SECTION X

THE LEARNING PROCESS

A. INTRODUCTION TO THE LEARNING PROCESS

The expert instructor is the master of many skills and fields of knowledge. What is taught demands technical competence; but how the teaching is accomplished depends largely on the instructor's understanding of how people learn and the ability to apply that understanding. In large measure this manual could be viewed as a study of applied educational psychology, for the subject underlies virtually everything with which the instructor is concerned. In this chapter, however, only that branch of psychology dealing directly with learning is considered.

B. DEFINITION OF LEARNING

The ability to learn is one of humanity's most outstanding characteristics. Learning occurs continuously throughout a person's lifetime. To define learning, it is necessary to analyze what happens to the individual. As a result of a learning experience, an individual's way of perceiving, thinking, feeling and doing may change. Thus learning may be defined as a change in behavior as a result of experience. The behavior can be physical and overt, or it can be intellectual or attitudinal, not easily seen. Psychologists generally agree, however, on some characteristics of learning. The instructor should understand these and turn them to good use.

A. CHARACTERISTICS OF LEARNING

1. Learning is Purposeful

Each student sees a learning situation from a different viewpoint. Each student is a unique individual whose past experience affects readiness to learn and understanding of those requirements involved.

Most people have fairly definite ideas about what they want to do and achieve. Goals sometimes are short term, a matter of days or weeks. On the other hand, some goals may be carefully planned for a career or a lifetime. Each student has specific purposes and goals. Some of those purposes and goals may be shared by fellow students. Students learn from any activity that tends to further their purposes. Their individual needs and attitudes may determine what they learn as much as what the instructor is doing to get them to learn. In the process of learning, the learner's purpose is of paramount significance. The effective instructor seeks ways to relate new learning to the student's goals.

2. Learning Comes Through Experience

Learning is an individual process. The instructor cannot do it for the student; knowledge cannot be poured into the student's head. The student can learn only from individual experiences. "Learning" and "knowledge" cannot exist apart from a person. A person's knowledge is a result of individual experience. Even when observing the same event, two people react differently. They learn different things from it, according to the manner in which the situation affects their individual needs. Previous experience conditions a person to respond to some things and to ignore others.

All learning is by experience, but it takes place in different forms and in varying degrees of richness and depth. Therefore, the instructor is faced with the problem of providing experiences that are meaningful only if they understand them well enough to apply them correctly to real situations. If an experience challenges the learner, requires involvement with feelings, thoughts, memory of past experiences and physical activity, it is more effective than an experience in which all the learner has to do is commit something to memory. It seems clear enough that the learning of a physical skill requires actual experience in performing that skill. Mental habits are also learned through practice. If students are to use sound judgment and solve problems well, they must have had learning experiences in which they have exercised judgment and applied their knowledge of general principles in the solving of realistic problems.

3. Learning is Multifaceted

If instructors see their objective as being only to train their student's memory and muscles, they underestimate the potential of the teaching situation. Students may have learned much that the instructor had not intended. Students do not leave their thinking minds or feeling at home, just because they were not included in the instructor's plan. Psychologists sometimes classify learning by types: verbal, conceptual, perceptual, motor, problem solving and emotional. However useful these divisions may be, they are artificial. For example, a class learning to apply the scientific method of problem-solving may learn the method by trying to solve real problems. But in doing so, it also engages in "verbal learning" and "sensory perception" at the same time. Each student approaches the task with preconceived ideas and feelings, and for many students these ideas change as a result of experience. The learning process may include verbal elements and elements of problem-solving all taking place at once.

Learning is multifaceted in still another sense. Students may be developing attitudes about hunting—good or bad—depending on what they experience. Under a skillful instructor, they may learn self-reliance. The list is seemingly endless. This learning is sometimes called "incidental," but it may have great impact on the total development of the student.

4. Learning is an Active Process

Students do not soak up knowledge like a sponge absorbs water. The instructor cannot assume that students remember something just because they were present in the classroom when the instructor "taught" it. Neither can the instructor assume that the students can apply what they know because they can quote the correct answer from the book. For students to learn, they must react and respond, outwardly, or inwardly, emotionally or intellectually. If learning is a process of changing behavior, clearly that process must be an active one.

D. LAWS AND LEARNING

One of the pioneers in educational psychology was Professor Edward L. Thorndike, Teachers College, Columbia University, New York. Early in this century, Professor Thorndike postulated several "laws" of learning. These rules seemed generally applicable to the learning process. In the years since, other psychologists have found that learning is a more complex process than some of these "laws" suggest. While Professor Thorndlike's laws seem to have significant exceptions, they still provide an insight into the learning process and are included in this chapter for that reason. The "laws" that follow are not necessarily as Professor Thorndike but in essence, they may be attributed to him. The first three are the basic laws: the law of readiness, the law of exercise and the law of effect. The following three laws were added later as a result of experimental studies: The law of primacy, the law of intensity and the law of recency.

1. Law of Readiness

Individuals learn best when they are ready to learn. Getting students ready to learn is usually the instructor's responsibility. If students have a strong purpose, and a clear objective for learning something, they make more progress than if they lack motivation. Readiness implies a degree of single-mindedness and eagerness. When students are ready to learn, they meet the instructor at least halfway. This simplifies the instructor's job. Under certain circumstances, the instructor can do little to inspire in students a readiness to learn. If outside responsibilities, interests or worries weigh too heavily on their minds, students may have little interest in learning.

2. Law of Exercise

This law states that those things most often repeated are best remembered. It is the basis of practice and drill. The human memory is not infallible. The mind can rarely retain, evaluate and apply new concepts after a single exposure. Students do not learn to shoot a firearm during one class period. They learn by applying what they have been told and shown. Every time practice occurs, learning continues. The instructor must provide opportunities for students to practice goal-directed behaviors.

3. Law of Effect

This is based on the emotional reaction of the learner. It states that learning is strengthened when accompanied by a pleasant or satisfying feeling. An experience that produces feelings of defeat, frustration, anger, confusion or futility weakens the learning experience.

4. Law of Primacy

Primacy, the state of being first, often creates a strong almost unshakable impression. For the instructor, this means that what is taught must be right the first time. For the student, it means that learning must be right. "Unteaching" is more difficult than teaching. If a student learns improper gun handling techniques, the instructor will have a difficult task in unteaching the bad habits and reteaching correct ones. Every student should be started right. The first experience should be positive and functional and lay the foundation for all that is to follow

5. Law of Intensity

A vivid, dramatic or exciting learning experience teaches more than a routine or boring experience. A student is likely to gain greater understanding of the rules of gun safety by practicing their application under simulated field conditions than from merely reading about them. The law of intensity implies that a student will learn more from the real thing than from an s substitute. The instructor should use imagination in approaching reality as closely as possible. Mockups, colored slides, movie, filmstrips, charts, posters, photographs and other audio-visual aids can add vividness to classroom instruction.

