knowledge to members of the audience or class.
4. The topic should be limited in scope so that the essentials can be covered in the time allotted.
5. There should be a relationship between the topic selected and the availability of knowledgeable and skillful speakers.

### The Forum Members

The number of members to participate in a forum may vary from two to five, or possibly six. In determining this number, two factors should be kept in mind. They are: the different sides of the topic to be discussed, and the amount of time available for discussion.

Listed below are some possible choices for forum members. This list is not, by any means, an exhaustive one.

1. You may have a forum with all members being experts on various aspects of the topic to be discussed.
2. You may have a forum composed of members of your group who present factual information supporting two or more different viewpoints on a specific topic.
3. You may have a forum composed of members who will discuss a topic from two or more political viewpoints.
4. You may have a forum composed of members who will discuss a topic from two or more sociological viewpoints.
5. Others.

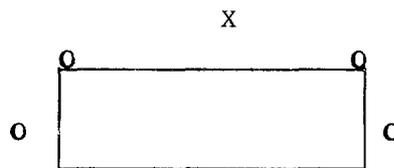


### Preparation for Conducting a Forum

As a leader or teacher there are some preparatory steps that must be made if a forum is to be successful. They include:

1. Assist class members to select a topic that meets the criteria or conditions discussed previously.
2. Assist in selecting forum members who have prestige, knowledge and skills relative to the topic to be discussed.

3. Arrange the classroom and other physical facilities for maximum comfort and convenience of both forum members and audience.
4. Prepare proper introductions for forum members and arrange the order in which they will speak.
5. Divide the time for presentation equally among forum members.
6. Although seating arrangement of forum members is relatively unimportant, care should be taken to seat them in plain view of the audience in a line behind the rostrum, with benefit of a table if possible. The leader should take a place among the members after each speaker is introduced.



7. Provide good light and a podium for the speaker.
8. Eliminate distracting elements.

#### Conducting the Forum

1. Start the meeting (class) with a short, to the point, introduction of the topic to be discussed.
2. Introduce speakers according to a pre-arranged plan which includes order of participation and time allotment.
3. Maintain control of the speakers and be sure the forum does not develop into a debate.
4. Conduct the "open-discussion", question and answer period after the speakers have completed their presentations.

Note: To start the "open-discussion" period it is sometimes advisable to pre-arrange for one or two questions from selected class members. They may, with some groups, eliminate a short but awkward silence while waiting for the first question.

5. Use good judgment in directing questions from class members to speakers who can give an appropriate answer.

- . Maintain control of class members and accept questions in order, one at a time.
7. Close the meeting on the assumption that all sides of the topic have received equal attention, and that each class member has sufficient information to make a logical decision.

#### Advantages of the Forum

1. The number in a class to be served by a forum is limited only by the capacity of the classroom, and facilities for proper presentation, such as P.A. system, etc.
2. The forum is an excellent way to present different sides of a controversial topic.
3. The forum can fulfill an important role in the democratic process by giving individuals an opportunity to make their own decisions after receiving viewpoints on various sides of a topic.
4. The topic, if controversial, is usually interesting to the audience or class.
5. Like the symposium and panel, a change of speakers and voice tends to keep the audience alert.
6. The forum, also like the symposium, lends itself to a systematic presentation of a topic.
7. The forum provides for audience or class participation.

#### Disadvantages of the Forum

1. Success of the forum depends largely upon the ability of the speakers.
2. Generally, the forum is useful in presenting facts and knowledge. On the other hand, it has less value in developing skills, attitudes and understandings which are necessary to put the facts and knowledge to work in an actual situation.
3. Topics may become more controversial after being discussed in a forum situation.



## THE LECTURE

### Introduction

As used here, lecture is defined as a formal or methodical oral presentation of subject materials to a group, that is intended for instruction.

The lecture method of teaching is as old as history itself. First accounts or records of mans effort to learn in an organized manner reveals the use of lectures in one form or another. New insights into the "how" and "why" people learn have resulted in a declined use of the lecture and an increase in the use of other teaching methods, such as problem solving, brainstorming, demonstrations, etc., which are less formal and involve students in the learning process.

Although there is a trend away from the lecture it is still the most widely used method to disseminate knowledge, understandings and attitudes from teacher to learner. This will continue to be the case for the foreseeable future. With this in mind, the discussion that follows is directed to the development of modern concepts of the lecture which if understood and applied will go far towards improving its effectiveness and make it a more respected member of the teaching methods family.

### Classification of Lecture

In a general way teaching methods may be classified into two categories as follows; (1) formal, and (2) informal. These categories are based primarily on the relationship between teacher and learner, with formal and informal referring to impersonal and personal relationships respectively. Although the beginning definition dictates that the lecture belongs in the formal category of teaching methods there is a wide variation in the degree that lectures may or may not be presented with formality. This leads to a classification of the lectures in accordance with their presentation. The classifications are; (1) very formal, (2) formal, (3) informal, and (4) very informal. A brief analogy of each of the classifications follows:

#### Very Formal

A person presenting a very formal lecture will usually require a lectern or a like facility, such as a table or desk from which to speak, either from a sitting or standing position. The presentation is read word for word from material prepared by the lecturer or from textbooks and similar sources. Since the very formal lecture precludes learner participation it is difficult for the lecturer to insist that they think and react to the material being presented.

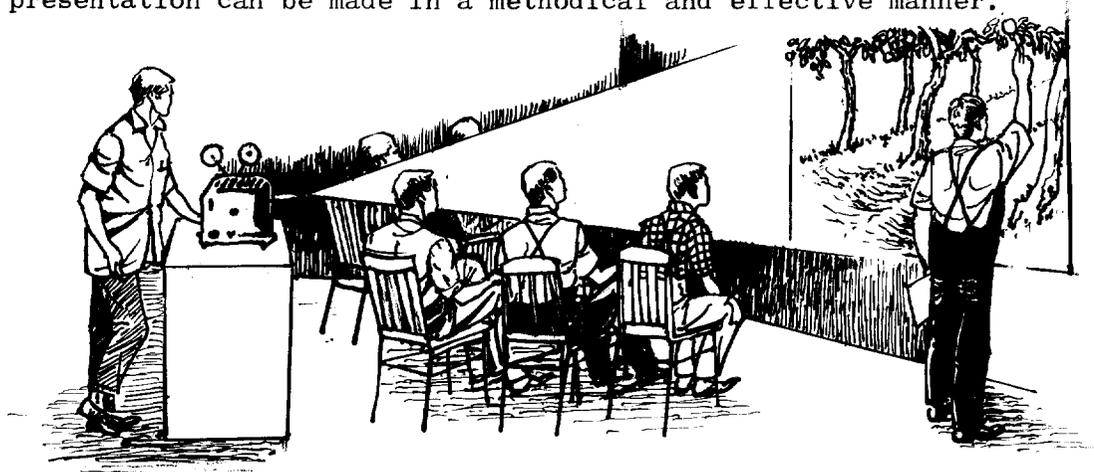
### Formal

A person presenting a formal lecture may also require a lectern, desk, table or a similar facility from which to speak. He may also speak from a sitting or standing position. The main difference between a formal and very formal lecture is the manner of preparation and presentation of materials. For the formal lecture the material is prepared by the lecturer. He prepares the material in outline form including the main points he wishes to present. He becomes thoroughly familiar with the subject material and presents it in a methodical manner by using the main points, mentioned above, as guidelines. After the presentation, opportunity is given the learner to participate by asking questions and continuing discussions on parts of the presentation that are not clear.

### Informal

An informal lecture is more than an oral presentation of subject materials. It provides for the use of visual materials as well as other techniques to present the subject in a methodical and organized manner. As a result, this method is commonly referred to as an illustrated lecture. A wide range of visual aids or techniques may be employed by a person to present an informal lecture. They include; (1) pictures, (2) specimens, (3) models, (4) charts, (5) flannel board, (6) magnet board, (7) chalkboard, (8) projectors, (9) demonstrations, exhibits, and (10) others. In view of this, it is quite easy to understand that a primary objective of an informal lecture is to combine telling with showing to enhance the teaching-learning process. Learner participation is also an important feature of this method of teaching. There may be participation at anytime during the lecture, however, questioning at the end is emphasized.