6. Law of Recency

The things most recently learned are best remembered. Conversely, the further a student is removed, time wise, from a new fact or understanding, the more difficult it is to remember. Instructors recognize the law of recency when they carefully plan a summary for each lesson. The instructor repeats, restates or reemphasizes important matters at the end of the lesson to make sure that the student remembers them. The law of recency often determines the relative positions of lectures within a course of instruction

E. HOW PEOPLE LEARN

1. Perceptions

Initially, all learning comes from perceptions which are directed to the brain by one or more of the five senses (sight, hearing, touch, smell, taste). Psychologists have determined through experiments that normal individuals acquire about 75 percent of their knowledge through the sense of sight, 13 percent through hearing, 6 percent through touch, 3 percent through smell and 3 percent through taste. They have also found that learning occurs most rapidly when information is received through more than one sense. Perceiving involves more than the reception of stimuli from the five senses. Perceptions result when a person gives meaning to sensations. People base their actions on the way they believe things to be. The meaning which is derived from the information furnished by the senses may depend on many factors within each person concerned. Perceptions are the basis of all learning. A knowledge of the factors which affect the perceptual process is very important to the instructor.

2. Factors Which Affect Perception

Among the factors which affect an individual's ability to perceive are that person's: (1) physical organism, (2) basic need, (3) goals and values, (4) self-concept, (5) time and opportunity and (6) recognition of the element of threat.

a. Physical Organism

The physical organism is the vehicle by which individuals become aware of, and operate in, the world of which they are part.

b. Basic Need

A person's basic need is to maintain and enhance the organized self. The self is complete. It is a person's past, present and future combined. It is physical and psychological. A person's most fundamental need is to preserve and perpetuate this self. All perceptions are affected by this need.

Just as the food one eats and the air one breathes become the physical self, the sights one sees and the sounds one hears become the psychological self. Psychologically, we are what we perceive. A person has physical barriers which keep out those things that would be damaging to the physical being, such as blinking at an arc weld or flinching from a hot iron. A person also has perceptual barriers that block those sights, sounds and feelings which pose a psychological threat.

Helping people learn requires finding ways to aid them in developing better perceptions in spite of their defense mechanisms. Since a person's basic need is to maintain and enhance the self, the instructor must recognize that anything that is asked of the student, which may be interpreted, by the student as imperiling this self will be resisted or denied. To teach effectively, it is necessary to work with this life force.

c. Goals and Values

Perceptions depend on one's goals and values. Every experience and sensation which is funneled into one's central nervous system is colored by the individual's own beliefs and value structures. Spectators at the ball game may "see" an infraction or foul differently depending on which team they support. The precise kinds of commitments and philosophical outlooks which the student holds are important for the instructor to know, since this knowledge will assist in predicting how the student will interpret experiences and instructions

Motivations are also a product of one's value structure. Those things which are more highly valued and cherished are pursued; those which are accorded less value and importance are not sought after. Motivations are one of the most important factors in learning. They are affected by many other factors also, and will be discussed in some detail later in the manual.

d. Self-concept

Self-concept, how one pictures oneself, is a most powerful determinant in learning. A student's self-image, described in such terms as "confident" or "insecure," has a great influence on the total perceptual process. If a student's experiences tend to support a favorable self-image, the student tends to remain receptive to subsequent experiences. If a learner has negative experiences which tend to contradict self-concept, there is a tendency to reject additional training.

Negative self-concept inhibits the perceptual process by introducing psychological barriers which tend to keep the student from perceiving. They may also inhibit the ability to properly implement that which is perceived. That is, they affect unfavorably the "ability to do ". Learners who view themselves positively are less defensive and more ready to "digest" experiences by assimilating all of the instructions and demonstrations offered.

e. Time and Opportunity

It takes time and opportunity to perceive. Learning some things depends on earlier perceptions, and on the availability of time to relate the new

learning to the earlier perceptions. In general, lengthening an experience and increasing its frequency are the most obvious ways to faster learning

f. Element of threat

The element of threat adversely affects students' perception by narrowing their perceptual field. Confronted with threat, students tend to limit their attention to the threatening object or condition. Trying to frighten a student through threats of unsatisfactory reports or reprisals may seem logical, but is not effective psychologically. The effective instructor can organize teaching to fit the psychology of the learner. If a situation seems overwhelming, the student feels unable to handle all of the factors involved, a treat exists. So long as a student feels capable of coping with a situation, each new experience is viewed as a challenge. Teaching is consistently effective only when those factors, which influence perceptions, are recognized and taken into account.

3. Insights

Insights involve the grouping of perceptions into meaningful wholes. Evoking these insights is the instructor's major responsibility. To assure that these do occur, it is essential to keep each student constantly receptive to the new experiences of the take to be learned.

Insights will almost always occur eventually, whether or not instruction is provided. However, instruction speeds this learning process by teaching the relationships of perception as they occur.

As perceptions increase in number and are assembled by the student into larger "blocks" of learning to become insights, learning becomes more meaningful and more permanent. Forgetting is less of a problem when there are more anchor points to which one can tie insights. It is a major responsibility of the instructor to organize demonstrations and to direct student practice so the learner has opportunity to understand the interrelationship of the many kinds of experiences that have been perceived. Pointing out the relationships as they occur, providing a nonthreatening environment in which to learn, and helping the student acquire and maintain a favorable self-concept are most important in fostering the development of insights

4. Motivation

Motivation is probably the dominant force, which governs the student's progress and ability to learn. Motivation may be negative or positive; it may be tangible or intangible; it may be very subtle and difficult to identify; or it may be obvious.

Negative motivations are those, which may engender fears and be interpreted by the student as threats. While they have their uses in certain situations, they are not characteristically as effective in promoting efficient learning, as are positive motivations.

Positive motivations are provided by the promise or achievement of rewards. Some motivations, which can be used to advantage by the instructor, include the desire for personal gain, the desire for personal comfort or security, the desire for group approval and the achievement of a favorable self-image or sense of achievement.

Students are like all other workers in wanting a tangible return for their efforts. If such motivation is to be effective, they must believe that their efforts will be suitably rewarded. These rewards must be constantly apparent to the student during instruction, whether they are to be financially, self-interest or public recognition.

Many lessons with objectives, which are not obvious, will pay off well during later instruction, but the student may not appreciate this fact. It is important for the instructor to make the student aware of those applications, which are not immediately apparent. Likewise, the practice on operations, which do not directly contribute to competent performance, should be avoided.

The desire for personal comfort and security is a motivation, which is often inadequately appreciated by instructors. All students want secure and pleasant conditions. If they recognize that what they are learning may promote these objectives, their interest is easier to attract and hold. Insecure and unpleasant training situations retard learning.

Everyone wants to avoid pain and injury. Students are likely to learn actions and operations, which they realize, may prevent injury or loss of life. This is especially true when the student knows that the ability to make quick decisions or to act correctly in an emergency results from adequate learning

The attractive features of the activity to be learned can provide a powerful motivation. Students are anxious to learn skills, which may be used to advantage.

Group approval is a strong motivating force. Every person wants the approval of friends and superiors. Interest can be stimulated and maintained by building on this natural force. Most students enjoy the feeling of belonging to a group and are interested in attaining an accomplishment, which will give them prestige among their fellow students.

Every person seeks to establish a favorable self-image. In certain instances, this self-image may be submerged in a feeling of insecurity or despondency. Fortunately, there is within each person engaged in a task, the belief that success

is possible under the proper combination motivating force for most students. This motivation can best be fostered by the instructor through the introduction perceptions, which are solidly based on facts previously learned, and which are easily recognized by the student as achievements in learning. Each additional block of learning toward the insight to be developed and toward the ultimate goal, contributes to the confirmation within the student of a favorable self-image. As this confirmation progresses and confidence is achieved, advances will be more rapid and motivation will be strengthened as a result.

Positive motivation is essential to true learning. Negative motivations in the form of reproof and threats should be avoided with all but the most overconfident and impulsive students. Slumps in learning are often due to slumps in motivation. Motivations do not remain at a uniformly high level of motivation and should be alert to detect the counter relapses in motivation.

F. LEVELS OF LEARNING

Learning may be accomplished at any of several levels. The lowest level, rote learning, is the ability to repeat something, which one has been taught, without understanding or being able to apply what has been learned. Progressively higher levels of learning understand, application of skills and associating and correlating what has been learned with other things previously learned or subsequently encountered.

The highest level of learning, which should be the objective of all instruction, is that level at which the student becomes able to associate an element, which has been learned with other segments or "blocks" of learning. The other segments may be items or skills previously learned, or new learning tasks to be undertaken in the future.

G. LEARNING SKILLS

Even though the process of learning has many aspects, the main objective of most instruction is usually the learning of a concept or a skill. The process of learning a skill appears to be much the same, whether it is a motor (physical) or a mental skill. To provide a real illustration of motor learning, please follow the directions below:

> Write the word "learning" 15 times with your left hand (or with your right if you are left handed). Try to improve the speed and quality of your writing.

In learning task just completed, several principles of motor learning are involved and are discussed in subsequent paragraphs.

1. Physical Skills Involve More Than Just Muscles

The above exercise contains a practical example of the multifaceted character of learning. It should be obvious that, while a muscular sequence was being learned, other things were happening as well. The perception changed as the sequence became easier. Concepts of how to perform the skill were developed and attitudes were changed.

2. Desire to Learn

Thinking back over past experiences in learning to perform certain skills, students might be surprised at how much more readily they learned those skills that appealed to their own needs (law of readiness). Shorter initial learning time and more rapid progress in improving the skills normally occurred. Conversely, where the desire to learn was missing, little progress was made. A person may read dozens of books a year, but the reading rate will not increase unless there id a deliberate intent to increase it. In the preceding learning exercise, it is unlikely that any improvement occurred unless there was a clear intention to improve. To improve, one must not only recognize mistakes, but also make an effort to correct them. The person who lacks the desire to improve is not likely to make the effort and consequently will continue to practice errors. The skillful instructor relates the lesson objective to the student's intentions and needs, in so doing, builds on the student's natural enthusiasm.

3. Patterns to Follow

Logically, the point has been established that the best way to prepare the student to perform a task is to provide a clear, step-by-step example. Having a model to follow permits students to get a clear picture of each step in the sequence—what it is, how to do it. During classroom instruction, an outside expert may be used, either in impression of what they are to do.

4. Perform the Skill

Since you have now experienced writing a word with the wrong hand, consider how difficult it would be to tell someone else how to do it. Indeed, even demonstrating how to do it would not result in that person learning the skill. Obviously, practice is necessary. The student needs coordination between muscles, visual and tactile senses. Learning how to safely handle firearms requires this sort of practice. Another benefit to practice is that as the student gains proficiency in a skill, verbal instruction means more. Whereas a long, detailed explanation is confusing before the student begins performing, specific comments are more meaningful after the skill has been partially mastered

5. Knowledge of Results

In learning some simple skills, students can discover their own errors quite easily. In learning complex skills, mistakes are not always apparent, ort the learner may know that something is wrong but not know how to correct it. The instructor provides a helpful and often critical function in making certain that the students are aware of their progress. It is perhaps as important for students to know when they are right as when they are wrong. They should be told as soon after the performance as possible. They should not be allowed to practice mistakes. It is more difficult to unlearn a mistake, than to learn correctly in the first place. One way to make students aware of their progress is to repeat a demonstration, or example, and to show them the standard against which they can compare their performance.

6. Progress Follows a Pattern

The experience of learning to write a word with the wrong hand probably confirmed what has been consistently demonstrated in laboratory experiments on skill learning. The first trials are slow, and coordination is lacking. Mistakes are frequent, but each trial provides clues for improvement in subsequent trials. The learner modifies different aspects of the skill: how to hold the pencil, how to execute finger and hand movement, etc.

Graphs of the progress of skill learning, usually follow the same pattern. There is rapid improvement in the early trials, then the curve levels off and may stay level for significant periods of effort. Further improvement may seem unlikely. Such a development is a learning plateau and may signify any of a number of combinations.

The learner may have reached capability limits; may be consolidating levels of skill; interest may have wanted; or the learner may need a more efficient method for increasing progress. Keep in mind that the apparent lack of increasing proficiency does not necessarily mean that learning has ceased. The point is, that in learning motor skills, a leveling off process, or a plateau, is normal and should be expected after an initial period of rapid improvement. The instructor should prepare the student for this situation to avert discouragement. If the student is aware of this learning plateau, frustration may be tapering

7. Duration and Organization of Lesson

In planning for student performance, a primary consideration is the length of time devoted to practice. A beginning student reaches a point where additional practice is not only unproductive but may even be harmful.

When this point is reached, errors increase and motivation declines. As a student gains experience, longer periods of practice are profitable.

Another consideration is the problem of whether to divide the practice period (and perhaps even the instruction) into segments, or whether to plan on one continuous, integrated sequence. The answer depends on the nature of the skill. Some skills are composed of closely related steps, each dependent on the preceding one. Other skills are composed of related subgroups of skills.

8. Evaluation Versus Critique

If an instructor was to evaluate the fifteenth writing of the word "learning," only limited help could be given toward further improvement. The instructor could judge whether the written word was legible and evaluate it against some standard, or perhaps even assign it a grade of some sort. None of these actions would be particularly useful to a beginning student. However, the student could profit by having someone watch the performance and critique it constructively to help eliminate errors.

In the initial stages, practical suggestions are more valuable to the student than a grade. Early evaluation is usually teacher-oriented. It provides a check on teaching effectiveness, it can be used to predict eventful student learning proficiency and it can help the teacher locate special problem areas. The observation on which the evaluations are based can also identify the student's strengths and weaknesses, a prerequisite for making constructive criticism.

9. Application of Skill

The final and critical problem is use. Can the student use what has been learned? It is not uncommon to find that students devote weeks and months in school, learning new abilities and then fail to apply these abilities on the job. To solve the problem, two conditions must be present: (1) the student must learn the skill so well that is becomes easy, and habitual to perform; and (2) the student must recognize the types of situations where it is appropriate to use the skill. This second condition involves the question of transfer of learning, which is discussed later in this chapter.