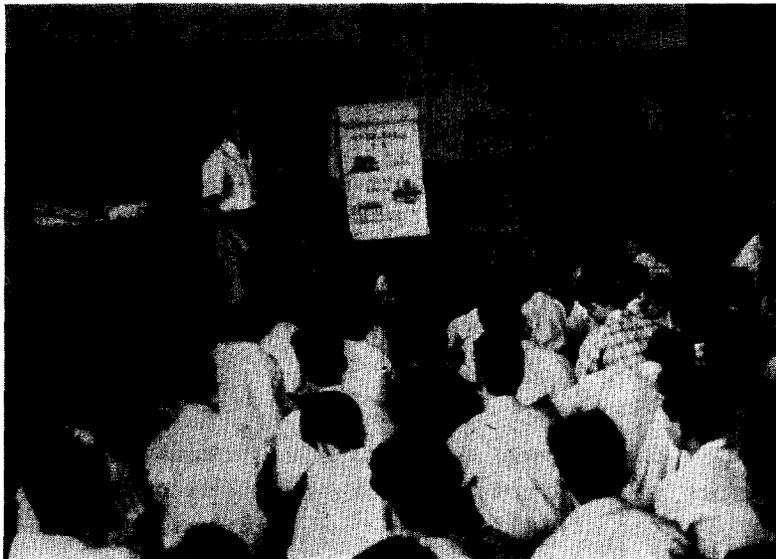
Needless to say, to effectively conduct an informal lecture a great deal of preparation is necessary, In addition to preparing an oral presentation, usually in outline form as in the formal lecture, it is necessary to prepare and organize the visual aids and/or techniques so that the overall presentation can be made in a methodical and effective manner.



### Very Informal

As with informal lectures, the very informal lectures incorporates oral presentation with visual aids, and other techniques to present subject materials in a methodical and organized manner. Both the informal and very informal lectures require a wide range of visual aids and teaching techniques. They both combine telling with showing to enhance the teaching-learning process. The prime difference between the informal and very informal lecture is the degree of learner participation and how it is obtained.

In addition to using visuals and other techniques the very informal lecture is often supplemented with other distinctive teaching methods, such as problem solving, brainstorming, small group discussions, buzz sessions, and others to present subject materials and obtain maximum learner participation.



The flannel board and other visual aids are being used to make the lecture more effective.

### Preparing the Lecture

All lectures regardless of the degree of formality in their presentation should be preceded by intensive and extensive preparation. Preparation for an effective lecture includes steps as follows:

1. Selection of the Instructional Unit (problem area).
2. Develop an understanding of the situation as it relates to the subject materials to be presented.
3. Determine the objectives to be attained.
4. Determine activities and teaching aids to be used as supplements.
5. Determine sources of information concerning the subject materials to be presented.
6. Presentation - method and organization.
7. Determine scope and method of evaluation.

Some teachers prefer to write word for word the entire lecture. Others choose to prepare only an outline. The choice is for the individual with a view to the presentation. It must be presented in an interesting and impressive manner and effective for the purpose intended. Each individual must develop his own style of preparation and presentation.

### Presenting the Lecture

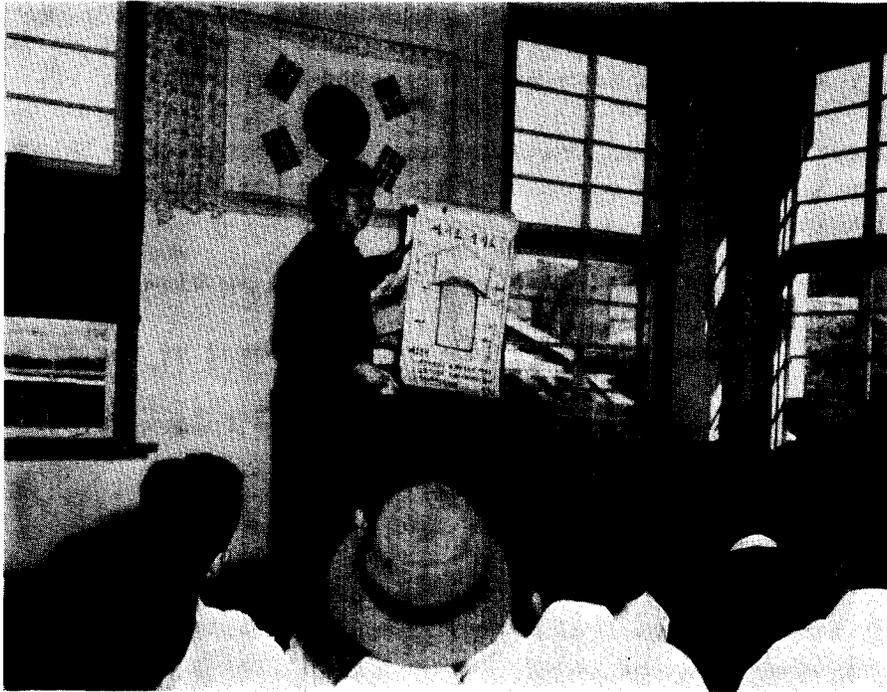
A primary reason for the extensive use of the lecture is that it is one of the easiest types of instruction to organize and present. This applies in particular to the very formal and formal lectures. In addition to being the easiest to organize and present, lectures are probably the least effective in disseminating agriculture practices and policies. In view of this, personnel responsible for agriculture training should make maximum use of informal methods that utilize both telling and showing techniques. This includes the informal and very informal lectures.

It is quite difficult to recommend a specific time limit for a lecture. This will depend on a number of variables the most important being as follows; (1) the capacity and maturity of the trainees, (2) the importance of the subject material, (3) the ability of the lecturer to maintain interest, and (4) the environmental conditions under which the lecture is presented. In any event trainees should be given a break at regular intervals preferably ten minutes out of each hour.

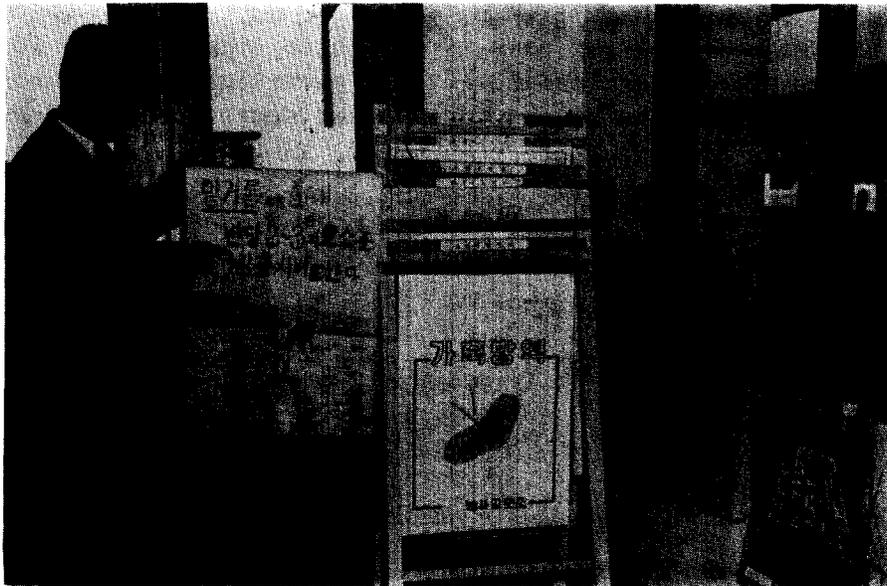
Beginning lecturers, just out of college, tend to talk over the heads of trainees. Experience will soon rectify this situation as new words and

concepts require explanations and clarifications. Slang and over informality will cheapen the lecture; however, an occasional introduction of some good humor will help to maintain interest and develop a close relationship between lecturer and trainees.

A final note - if a lecture is prepared and presented properly it is an effective teaching method. Therefore, use the lecture, but use it with care.



Attractive and well prepared flip charts are used to illustrate a lecture.



## BRAINSTORMING

### What it is:

Brainstorming is a method in which a class or a group of people use their brains to storm a problem or a request. They do so in a "free for all" fashion with each person expressing his ideas freely.