H. FORGETTING AND RETENTION

1. Theories of Forgetting

A consideration of why people forget may point the way to helping them remember. Several theories account for forgetting.

a. Disuse

It has long been argued that a person forgets those things, which are not used. The high school or college graduate is saddened by the small amount of factual data retained several years after graduation. Since the things, which are remembered, are those used on the job, a person concludes that forgetting is the result of disuse. But the explanation is not quite so simple. Experimental details of an event, which would normally be beyond recall. Apparently the memory is there, locked in the recesses of the mind. The difficulty is summoning it up to consciousness.

b. Interference

One theory holds that people forget a thing because a certain experience has overshadowed it, or that the learning of similar things has intervened. This theory might explain how the range of experiences after graduation from school causes a person to "lose" knowledge. In other words, new events displace many things that had been learned. From experiments, two conclusions about interference may be drawn: (1) closely similar material seems to interfere with memory more than dissimilar material; and (2) material not well learned suffers most from interference.

c. Repression

Freudian psychology advances the view that some forgetting is due to the submersion of ideas into the subconscious mind. Material that is unpleasant or produces anxiety may be treated this way be the individual unintentionally. It is subconscious and protective. The repression theory does not appear to account for much forgetfulness of the kind discussed in this chapter, but it does tend to explain some cases.

2. Retention of Learning

Each of the above theories implies that when a person "forgets" something, it is not actually lost; rather it is unavailable for recall. The instructor's problem is how to make certain that the student's learning is always available for recall. The following suggestions can help.

Teach thoroughly and with meaning. Material thoroughly learned is highly resistant to forgetting. This is suggested by experimental studies. Meaningful learning builds patterns of relationship in the student's consciousness. Whereas rote learning is superficial and is not easily retained, meaningful learning goes deep and involves principles and concepts anchored in the student's own experience.

The following are five significant principles, which are generally accepted as having a direct application to remembering:

a. Praise stimulates remembering

Responses that give a pleasurable return tend to be repeated. Absence of praise or recognition tends to discourage students. Any form of negativism in the acceptance of a response tends to make its recall less likely.

b. Recall is promoted by association
Each bit of information or action that is associated with something to be learned tends to facilitate its later recall by the student. Unique or disassociated facts tend to be forgotten unless they are of special interest or application.

c. Favorable attitudes aid retention

People learn and remember only what they wish to know. Without motivation there is little chance for recall. The most effective motivations are those based on positive or rewarding objectives.

d. Learning with all our senses is most effective

Although we generally receive what we learn through the eyes and ears, other senses also contribute to most perceptions. When several senses respond together, fuller understanding and greater chance of recall is achieved.

e. Meaningful repetition aids recall

Each repletion gives the student an opportunity to gain a clearer perception of the subject to be learned, but mere repetition does not guarantee retention. Practice gives an opportunity for learning, but does not cause it. It is believed that three or four repetitions provide the maximum effect, after which the rate of learning and probability of retention fall off rapidly

I. TRANSFER OF LEARNING

During a learning experience, things learned previously may aid the student. However, it is sometimes apparent that previous learning interferes with the current learning task. Consider the learning of two skills, A and B. If the learning of A helps to learn B, positive transfer occurs. If learning A hinders the learning of B, negative transfer occurs.

It should be noted that the learning of B, negative transfer occurs. It should also be noted that the learning of B might affect the retention or proficiency of A, either positively or negatively. While these processes may help substantiate the interference theory of forgetting, they are still concerned with the transfer of learning.

It seems clear that some degree of transfer is involved in all learning. That is so because, except for certain inherent responses, all new learning is based upon previously learned experience. People interpret new things in terms of what they already know.

Many aspects of teaching profit by this type of transfer. It may explain why students of apparently equal ability have differing success in certain areas. Negative transfer may be hindering the learning of some; positive transfer may be helping others. This points to a need to know a student's past experience and what has already been learned. In lesson and curriculum planning, instructors should plan for transfer by organizing course materials and individual lesson materials in meaningful sequence. Each phase should help the students to learn what is to follow.

The case of transfer and how it operates has not yet been identified and explained. The following suggestions are representative of what education psychologists believe should be done to promote transfer of learning:

1. Plan for transfer as a primary objective. As in all areas of teaching, the chance for success is increased if the teacher deliberately plans to achieve it.

2. Make certain that the students understand that what is learned can be applied to other situations. Prepare them to seek other applications.

3. Assure thorough, high-order learning. Over learning may even be appropriate. The more thoroughly the student's understand the material, the more likely they are to see its relationship to new situations. Avoid rote learning, as it does not foster transfer.

4. Provide meaningful learning experiences that build the student's confidence in their ability to transfer learning. This suggests' activities that challenge them to exercise their imagination and ingenuity in applying their knowledge and skills.

5. Use instructional material that helps form valid concept and generalizations. Use materials that make relationships clear.

J. HABIT FORMATION

The formation of correct habit patterns from the beginning of any learning process is essential to further learning and for correct performance after the completion of training. It is the instructor's responsibility to insist on correct techniques and procedures from the outset of training to provide proper habit patterns. It is much easier to foster proper habits from the beginning of training than to correct faulty ones later.

This is the basic reason for the building block techniques of instruction. Each simple task is performed acceptably and correctly before the next learning task is introduced. The introduction of instruction in more complex operations before the initial instruction has been mastered leads to the development of poor habit patterns. Faulty performance of the elements is inevitably carried through to all future learning.

SECTION X1

THE TECHING PROCESS

A. INTRODUCTION TO THE TEACHING PROCESS

Any effective teaching process must be based on the principles of learning, which have already been discussed. The learning process does not seem to be naturally divisible into a definite number of steps. Sometimes, it occurs almost instantaneously, as when a child learns about hear from touching a hot stove. In other cases, learning is acquired only through long, patient study and diligent practice.

Although the teaching process can be divided into steps, much conflicting material has been written with reference to those steps. Some recognized authorities have specified as few as three steps, while others have broken the teaching process down into seven or eight steps. A close examination of the various lists of steps in the teaching process reveals that different authors are saying essentially the same thing. The chief difference between them is the fact that some authors include only the steps in the actual teaching process, while others include the steps involved in the preparation of the instructor for the job. Another difference is that some authors make separate steps of items like summaries and assignments, while others do not.

The teaching of new materials, as reflected in any of the lists, can be broken down into four steps: (1) preparation, (2) presentation, (3) application and (4) review and evaluation. Discussions in this manual will center on these four basic steps.

B. PREPARATION

For each lesson or instructional period, the instructor must determine what is to be covered, the objectives of the lesson and the goals to be attained. This step should also include home study or other special preparation by the student. As part of the preparation, the instructor should make certain that all necessary supplies, materials and equipment are readily available and that the equipment is operating properly. The instructor's preparation should include actual reference to the syllabus for the course involved and a study of objectives. It must include the development of a lesson plan if the instructional period is to be effective.