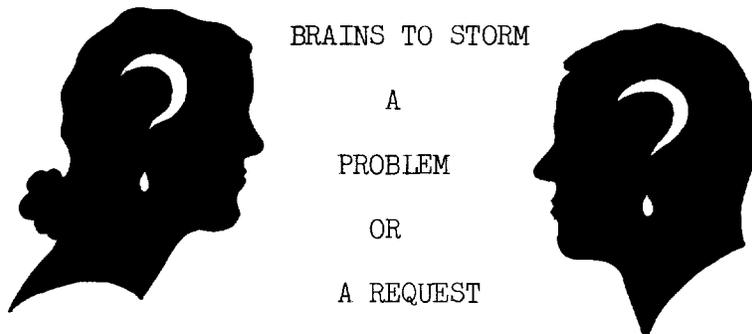
Basically it is the free and uninhibited exchange of ideas within a group. One idea will suggest another, and another, until there is a variety of ideas, many that would not have been suggested individually.

The most recent research on "brainstorming", indicates that this technique can only be profitable and successful to the agricultural leader under the following conditions:

1. A large number of ideas pertinent to the problem are generated.
2. The most usable ideas are carefully selected by qualified persons.
3. There is a properly evaluated and planned follow-through of those ideas.

### Participants:

1. In the selection of participants for a "brainstorming" session, it has been observed that more ideas are usually forthcoming if individuals in the group are of substantially the same rank.
2. The size of the group may vary from five to fifty or more. However, in considering most problems a group numbering from 15-25 would be the most effective.
3. A brainstorming group consists of three components as follows; (1) the teacher or leader, (2) the participants (trainees or students), (3) one or more designated secretaries to number and record ideas as they are presented. They are usually selected from the participants.



### Directing a Brainstorming Session:

1. Seating arrangement for brainstorming is of little importance.
2. The initial task of the teacher or leader is to see that the brainstorming session is carried out in a climate of informality. This is to say, that all participants should be made to feel at ease. It should be accomplished before the problem is introduced.
3. An important guiding principle is that the problem be simple and narrowed to a single target.
4. The teacher or leader should make clear to participants that no idea is too fantastic to be presented; no one laughs at an idea; and no criticism is permitted.
5. The teacher or leader states the problem or question and asks for suggestions or ideas.
6. To present ideas, the participants are to raise their hand and be recognized by the teacher or leader.
7. The secretary or recorder should number and record, preferably on the chalkboard, all ideas or suggestions as they are presented.
8. The teacher or leader should allow participants to present only one idea at a time.
9. The teacher or leader endeavors to get all participants to present ideas. To accomplish this some members may have to be asked directly for their ideas.
10. Length of brainstorming sessions may vary from 20-50 minutes depending on the nature of the problem and the group. Generally speaking, ideas come rather slowly the first 5-10 minutes. Then for the next 10-20 minutes they will come very rapidly. During the next 5-10 minutes the ideas will again come slowly. The teacher or leader must use good judgment as to when to terminate the session.
11. The last step in a brainstorming session is in sorting and resorting the ideas until those that are to receive action or be implemented have been selected. This number can be one or many depending on the group and its resources.



An alert recorder is necessary for conducting a successful brainstorming session.

Purpose for Using:

1. Brainstorming clearly demonstrates a democratic philosophy that gives everyone the right to be heard.
2. It is used extensively to bring out wide knowledge of a single problem or question.
3. It provides an excellent opportunity for participants to express themselves in public without fear of ridicule.
4. It makes use of a wide range of ideas.
5. It sets the stage for group action.
6. It helps participants to develop self confidence.

The main advantage of brainstorming is that it gives everyone an opportunity to participate in the teaching-learning process. In addition, it is exhaustive in its effort to get ideas and suggestions from the rank and file of society.

The method has been criticized, especially by the least democratically orientated educators, because it does not lend itself to a systematic presentation of a topic. If the topic requires a fixed or unconditional answer the criticism is justified.



Summary:

The psychological principle back of brainstorming is, that different parts of the mind serve different functions. For example, our creative mind visualizes, generates, and formulates ideas, and our judicial mind is the part that evaluates ideas. We need to use both parts of our minds for every day thinking. Our judicial mind compares, chooses, selects and rejects.

The danger is that our judicial mind, by taking over too quickly, inhibits our creative mind and many ideas are discarded even before they are born. Perhaps they might have been good ideas or even great ideas. Brainstorming seeks to encourage creative thinking by preventing the early rejection of ideas.

Here are a few things that keep people from being creative.

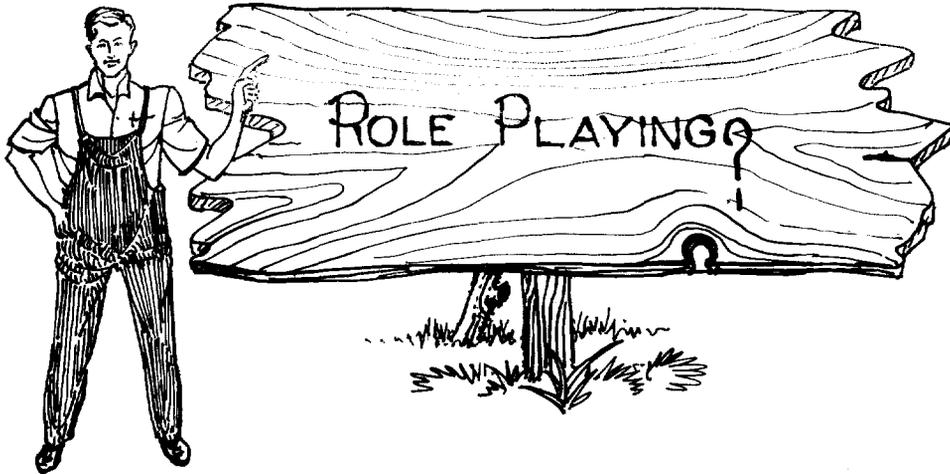
1. Resistance to change. People get in a rut and it is so comfortable they just never make the effort to get out.
2. Laziness. Doing things in a different way requires extra work. Creative thinking is the hardest kind of mental effort. Life is so much simpler by just being lazy.
3. Lack of confidence. This comes from lack of experience. This business of creative thinking is a relatively new force in education. Perhaps no one ever tried to encourage you to use your imagination in the classroom or in solving educational problems.

4. Fear of ridicule. In the past it has been rather common to criticize or laugh at unusual or different ideas. Brainstorming does not permit ridicule.
5. Lack of originality. Ideas may range from rather abstract theory down to a way of saving five minutes in performing a menial task. Teachers as well as students should be curious. They should ask, "why do we do it this way?" "how can we improve the way we do it?"

## ROLE PLAYING

### What is Role Playing?

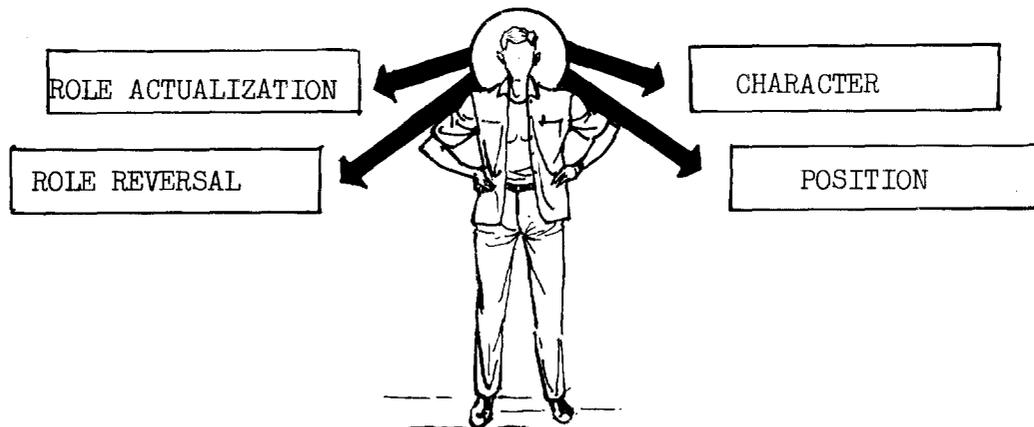
Role playing is an effective method to develop interest and participation in a class or a group. Role playing is a dramatic skit. Participants act out a realistic situation just as though they were the persons involved. Like a lecture, movie, or discussion, role playing may be used either in the classroom or in a group meeting.



### Why Use Role Playing?

1. Role playing provides a way to get insights into some problems of human relations that are difficult to get in any other way.
2. It is a simple and effective technique for teaching the basic principles of human relations - for understanding why individuals, organizations, and nations behave the way they do in various situations.
3. It is a way to handle situations that might otherwise be heavily charged with emotion in which group members might feel guilty or embarrassed to discuss. Marital problems, parental problems, and problems which arise between members of an organization would fall in this classification. While it may be the same kind of problem that one or more persons in the room are facing, it is not his problem they are discussing. Hence, he gets some new ideas and answer without others ever knowing what his problems are.

4. Role playing is a means whereby you can enable people to look at their own behavior objectively. As the skit develops they see characters acting in the skit in some of the same ways they themselves act in real situations. As a member of the audience, or in some other role, they are able to see themselves as the others see them, to feel how they would feel if treated that way, and afterwards they hear how others feel about that type of behavior. Throughout they are protected, because any criticism is being directed at a character in an act and not at them.
5. Role playing provides a group with a common experience which they can talk about. Much time is wasted in discussions because the members of the class or group are talking and thinking in terms of their own experience which are frequently very different. Thus, misunderstandings arise. A short skit presenting a problem for discussion helps considerably to overcome this handicap and to cover ground more rapidly.
6. Role playing teaches the very important skill of placing yourself in the other fellow's shoes in order to understand how he will react in a particular situation and why he behaves as he does. This skill, not only enables one to predict how others will behave in a situation, but enables one to see and appreciate their viewpoints. It is one of the most valuable tools a person can acquire in learning to get along with other people.
7. Role playing is an effective way to test alternative methods of working in a group or handling a situation and provides a way to improve methods and techniques used in interpersonal relations.
8. Last, but by no means least, role playing is fun, especially for those who participate, but also for those who observe it. It is a technique that couples effective learning and a satisfying activity.



### Types of Role Playing

The major types of role playing are, role actualization, role reversal, character role playing, and position role playing. They are described as follows:

1. Role actualization is acting out a particular situation, with the actors being themselves in character throughout. This type is effective in trying various group methods and in observing group processes to increase the efficiency of the group.
2. In role reversal, group members are given the roles of those persons with whom they usually interact. The young person becomes a parent, or the parent becomes a child; the cop becomes a motorist or the motorist a traffic cop; the employer becomes an employee or the employee becomes an employer; the student becomes a teacher, or the teacher becomes a student. This is a way to get the other person's point of view and to look at your own as it probably appears to him. This technique of seeing the other fellow's side and seeing yourself as others see you is most effective in problem solving and also in encouraging self improvement. No one tells you what is wrong; you see it.
3. In character role playing the participant becomes a specific character other than himself and in the situation he acts as he thinks the particular character would act in a given situation. Thus, a person in a community situation may become John Jones, age 64, a retired farmer with a small saving, whose children are married and on their own; or she may be Mrs. Jones Ellis, an ex-school teacher, age 32, who met and married one of the local boys who is now a clerk in a grocery store; she has two children of preschool age.
4. Position role playing is like character role playing except that the facts about the person are not given and are left for the one playing the role to fill in as he interprets them. He is simply told that he is a teacher, a father, a student or a salesman.

The type of role playing to select depends upon the purpose.

### How to do Role Playing

1. Select a specific problem situation.
2. Describe the characters who would be involved.
3. Select characters either by volunteer or by assignment.

4. Give the characters large name cards. This helps to keep them in role or in position and enables others to call them by name without hesitation.
5. Give participants a little time for preparation - from ten to 12 minutes if in a group. If they are in a class a written assignment to study two or three different characters and describe how you think each will react is a good idea. A few suggestions on what to prepare for speeds up the process. Suggestions such as "what stand are you going to take on this issue? What are your real reasons? What kind of reasons are you going to give to other people when they ask you?"
6. Bring the audience into the picture by having them select one or two characters to follow to see whether they agree on the way the roles are interpreted by the participants.
7. Have someone give the setting and let the action go off with characters in their various roles or positions.
8. Continue the action until the various persons have had a chance to respond two or three times and to make their position clear. Then stop it while interest and participation are still high. Sometimes this takes only five or ten minutes, at other times it may take 15 or 20 minutes, and sometimes even longer.
9. How you follow up depends on your purpose. Here are some questions that are frequently used:

Ask the participants in the skit and the audience whether they thought everyone was in role or in what different ways the roles might have been played.

Ask why certain characters behave as they did in a specific situation. This can be asked of the characters and of the audience.

Ask characters to explain why there was so much difference between their real reasons and what they had actually said in the situation.

Ask what principles of human relations we might derive from the behavior we have observed in the skit.

Ask which of the alternative methods that were demonstrated would work best and why.

After presenting a problem you can ask, "Why did the undesirable things happen?" and "What could have been done to avoid this difficulty?" Sometimes the group is asked to demonstrate the proposed solution.

These are merely suggestive types of questions. Your own questions and discussion following role playing should be directed to achieving your particular purpose or objective.

An alternative method that has proved productive and interesting, particularly in raising problems to stimulate discussion, is to use a written script in which the conversation is pre-planned and the characters simply read their parts as though reading a play. This technique takes less preparation in the meeting and gives some persons more security in participating. This technique is good to raise problems; but for some purposes, the free interpretation of a character will be more productive.

### Selecting Subjects

The subjects for role playing are as wide as the area of human relations and human problems. The problems should be selected to fit the needs of the particular group or class. Their interest will be in terms of things they want to know. Problem situations are found where people live - in the home, between parents, between parents and children; in the school, between students and teachers, and between teachers and school administrators; on the job between employees and employers; in the neighborhood between neighbors; on the farm between parents and children; in the community between organizations and special interest groups; and in the international picture between various countries through their representatives.

Role playing can apply to 4-H boys or girls trying to convince a parent that to adopt a certain practice would increase income from the farm and improve the standard of living of the family.

### How to Teach Role Playing to a Class or a Group

Select one or two simple role playing situations that you have used and found successful, and have the class or group use them under your direction. After one or two experiences under direction and a few written instructions to guide them, they can go ahead on their own. They pick up skill with practice. Don't tell them about it. Show them how to do it!

### Caution!

Role playing is one method of teaching. It is very effective for some things, but it won't do everything. It has its uses and its limitations. Well used, it will add greatly to the interest, insight, understanding, and skills of your group.



## FIELD TRIPS AND TOURS

### Introduction

Field trips and tours are becoming more important, as an educational procedure, each year. This is due to improved means of transportation and a greater emphasis on efficiency of instruction.

A field trip is a planned visit to a point outside the regular classroom. It involves the taking of a class to a specific place for a specific purpose. The place may be just outside the classroom withing walking distance of the school or it may be many miles away. Under certain circumstances it might be necessary to plan field trips for one or two hour periods. On the other hand special field trips may be planned for longer periods of time. In some cases they may be planned for several days.

Trips that include several stops and last for a day or two are often called tours. The purposes of field trips and tours are identical. Both should be considered as modern educational procedures. They should be planned with as much care as classroom lessons. Agronomist, Murry C. McJunken says:

"Teaching can be easy if you let the fields and crops provide real learning situations for your classes. Textbooks and lectures are dull, compared to working with living animals or growing crops".

"Take barley, for example. With proper planning, a barley field can put across more lessons, more basic facts, and more honest teaching than all the books in the library. But, like anything else, the teacher must put forth some effort, and a lot of thought into such a program to make these outdoor sessions meaningful and educational!