The instructor's lesson plan should be worked out in a detailed written form. A lesson plan is the instructor's statement of lesson objectives, the procedures and facilities to be used in presenting it, the specific goals to be attained and the means to be used for evaluation the results achieved.

C. PRESENTATION

This is the instructor's presentation of the knowledge and skills, which make up the lesson. The choice of the method of presentation is determined by the nature of the subject matter and the objective in teaching it. The lecture method is suitable for presenting new material, for summarizing ideas and for showing Relationships between theory and practice.

The lecture method would be suitable for the presentation of a lesson on hypothermia. This method is most effective if accomplished by instructional aids and training devices. In the case of a lecture on hypothermia a chalkboard could be used effectively. The demonstration-performance method is desirable for presenting a skill, such as a lesson on safe gun handling. In using this method, be sure to tell the facts or demonstrate the steps in the proper order so the students get a clear cut picture of each part of the process or operation.

D. APPLICATION

This is the student's application of what the instructor presented. In a classroom situation, the student may be asked to explain the new material, or to demonstrate a procedure or operation. For example, at the end of a classroom period on first aid, the student may be asked to demonstrate the procedure for stopping bleeding or treating shock victims. This step involves the student performance of a procedure that has been explained and demonstrated by the instructor. In learning situations, portions of the instructor's explanation and demonstration activity are usually alternated with portions of the student's performance activity. It is rare that the instructor completes an explanation and a demonstration, then allows the student to accomplish performance activities without interruptions for corrections and further demonstrations. It is very important that the student performs the demonstration the right way the first few times, for this is when habits are established. Faulty habits are difficult to correct. After reasonable competence has been attained, the student should practice again and again until correct performance becomes almost automatic.

D. REVIEW AND EVALUATION

This is an integral part of each classroom or field lesson. Before the end of the instructional period, the instructor should recapitulate what has been covered during the lesson, and require the students to demonstrate the extent to which the lesson objectives have been met. The instructor's evaluation may be informal and noted only for use in planning the next lesson for the students, or it may be recorded to certify the students' progress. In either case, the students should be aware of their progress and the advances and deficiencies noted at the conclusion of the lesson. The failure of the instructor to assure that the students are cognizant of their progress, or lack of it, may impose a barrier between them. Though it may be slight, it may make further instruction more difficult.

In addition to knowledge and skills learned during the instructional period just completed, each lesson should include a review and evaluation of things previously learned. If the evaluation reveals a deficiency or fault in knowledge or performance on which the present lesson is predicted, it must be corrected before a new lesson can begin. If deficiencies or faults not associated with the present lesson are revealed, they should be carefully noted and pointed out. Such corrective measures as are practicable within the limitations of the situation should be taken immediately, but more thorough remedial actions must be included in future lesson plans.

The evaluation of student's performance and accomplishment during a lesson should be based on the objectives and goals that were established in the instructor's lesson plan.

SECTION XII

TEACHING METHODS

A. INTRODUCTION TO TEACHNG METHODS

Teaching method may be considered the tools of the instructor's trade. The instructor's skill is determined to a large degree by the ability to organize material and to select and utilize a teaching method appropriate to a particular lesson. Of the various teaching methods in common use, only the lecture method, the guided discussion method and the demonstration-performance method will be covered in this manual. In a particular situation, an instructor should use more than one method. For example, a good demonstration is usually accompanied by a thorough explanation, which is essentially a lecture.

B. ORGANIZING MATERIAL

Regardless of the teaching method used (lectures, guided discussion, demonstration-performance, etc.), an instructor must properly organize the material. One effective way to organize a lesson is introduction, development and conclusion.

1. Introduction

The introduction should establish common ground between the instructor and the students, capture and hold the attention of the group, indicate what is to be covered during the presentation and relate this coverage to the entire course, point out specific benefits the students can expect from the learning and establish a receptive attitude toward the subject and lead into the lesson development. In brief, the introduction sets the stage form learning.

a. Attention

The instructor might begin by telling a story that relates to the subject and establishes a background for developing learning outcome. The instructor might gain the student's attention by making an unexpected or surprising statement or by asking a question that helps relate the lesson topic to the welfare of the main concern should be to gain the students attention and focus it on the subject.

b. Motivation

The introduction should offer to the student a specific reason for needing to be familiar with, to know, to understand, to apply or to be able to perform whatever they are about to learn. This motivation should appeal to each student personally and accentuate the desire to learn.

c. Overview

Every lesson introduction should contain an overview that tells the group what is to be covered during the period. A clear, consice presentation of the objective and the key ideas gives the students a road map of the route to be followed. A good visual aid can help the instructor show the students the route that they are to travel. The introduction should be free of stories, jokes or incidents that do not help the students focus their attention of the lesson objective. The instructors should avoid long or apologetic introductions, because it will dampen the students' interest in the lesson.

2. Development

This is the main part of the lesson. Here, the instructor develops the subject matter in a manner that helps the students achieve the desired learning outcome. The instructor must logically organize the material to shoe the relationships of the main points. The instructor usually shows these primary relationships by developing the main points in one of the following ways: from the past to the present, the most frequently used to the least frequently used.

a. From past to present

In this pattern of development, the subject matter is arranged chronologically, from the present to the past, or from the past to the present. Such time relationships are most suitable when history is an important consideration, as in tracing the development of firearms.

b. From simple to complex

This pattern helps the instructor lead the student from simple facts or ideas to an understanding of involved phenomena or concepts.

c. From the known to unknown

By using something the student already knows as the point of departure, the instructor can lead into new ideas and concepts.

d. From most frequently used to least frequently used

In some subjects, certain information or concepts are common to all who use the material. This fourth organizational pattern starts with common usages before progressing to the rarer ones.

Under each main point in a lesson, the subordinate points should lead naturally from one to the other. With this arrangement, each point leads logically into, and serves as a reminder of, the next. Meaningful transitions from one main point to another keep the students oriented, aware of where they have been and where they are going.

Organizing a lesson so that the students will grasp the logical relationships of ideas is not an easy task. This type of organization is necessary, however, if the students are to learn. Poorly organized information is of little or no value to the student.

3. Conclusion

An effective conclusion retraces the important elements of the lesson and relates them to the objective. This review and wrap-up of ideas reinforces the student's learning and improves the retention of what has been learned. No new ideas should e introduced in the conclusion, because at this point they are likely to confuse the students.

C. LECTURE METHOD

Every instructor should know how to prepare and present a lecture and should understand the advantages and limitations of this teaching method. The lecture is used primarily to introduce students to a new subject, but it is also a valuable method of summarizing ideas, showing relationships between theory and practice and reemphasizing main points. The lecture method is adaptable and has several advantages. Lectures may be given to either small or large groups; lectures may be used to introduce a complete training program or a unit of instruction; lectures may be combined with other teaching methods to give added meaning and direction.