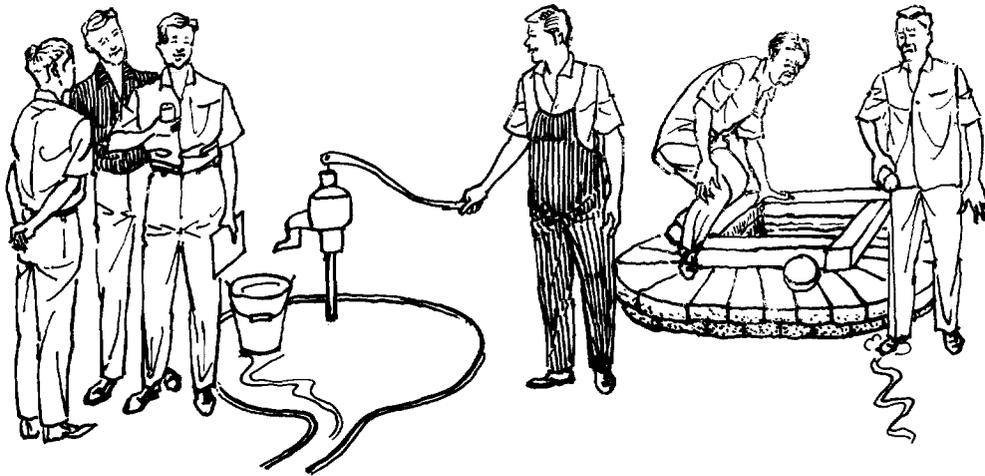
Stanley Wall, Teacher of Education, University of Kentucky, has this to say about field trips:

"The field trip should be a serious educational experience, aimed to reach important, planned, teaching objectives. It is a means of bringing together the things taken up in the classroom and the practices carried out on the farm. It is also valuable because it can influence attitudes".

### Value of Field Trips and Tours

A field trip or tour provides an opportunity for students to observe and study farming, business and industry in operation. It aids in combining facts and theory of the classroom to the practices of life itself. Other values of field trips and tours are as follows:

1. They develop student interests.
2. They provide opportunity for gaining new experiences and information.
3. They help to develop a better understanding of the problems being studied.
4. They provide an opportunity for learning by doing.



### Planning the Field Trips

Field trips should be as carefully planned as other types of instruction. Without careful planning, field trip instruction may be of limited value. The planning consists of: (1) teacher planning, (2) planning with the class, (3) making arrangements with authorities at the place to be visited, and (4) scheduling with the school administrators.

The teacher is responsible for guiding or directing the learning activities of the students and has the responsibility for planning the trip. He should look ahead in his educational program and determine where field trips appear to be the most efficient method of instruction to secure the intended learning. He should strive to plan and take field trips in such a manner that they become a definite part of the program rather than a separate form of instruction indirectly related to the classroom study. Among the things the teacher will need to do are:

1. To be done by the teacher ahead of time in arranging for the trip.
  - a. Get permission from your superior.
  - b. Get permission from authorities at the place of visit.
  - c. Make a preliminary visit to see if place is suitable, listing things to be seen. It may be necessary to visit several places to find suitable things to do or activities to be observed.
  - d. Estimate the length of time it will take for the trip.

Usually the need for field trips will grow out of instruction given in the classroom. Then, the planning for the field trip becomes a natural part of the classroom work. Sometimes a field trip is needed to motivate a problem or a unit of instruction. On other occasions it is used to evaluate the use of certain practices.



2. To be done by the teacher in getting the students ready for the trip.
  - a. Establish the place, the time, and how to dress.
  - b. Explain the nature and purposes of the trip: The students must know why they are making the trip and understand how the trip will contribute to their educational program.
  - c. Explain the preparation students will be expected to make before the trip.

3. Make arrangements with the owner or manager at the place to be visited.
  - a. Make arrangements with the authorities well in advance of the field trip.
  - b. Explain the exact purpose of the trip.
  - c. Go over the things you expect to deal with.
  - d. Tell the owner he will probably be called upon to answer many questions.
4. Schedule with the school administrators.
  - a. Schedule the field trip with school administrators well in advance.
  - b. If transportation is required make sure it is scheduled for the correct time.
  - c. Care should be taken to see that all vehicles are in good mechanical condition, and drivers are competent and dependable.

#### Actual Observation

1. Be sure that all students can hear what is being said when points of interest are being discussed.
2. Be sure that all students have a chance to see and observe the points of interest.
3. Give students a chance to ask questions.
4. See that they have an opportunity to take notes, collect samples, specimens, etc.



Through field trips and tours, farmers learn about livestock and other farm enterprises.

Evaluating Before and After

1. Before:
  - a. Is the place selected the best one available for this particular teaching purpose?
  - b. What plans need to be made by the teacher and student?
  - c. Considering the time involved for the trip, will it be worth while from the educational standpoint?
2. After:
  - a. Did the trip serve the purpose? In what ways did it fail?
  - b. How could the next trip be improved?



Farmers may learn of new practice and develop more desirable attitudes through field trips and tours to Experiment Stations, Agriculture Colleges and other Institutions committed to agriculture development.

## THE METHODS DEMONSTRATION

### Introduction

An ancient philosopher has said, "One picture is worth a thousand words". By implication, if the picture and words were both present, then the importance of the event would be more clearly seen, more easily explained, and more readily understood. A demonstration is a highly successful teaching method in that it attempts to fulfill both criteria - picture and words.

A teacher can easily say, "This is so". But that does not necessarily mean that he will be understood. With the demonstration the teacher may say, "See, this is what happens". To his pupils he may say, "I will tell you that this is so. I will show you that it is so. You will see that it is so!"

The demonstration is one of the most valuable methods for teaching rural youth and adults. The well organized, skillfully presented demonstration stimulates the senses of sight, hearing, touch and sometimes smell; motivating students with a desire to practice, encouraging them to perfect their own skill. The skillful demonstration will attract and hold a student's attention and interest because he can visualize how this procedure will personally benefit him.

One writer defines the demonstration as "a public showing emphasizing the merits, utility, or efficiency of an article or product". A definition more commonly used by educators is, "a demonstration is visualized explanation of an important fact, idea, or process".

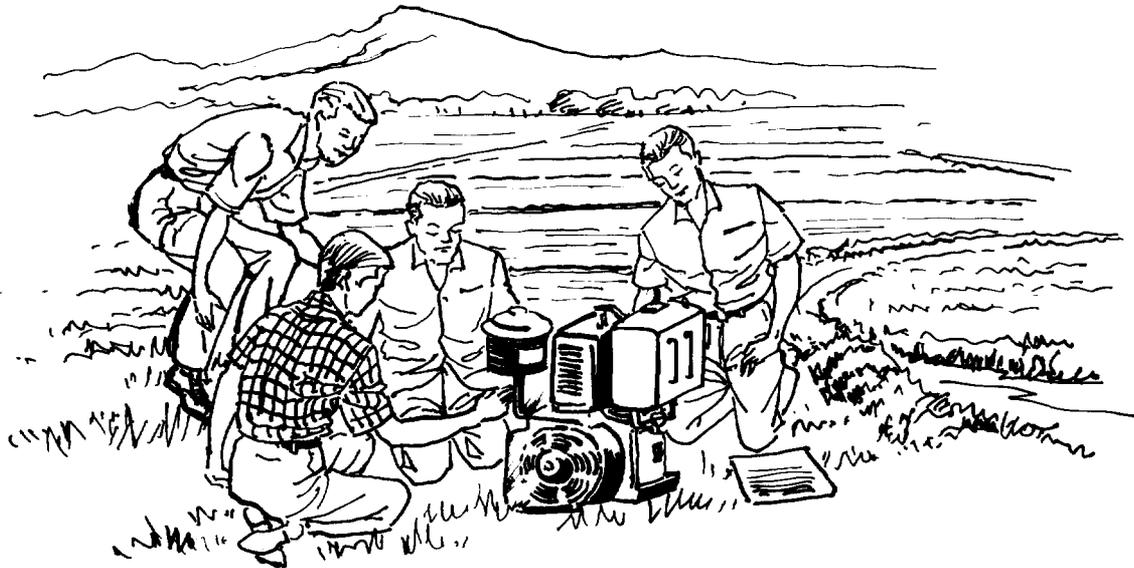
### Using the Demonstration

Demonstrations are usually thought of as a means of teaching skills or for presenting ideas immediately connected with material objects; however, wholly abstract subject matter can be demonstrated as well.

In teaching skills demonstrations are virtually indispensable. All areas in agriculture require the learning of many and varied skills. Therefore, the demonstration should be used extensively by teachers of vocational agriculture, extension agents, 4-H agents, home demonstration agents, volunteer leaders and others. Following is a list of principles which should be observed when demonstrating a skill or a practice.

1. Careful preparation of setting and materials.
2. The demonstration should be given when it is most needed by the learner.
3. The demonstration should be performed by a well qualified person or persons. Students and resource personnel should be used where appropriate.
4. A demonstration of from ten to fifteen minutes or less is most effective.
5. The demonstration should be performed at the usual work speed unless slower performance will increase clarity without impairing results.
6. Those observing should be in position to see and hear clearly.
7. Students should perform the skill or practice as soon after the demonstration as possible.

The demonstration is rarely used exclusively in teaching all lessons. It should be considered a method or technique to be used in combination with other methods and techniques in presenting various kinds of subject matter. Naturally, the elements of the situation should be considered in determining the method or combination of methods that would be best for the presentation of a given lesson.





Home improvement workers make extensive use of method demonstrations to teach various crafts to rural home makers.



This Home Demonstration Agent is using the methods demonstration to develop skills and practices in food preparation.



Farmers are learning more about the control of insects through a demonstration on the use of sprayers and spray materials.

Advantages and Strengths of the Demonstration as a Method of Teaching:

1. Increases student interests, understanding and retention.
2. Increases sense of class cohesiveness and oneness of goals.
3. Helps focus attention on the problem at hand.
4. Allows students to draw conclusions independently, yet with guidance.
5. Provides opportunity to observe accurate performance and then practice for immediate skill development.
6. Enables teacher to immediately correct misunderstandings and learning errors.
7. Enables student to understand what he cannot or will not comprehend from visual or verbalized language.

The demonstration is essential whenever new operations are to be presented to the class. This may be at the beginning of a term, the starting of a new project or for those students who need special assistance.

The class demonstration, involving the entire group, is used to present core material - that is, materials which all the pupils will be using.

The small group and individual demonstrations are presented to one or more pupils who, because of special need, or individual differences, require special help. The pupils involved are usually students with outstanding ability, who are going ahead of the class or the slow learners who have difficulty keeping up with the group. No amount of class demonstration will eliminate the need for individual teaching.

One will find that the demonstration as a technique will be used frequently in presenting subject matter of a technical nature as follows:

1. Basic manipulative operations involved in technical work. (i.e. castrating pigs, pruning fruit trees, artificial insemination, etc.)
2. Principles and theories involved in technical fields of endeavor. (electricity, magnetism, gasoline engines, etc.)
3. The operation or functioning of mechanical units or pieces of equipment. (threshing machine, tractor, power sprayer)
4. Soil and water management. (surveying, conservation practices, soil surveying, and use of maps)

#### Presenting the Demonstration

Telling is not teaching and superior craftsmanship is not a guarantee of the ability to demonstrate. Successful demonstrations evolve from an analysis of the problem, the organization of the teaching procedure, and and intimate knowledge of the needs of the pupils.

It is advisable to preview the demonstration in private to be certain of all the details and to insure a smooth running, concise lesson before presentation to the class. A suggested procedure to use in giving a demonstration is as follows:

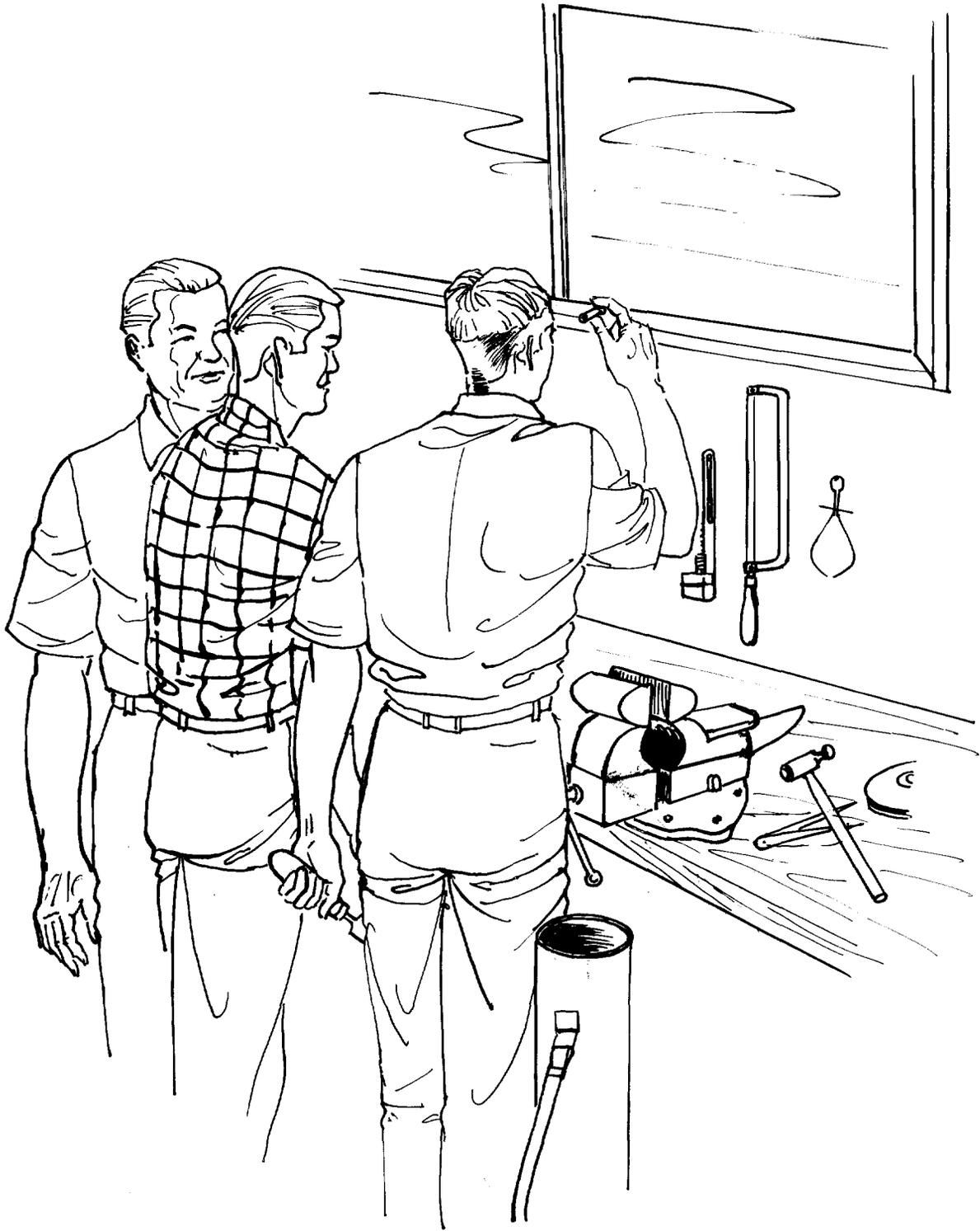
1. Select a skill or activity in which the class members need additional experience, and one in which the demonstrator is proficient (Practice the skill yourself prior to giving the demonstration).
2. Secure all necessary supplies and equipment and have them close at hand.
3. Arrange the group so that all can see and hear. (Put smaller students in front and larger ones behind).
4. Have plenty of natural light; otherwise, use artificial light.
5. Observe the following steps in giving the demonstration:
  - a. Tell the specific activity or skill you are going to do.
  - b. Explain the various supplies and equipment you will be using.
  - c. Outline the steps of the operation.
  - d. Proceed to the actual steps, explaining only as necessary, aim to get and hold interest. Do not over-elaborate or talk; let them see how it is done.
  - e. Summarize the entire operation.
  - f. Allow students to ask questions.
  - g. Repeat key steps if necessary.
6. Assist and guide students in doing the same activity; let them put it into practice. This often takes follow-up on the part of the demonstrator.
7. Don't be disappointed if you have to repeat the demonstration to individual class members.
8. Prepare a chart showing the steps in the operation for reference use by students.
9. Be on the alert for students who are capable of doing a job well and can help carry the teaching load by giving demonstrations.