1. Types of Lectures

Oral presentations may take several forms and may have various purposes. Among the most common forms are: (1) the illustrated talk in which the speaker relies heavily on visual aids to convey his ideas to the listeners; (2) the briefing in which the speaker presents a concise array of facts to the listeners who do not expect elaboration or supporting material; (3) the formal speech in which the speaker's purpose is to inform, to persuade or to entertain; and (4) the teaching lecture for which the instructor must plan and deliver an oral presentation in the manner that helps the student reach the desired learning outcome.

2. Teaching Lectures

The success of the teaching lecture depends upon the instructor's ability to communicate effectively with the class, as well as ability to plan, develop and support the lesson. The instructor must determine the method of development to be used, i.e., past to present, simple to complex, etc. The instructor must also determine the depth of the ideas presented.

In other methods of teaching (demonstration-performance, guided discussion, etc.), the teacher receives direct reactions from the students in the form of verbal or motor activity. However, in the teaching lecture the feedback is not as direct and therefore much harder to interpret. In the teaching lecture, the instructor must develop a keen perception for subtle responses from the class (facial expressions, manner of taking notes and apparent interest or disinterest in the lesson), and must be able to interpret the meaning of these reactions and adjust the lesson accordingly. In developing a lesson, the instructor presents a number of main ideas or key points, which support the overall objective and help the students, visualize, know or understand these points.

3. Preparing the Teaching Lecture

The competent instructor knows that careful preparation is one key to successful performance as a classroom lecturer. This preparation should start well in advance of the presentation. The following four steps should be followed in the planning phase of preparation: (1) establishing the objective and the desired outcome, (2) researching the subject, (3) organizing the material, and (4) planning productive classroom activities. In all stages of preparing for the teaching lecture, the instructor should support any point to be covered with meaningful examples, comparisons, statistics or testimony.

In supporting key points or ideas in the lesson, the instructor must work on the assumption that the student may neither believe nor understand any

point to be covered without the use of testimony form experts or without meaningful examples, statistics or comparisons. In developing the lesson, the instructor should also strongly consider the use of some personal ideas and concepts concerning the chosen subject of the lesson.

After completing preliminary planning and writing the lesson plan, the instructor should rehearse the lecture to build self-confidence. In rehearsals, the mechanics of using notes, visual aids and other instructional devices can be smoothed out. If possible, the instructor should have another knowledgeable person, preferably another instructor, attend the practice session and observe the presentation critically. This critique will help the instructor judge the adequacy of supporting materials and visual aids.

4. Suitable Language

In the teaching lecture, simple words should be used whenever possible. Good newspapers offer example of the effective use of simple words. Picturesque slang and free and easy colloquialisms, if they suit the subject, can add variety and vividness to a teaching lecture. The instructor should not, however, use substandard English. Errors in grammar and vulgarisms detract from an instructor's dignity and reflect upon the intelligence of the student.

If the subject matter includes technical terms, the instructor should clearly define each one so that no student is in doubt about its meaning. Whenever possible, the instructor should use specific rather than general words. Figurative language can add interest and color to a lecture.

Another way the instructor can enliven the lecture is to use sentences of varying lengths. The consistent use of short sentences results in a choppy style. But unless long sentences are carefully constructed, they are difficult to follow. Long sentences, inexpertly used, can become as tangled as a plate of spaghetti. To ensure clarity and variety, the instructor should use sentences of short and medium lengths.

5. Types of Delivery

The instructor can deliver a lecture in one of four ways: (1) by reading from a typed or written manuscript, (2) by reciting memorized material without the aid of a manuscript, (3) by speaking extemporaneously from an outline, or (4) by speaking impromptu without preparation.

The teaching lecture is probably best delivered in an extemporaneous manner. The instructor speaks from a mental or written outline but does not read or memorize the material to be presented. Because the exact

words with which to express an idea are left to the moment, the lecture is more personalized than one, which is read or spoken from memory. Since the instructor talks directly to the students, their reactions can be readily observed and adjustments can be made to their responses. The instructor has better control of the situation, can change the approach to meet any emergency and can tailor each idea to suit the responses of the students. For example, if the instructor realizes from their puzzled expressions that a number of students fail to grasp an idea that point can be elaborated upon until the reactions of the students indicate that they understand.

The extemporaneous presentation reflects the instructor's personal enthusiasm and is more flexible than other methods. For these reasons, it is likely to hold the interest of the students.

6. Use of Notes

An instructor who is thoroughly prepared can usually speak effectively without notes. If the lecture and outline have been carefully prepared, and the instructor is completely familiar with both, there should be no real difficulty. However, the instructor whose preparation has been superficial may find it necessary to use notes as a crutch.

However, using notes has certain advantages. They assure accuracy, jog the memory and dispel the fear of forgetting. They are essential for reporting complicated information. For a rambling instructor, notes are a must, because they help keep the lecture on the track. The instructor who requires notes should use them sparingly and unobtrusively, but at the same time should make no effort to hide them from the students. Notes should be written legibly or typed, and they should be placed on the lectern where they can be consulted easily, or held, if the instructor walks about the platform.

7. Formal Versus Informal Lectures

The lecture may be conducted in either a formal or an informal manner. The informal lecture includes active student participation. The primary consideration in the lecture method, as in all other teaching methods, is the achievement of the desired learning outcome. Learning is best achieved if students participate actively in a friendly, relaxed atmosphere. Therefore, the use of the informal lecture is encouraged. At the same time, it must be realized that a formal lecture is to be preferred on some subjects and occasions, such as lectures introducing new subject matter.

The instructor can achieve active student participation in the informal lecture through the use of questions. In this way, the students are encouraged to make contributions that supplement the lecture. The

instructor can use questions for one or more of the following purposes: To determine the experience and background of the students in order to tailor the lecture to their needs; to add variety and stimulate interest; and to check students understanding.

The instructor has the responsibility to plan, organize, develop and present the major portion of a lesson, and therefore, should not depend on the students for any significant portion of the lesson development.

8. Advantages of the lecture

In a lecture, the instructor can present many ideas in a relatively short time. Facts and ideas that have been logically organized can be concisely presented in rapid sequence. Lecturing is unquestionably the most economical of all teaching methods in terms of the time required to present a given amount of material.

The lecture is particularly suitable for introducing a subject. To assure that all students have the necessary background to learn a subject, the instructor can present the basic information in a lecture. By using a lecture in this way, the instructor can offer students with varied backgrounds a common understanding of principles and facts.

The lecture is convenient method for instructing large groups. If necessary, a public address system can be used to amplify the speaker's voice.

The lecture can be used to present information that would be difficult for the student to get in other ways. If the students do not have the time required for research or if they do not have access to reference material, the information they need can be presented to them by the lecture method.

The lecture can effectively supplement other teaching devices and methods. A brief introductory lecture can give direction and purpose to a demonstration. A lecture can also prepare students for a discussion by telling them something about the subject matter to be covered.