As previously stated, the demonstration has long been recognized as one of the most effective teaching devices. However, the use of students in presenting demonstrations has been overlooked by some teachers. This practice deserves more widespread use and recognition. Its use can be developed to achieve many desirable ends. Students may be allowed to select, or the teacher may assign the subject to those for whom in his judgment, seem best qualified. Practice, and later, a review by the teacher should be the procedure followed in preparing the demonstration for presentation to the class.

The demonstration is a method or technique used in good teaching, and does not in itself constitute good teaching. It is very important that complete, effective evaluation follows. A professor made the following statement about the demonstration technique: "A successful teacher can also be a bit of a showman. There is nothing that impresses a student more than an exhibition of craftsmanship at work. It is ever a source of surprise to find that 'teacher' can use his hands as well as his head". Every good teacher should have dozens of good demonstrations completely outlined with materials available so that they can be used as needed.



The use of specimens directly from the field is an excellent way to demonstrate results of a specific practice.



## REPORTS

### Introduction

The report, although not always listed as a method of teaching, is used by many teachers. It is considered to be an efficient and practical way of conducting a class session.

A report is an oral or written presentation on some specific topic. As a rule it is prepared and presented by a student after completing necessary research or study. The report may take an hour or two to prepare, or it may require several weeks. The material in the report may be secured by reading, or from observation, or from experimentation.

The report is of value as a teaching method for at least two reasons. First, students profit from reports as they provide information of value. There are times when a student report may be of greater interest than a lecture from a professional educator. At times it is more efficient for one student to read and digest an article than to require all class members to do so. On other occasions it may be more practical for one class member to visit a certain farm or place of interest, and then report, than to have the entire class make the trip.

Secondly, reports when properly motivated provide a real learning situation for the person preparing the story. He must study the situation and prepare an outline of action. He must determine an effective way to present the material. In addition assigned responsibility often serves as a motivating factor.

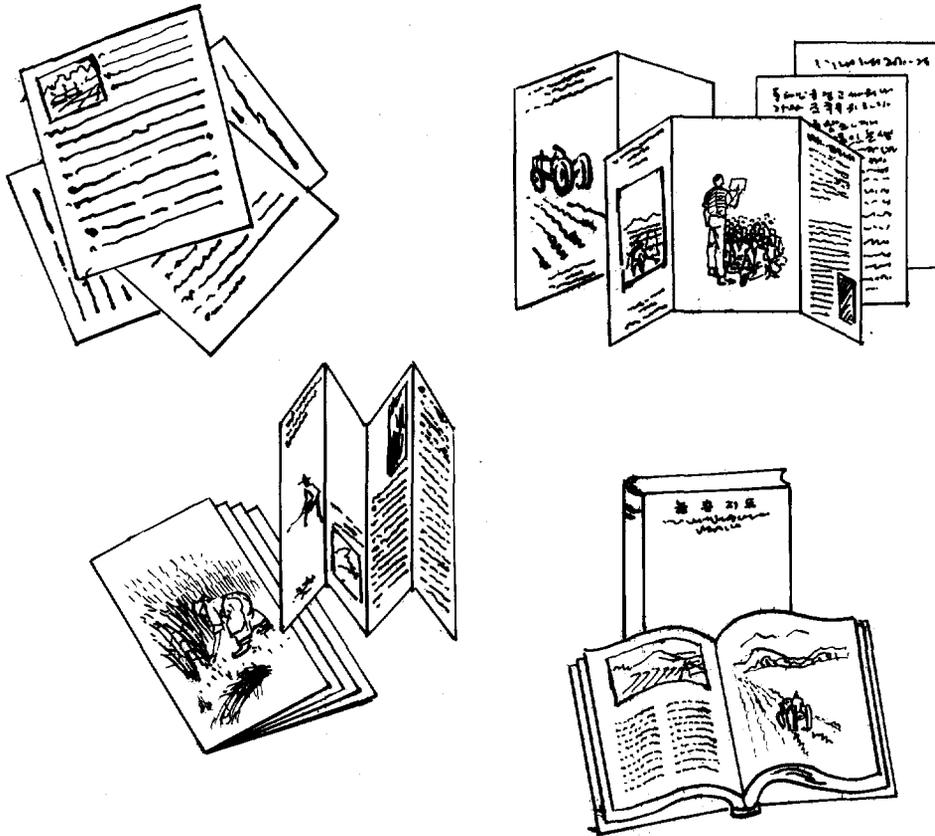


## Assigning Reports

The use of the report, as a method of teaching should be limited. In regular school classes teachers recommend one report per student each semester. Teachers should plan with care all such assignments. Copying material from a book or magazine and reading it to the class is uninteresting and of limited value to the reporter and to the class members.

On the other hand, a report telling about a trip to a College of Agriculture may contain information about research activities that is difficult to obtain from other sources. Some guidance should be given the student as he outlines and prepares his report.

As a rule, report assignments should be made several weeks in advance of the presentation. Always make the report an important assignment, never use it as a punishment or as "busy work".



## QUESTIONS AND ANSWERS

### Introduction

Throughout the course of educational history the question has been one of the most common teaching techniques. It is still one of the most important devices at the command of the teacher for directing the learning process.

At one time a common and an approved teaching method involved questions by the instructor and answers by the students. At times today it is used with limited success. It is, however, a classroom method that should be employed with rather stringent limitations. The question and answer method of teaching can be effective only if used sparingly, at the proper time, and with a definite purpose in mind.

Questions may be used to:

1. Motivate pupil learning.
2. To provide drill or practice
3. To find out what a student knows
4. To emphasize important points
5. To provide review
6. To bring about agreement or disagreement
7. To obtain attention
8. To provide practices in organizing one's thoughts
9. To aid in the development of ability to think
10. To find out something one did not know

Modern changes in educational theory appear to be making use of the question, not as a teaching method, but as a technique or a tool, in the other approved classroom methods.

## Kinds of Questions

There are several different kinds of questions. All have value when used properly. Beginning teachers should classify questions into at least three divisions:

1. Thought questions involve comparisons, contrasts, facts and decision making. They are used to stimulate students to think. They are considered by many to be the best type questions for most situations. Examples:
  - a. Why are accurate farm records necessary?
  - b. Compare yield from 4-hills culture and ordinary culture of rice.
  
2. Memory factual and drill questions call for facts which the students have been taught or know from previous experiences. Such questions should emphasize the difficulties and mistakes of the group and should provide enough repetition to fix important facts in the minds of all students. They are also used to bring about attention that has wandered, and to lead to additional study. Examples:
  - a. What is the average per acre production of barley in Korea?
  - b. How many farm households are there in Korea?



3. The "Yes" or "No" question is a good one to use in many places but not in the classroom. Any student can "guess" the right answers at least fifty per cent of the time. Only when a student faces an issue should this type question be used.

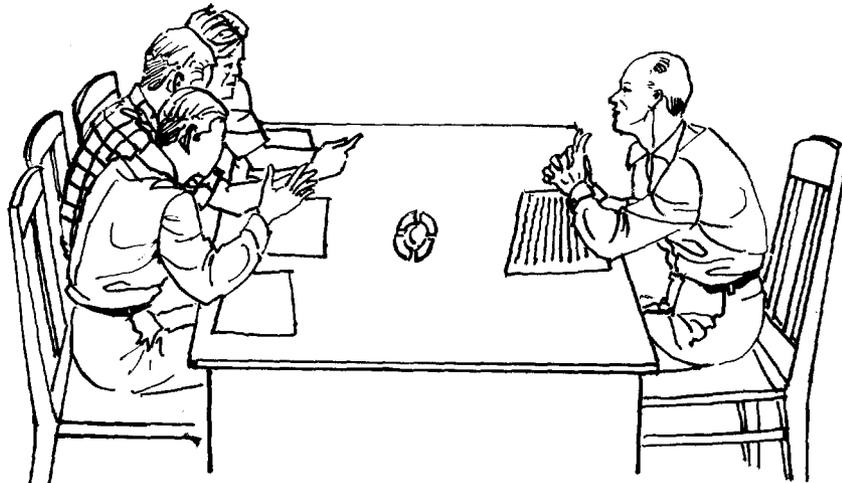
Examples:

- a. Is the Berkshire a breed of swine?
- b. Is the College of Agriculture located at Suwon?

#### Characteristics of a Good Question

The first basic rule in questioning is to be sure you ask for what you really want to bring out. To secure that desired response the question must be correct. Questions must be adapted to the experiences and to the ability of the group. Some characteristics of a good question are:

1. Should be clear, definite and concise.
2. Should be adapted to the age and ability of the group.
3. Should not reveal the answer.
4. Should not, as a rule, be answerable in a single word.
5. Should be of interest to the entire class.
6. Should, as a rule, stimulate thought.
7. Should direct class toward important part of topic. Should show direction.
8. Should challenge the student.
9. Should follow a logical sequence and grow naturally out of the discussion.



## Mechanics of Questioning

Each teacher may have a type of questioning that he believes is best. Beginning teachers should be encouraged to develop questioning habits that fit well with the style of teaching. However, certain mechanics of questioning should be followed. They are:

1. No special order of questioning students should be followed.
2. A question should be asked, and then some student called on for an answer.
3. Questions should be evenly distributed among members of the class.
4. After asking a thought question a few moments should be allowed for "thinking".
5. Students should be encouraged to ask questions.
6. Questions should not be repeated, except where a majority of the class fails to understand.
7. At least five or six pivotal questions should be prepared by the teacher and included in his lesson plan.
8. In problem solving lessons a rather standard type of questioning may aid in bringing out the problem, the possibilities and the factors.



## MOTIVATE - TEACH - TRAIN

### Communications Graphic Visual Aids

Communications graphic media has always been a meaningful method used for immediate visual understanding which has developed through the ages.

Graphic expression requires a minimum amount of reading material.

Graphic producers are concerned with purpose and the relation of means to an end.

Producers are interested in present values which have roots in experience and practice.

Visual aids are a directed method of motivating, teaching, and training.

A means of making individuals aware of problems - which in turn clarify solutions to problems.

Visual aids offer an opportunity to understand and create the desire to change old undesirable patterns of behavior.

Visual aids teach and build vivid concepts.

Most important of all - visual aids overcome language barriers with a minimum of misconceptions, which emphasize relationships - clarify complex reading matter at a minimum cost.

If a visual aid is to be worthwhile it is essential that it be self-explanatory.

### An Effective Visual Aid Should:

1. Sell one idea - emphasize.
2. Be understandable at a glance - meaningful.
3. Attract attention.
4. Stimulate action.
5. Present values and results.
6. Develop communication between teacher and learner.

### Steps to Take to Select a Visual Aids:

Ask yourself, how do I know what media is the best visual aid to be used to convey a message.

1. Decide what message to communicate.
2. Message must be specific and clean-out.
3. Decide point to put across.

Always use the positive approach instead of the negative.

Emphasize the right way instead of the wrong way.

Motivate individuals to want to reach the end results which are gratifying and selfsatisfying.

It is important to know the level of understanding of individual or group, educated or uneducated.

Know what type of experiences the learner has had.

After these steps then you are ready to communicate.

Ask yourself, is an emotional impact needed or only facts?

Is it necessary to change attitudes?

Are these people illiterate, superstitions or educated?

Then decide what media to use.

Is it necessary to use portable material?

Rural or urban areas type of transportation.

### Other Factors to Consider:

Know the type of facilities and materials that are available.

At this point it is worthwhile to remember that the most costly audio-visual aid is not necessarily the best. Often the cheapest form of communication is superior.

### If Media is to Become an Effective Teaching Tool:

After making selection of media, keep in mind that forcible ideas must be presented clearly.

If message is to be a combination of drawings words and pictures, information must be condensed.

Use materials which will attract attention and create interest.

Make individuals aware of the solution to the problem.

Utilize aids which will give guidance and help, which will motivate and stimulate recognition of individual needs.

Create a desire for self-improvement.

Present reasons for needs to be met.

After presentation, evaluate aids which have been exposed to learner.

### Then

Evaluate:

How well communication graphic materials conveyed desired information?

Which aids were more receptive and beneficial than others?

What was the maximum amount used? One or a combination of aids?

What was needed? What was lacking in graphic presentation?

Has every possible media been used to convey the message?

What was the effectiveness of various materials?

Which were concrete - mediocre?

Is matter designed to visualize relationships between key facts or ideas in an orderly manner.

If a diagram was used, realize that it shows different relationships with a minimum of detail.

If a diagram was used, it is a visual representation of numeral data - shows quantitative relationships.

If a poster, we know that it is a simplified illustration designed to attract attention; its purpose is to sell one idea, motivate, remind or advertize one message.

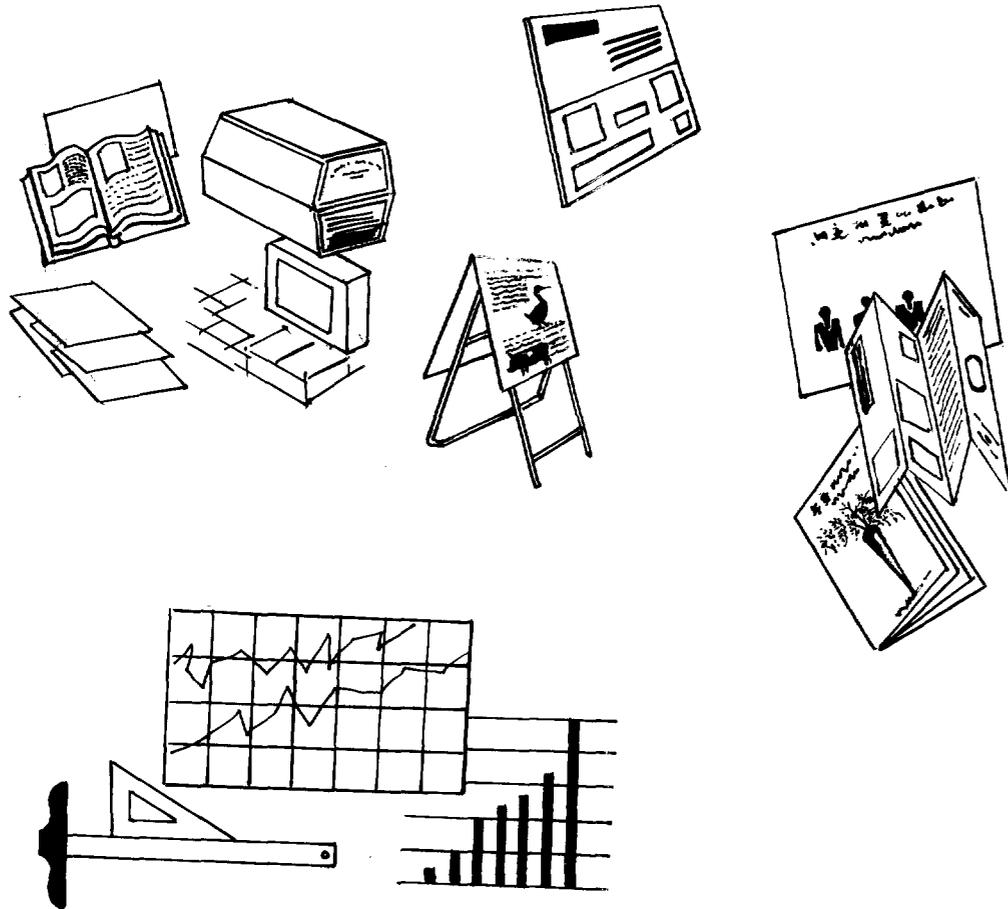
If an exhibition or display has been decided upon, it must be designed to answer the needs of the group, must have cause and effect, planned and visualized in finished form.

Such an exhibition should be instructional, well planned; the planner must use ingenuity, subject matter should be related, should bring together useful pictures - illustrations, graphs, posters, charts or whatever media used must reach the level of the people.

An exhibition should have a theme - attractive - colorful - focus attention on key information - truthfulness - artistically balanced - uncluttered.

In Conclusion:

Communications graphic aids can convey information, give technical guidance or on-the-job training, or used as a follow-up to solve the needs of people.



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