9. Disadvantages of the lecture

The lecture method does have drawbacks. Too often the lecture does not provide for students participation and, as a consequence, many students willingly let the instructor do all the work. Learning is an active process, and the lecture method tends to foster passiveness and teacher dependence on the part of the students. As a teaching method, the lecture does not bring about maximum attainment in certain types of learning outcome. Motor skills, for example, can hardly be learned by listening to a lecture.

The only way students can prefect such skills is through practice in performing them.

The lecture does not enable the instructor to estimate the student's progress before an explanation is given to them. Within a single period, the instructor may unwittingly present more information than students can observe. The lecture method provides no accurate means of checking students learning.

Many instructors find it difficult to hold the attention of all students in a lecture lasting throughout the class period. To achieve desired learning outcome through the lecture method, an instructor needs considerable skill in speaking.

D. GUIDED DISCUSSION METHOD

In contrast to the lecture method, where the instructor provides information, the guided discussion method relies on the students to provide ideas, experiences, opinions and information. An instructor may use this method after the students have gained some knowledge and experience.

Fundamentally, the guided discussion method is the reverse of the lecture method. The instructor aims to "draw out" what the students know, rather than to spend the class period "telling" them. The instructor must remember that the more intense the discussion and the greater the participation, the ore effective the learning will be. The instructor must be sure that all members of the group follow the discussion, and that all are treated impartially. The instructor must encourage questions, exercise patience and tact and comment on all responses. Sarcasm or ridicule should never be used.

1. Use of Questions in a Guided Discussion

In the guided discussion, learning is produced through the skillful use of questions. Questions can be categorized by function and characteristics. In terms of their function questions can either leadoff or follow-up. In terms of their characteristics, questions can be identified as overhead, rhetorical, direct, reverse and relay. Understanding these distinctions helps the instructor become a more skilled user of questions.

a. Leadoff question

The instructor often uses a leadoff question to open up an area for discussion. Its purpose is to get discussion started.

b. Follow-up question

After the discussion develops, the instructor may ask a follow-up question to guide the discussion. The reasons for using a follow-up question may vary. The instructor may want a student to explain something more thoroughly, or may need to bring the discussion back to a point from which it has strayed.

c. Overhead question

The overhead question is directed to the entire group to stimulate the thought and response from each group member. The instructor uses an overhead question to either pose the leadoff question or for follow-up.

d. Rhetorical question

The rhetorical question is similar because it also spurs group thought. However, the instructor answers the rhetorical question. Consequently, it is more commonly used in lecturing than in guided discussion.

e. Direct question

If a response is desired from a specific individual, a direct question may be asked of that student.

f. Reverse question

The instructor may use a reverse question in response to a student's question. Rather than give a direct answer to the student's query, he can redirect the question for the student to provide the answer.

g. Relay question

A relay question is redirected to the group instead of the individual.

A few guidelines for preparing effective questions are that they should: (1) have a specific purpose, (2) be clear in meaning, (3) contain a single idea, (4) stimulate thought, (5) require definite answers, and (6) relate to previously taught information

2. Planning a Guided Discussion

Planning a guided discussion is basically the same as planning a lecture. The instructor will find the following suggestions helpful.

a. Select a topic the students can profitably discuss.

Unless the students have some knowledge to exchange with each other, they cannot reach the desired learning outcome by the discussion method. If necessary, make assignments that will give the students an adequate background for discussing the lesson topic.

b. Establish a specific lesson objective and desired learning outcome.

Through discussion, the students develop an understanding of the subject by sharing knowledge, experiences and backgrounds. Consequently, the objective normally is stated at the "understanding" level of learning. The desired learning outcome should stem from, and be related to, the objective.

c. Conduct adequate research to become familiar with the topic.

While researching, the instructor should always be alert for ideas on the best way to tailor a lesson for a particular group of students. Similarly, the instructor can prepare the prediscussion assignment more effectively while conducting research for the classroom period. During this research process, the instructor should also earmark reading material that appears to be especially appropriate as students background material. Such material should be well organized and based on fundamentals.

d. Organize the main and subordinate points of the lesson in a logical sequence.

The guided discussion has three main parts: Introduction, discussion and conclusion. The introduction consists of the attention step, motivation and overview; the conclusion consists of the summary, remotivation and closure. In the discussion, the instructor should be certain that the main points discussed build logically to the objective. By organizing in this manner, the instructor phrases questions to help students obtain a firm grasp of the subject matter and minimize the possibility of a rambling discussion.

e. Plan at least one leadoff question for each desired learning outcome.

In preparing questions, the instructor should remember the purpose is to bring about discussion not merely to get answers. The instructor should avoid questions that require only short categorical answers, such as "yes" or "no." Leadoff questions should usually begin with "how" or "why".

3. Student preparation for a Guided Discussion

The instructor is responsible for helping students prepare themselves for the discussion, and therefore, should encourage each student to accept responsibility for contributing to, and profiting from, the discussion. Throughout the time the instructor prepares the students for their discussion, the students should be made aware of the lesson objective. In certain instances, the instructor has no opportunity to assign preliminary work and must face the students "cold." In such cases, it is practical and advisable to give the students a brief general survey of the topic during the introduction. Under no circumstances should students without some background in a subject be asked to discuss that subject

4. Guiding a Discussion—Instructor Technique

a. Introduction

A guided discussion lesson is introduced in the same manner as the lecture. The introduction should include an attention step, a motivation step and an overview of key points. To encourage enthusiasm and stimulate discussion, the instructor should create a relaxed, informal atmosphere. Each student should be given the opportunity to discuss the various aspects of the subject, and should be made to feel free to do so. Moreover, the student should feel a personal responsibility to contribute. The instructor can make the students feel that their ideas and active participation are wanted and needed.

b. Discussion

The instructor opens the discussion by asking one of the prepared leadoff questions. After asking a question, the instructor should be patient. The students should be given a chance to react. The instructor has the answer in mind before asking the question, but the student has to think about the question before answering. Thinking takes time. The more difficult the question, the more time the student will need. Sometimes students do not understand the question. Whenever the instructor sees puzzled expressions, the question should be reworded. The nature of the question should be determined by the lesson objective and desired learning outcome.

Once the discussion is underway, the instructor should listen attentively to the ideas, experiences and examples contributed by the students during the discussion. Remember that during the preparation, the instructor listed some of the anticipated responses that would, it discussed by the students, indicate that they had a firm grasp of the concept of the subject being discussed. As the discussion proceeds, the instructor may find it necessary to guide the direction, or stimulate students to explore the subject in

greater depth or to encourage them to discuss the topic in more detail. By using "how" and "why" follow-up questions, the instructor should be able to guide the discussion toward objectives

When it appears students have discussed the ideas that support this particular part of the lesson, the instructor should summarize what the students have accomplished. In the discussion lesson, the interim summary is one of the most effective tools available to the instructor. To bring ideas together and help in transition, an interim summary can be made immediately after the discussion of each learning outcome. This will summarize the ideas developed by the group and show hoe they relate to, and support, the idea discussed. The interim summary may be omitted after discussing the last learning outcome when it is more expedient for the instructor to present the first part of the conclusion. An interim summary reinforces learning in relation to a specific learning outcome. In addition to its uses as a summary and transitional device, the interim summary may also be used to keep the group on the subject or to direct the discussion to another member. Throughout the discussion it is desirable to record ideas, facts and agreements, so that the group can actually see relationships and the progress that has been made. A chalkboard and chalk or a large plain paper flip chart and grease pencil are suitable for this purpose.

c. Conclusion

Summarizing the material covered closes a guided discussion. In the conclusion, the instructor should tie together the various points of topics discussed and show the relationships between the facts brought forth and the practical application of these facts

The summary should be brief but not to the point of being incomplete. If the discussion has revealed that one or more members of the group do not understand certain areas, the instructor should clarify or cover this material again.

E. DEMONSTRATION-PERFORMANCE METHOD

This method of teaching is based on the simple, yet sound, principle that we learn by doing. Students learn physical or mental skills by actually performing those skills under supervision. An individual learns to write by writing, or weld by welding and to shoot by shooting. Students also learn mental skills, such as speed-reading, by this method. Skills requiring the use of tools, machines and equipment are particularly well suited to this instructional method.

Every instructor should recognize the importance of student performance in the learning process. Early in a lesson that is to include demonstration and

performance, the instructor should identify the most important learning outcome; next explain and demonstrate the steps involved in performing the skill being taught; and finally, allow the students time to practice, thus increase their ability to perform the skill.

The demonstration-performance method of teaching has five essential phases: (1) explanation, (2) demonstration, (3) student performance, (4) instructor supervision, and (5) evaluation.

1. Explanation Phase

   Explanations must be clear, pertinent to the objectives of the particular lesson to be presented, based on the known experience and knowledge of the students. In teaching a skill, the instructor must convey to the students the precise actions they are to perform. In addition to the necessary steps, the instructor should describe the end result of these efforts. Before leaving this phase, the instructor should encourage the students to ask questions about any step of the procedure they do not understand.

2. Demonstration Phase

   The instructor must show the student the actions necessary to perform a skill. As little extraneous activity as possible should be included in the demonstration if the students are to clearly understand that the instructor is accurately performing the actions previously explained. If the demonstration does not closely conform to the explanation due to some unanticipated circumstances, this discrepancy should be immediately acknowledged and explained.

3. Student Performance, and Instructor Supervision Phases

   Because these two phases, which involve separate actions, are performed concurrently, they are discussed here under a single heading. The first of these phases is the student's performance of the physical or mental skills that have been explained and demonstrated. The second activity is the instructor's supervision. Student performance requires the students to act and do. To learn skill, students must practice. The instructor must allow enough time for meaningful student activity. Through doing, the students learn to follow correct procedures and to reach established standards. It is important that students be given an opportunity to perform the skill as soon as possible after a demonstration.

4. Evaluation Phase

   In this phase, the instructor judges student performance. The student displays whatever competence has been attained, and the instructor

discovers just how well the skill has been learned. To test each student's ability to perform, the instructor requires the students to work independently throughout this phase and makes some comment as to how each performed the skill relative to the way it was taught. From this measurement of student achievement, the instructor determines the effectiveness of the instruction.

SECTION X111

LESSON PLANS

A. INTRODUCTION OF LESSON PLANS

A lesson is an organized outline or "blueprint" for a single instructional period and should be prepared in written form for each instructional period, regardless of the instructor's experience. A lesson plan should be developed to show specific knowledge and/or skills to be to do, in what order to do it and what procedure to use.

A so-called "mental outline" of a lesson plan. A lesson plan must be put into writing. Another instructor should be able to take the lesson plan and know what to do in conducting the same period of instruction. When placed in writing, the lesson plan can be analyzed from the standpoint of adequacy and completeness.

B. PURPOSE OF THE LESSON PLAN

Lesson plans are designed to assure that each student receives the best possible instruction under the existing conditions. Lesson plans help instructors keep a consistent check on their own activity, as well as that of their students. The development of lesson plans by instructors signifies, in effect, that they have taught the lessons to themselves prior to attempting to teach the lessons to students. When properly used, an adequate lesson plan should:

1. Assure a wise selection of material and the elimination of unimportant details.

2. Make certain that due consideration is given to each part of the lesson.

3. Aid the instructor in presenting the material in a suitable sequence for efficient learning.

4. Provide an outline of the teaching procedure to be used.

5. Serve as a means of relating the lesson to the objectives of the course of training.

6. Give the inexperienced instructor confidence.

7. Promote uniformity of instruction regardless of the instructor or the date on which the lesson is given.

C. CHARACTERISTICS OF A WELL-PLANNED LESSON

1. Unity

Each lesson should be a unified segment of instruction. A lesson is concerned with certain limited objectives, which are stated in terms of desired student learning outcome. All teaching procedures and materials should be selected to attain these objectives.

2. Content

Each lesson should contain new material. However, the new facts, principles, procedures or skills should be related to the lesson previously presented.

3. Scope

Each lesson should be responsible in scope. A person can master only a few principles or skills at a time. Presenting too much material in a lesson results in confusion; presenting too little material results in inefficiency.

4. Practicality

Each lesson should be planned in terms of the conditions under which the training is to be conducted. Lesson plans conducted under firing range or field conditions will differ from those conducted in a classroom. Also, the kinds and qualities of instructional aids available have a great influence on lesson planning and instructional procedures.

5. Relation to course of training

Each lesson should be planned and taught so their relations to the course objectives are clear to students. For example, a lesson on hunter-landowner relationships should relate to both the certification and safety objectives of the course.

6. Instructional Steps

When adequately developed, every lesson falls logically into four steps of the teaching process, 1.e., preparation, presentation, application, review, and evaluation.

D. HOW TO PROPERLY USE A LESSON PLAN

1. Be Familiar with the Lesson Plan

The instructor should study each step of the plan and be thoroughly familiar with as much information related to the subject as possible.

2. Use the Lesson Plan as a Guide

The lesson plan is an outline for conducting an instructional period. It assures that pertinent materials are at hand and that the presentation is accomplished with order and unity. Having a plan prevents the instructor from "getting off the track," omitting essential points and introducing irrelevant material. Students have a right to expect that an instructor will give the same attention to teaching that they (the students) give to learning. The most certain means of achieving teaching success is to have a carefully thought-out lesson plan.

3. The Lesson Plan is not a Substitute for Thinking

Instruction should always know more than they have time to teach. The lesson plan is a framework; the instructor should fill it out with as many relevant examples and practical applications as possible.

4. Adapt the Lesson Plan to the Class of Student

In teaching a hunter education class, the instructor may find that the procedures outlined in the lesson plan are not leading to the desired results. In this situation, the instructor should change the approach. There is no certain way of predicting the reactions of different groups of students. An approach, which has been successful with one group, may not be equally successful with another. A lesson plan should be appropriate to the background, experience and ability of the particular student. A rigidly prepared lesson plan should not be use because each class requires a slightly different approach. A lesson plan may have to be modified considerably during the course of the lesson due to deficiencies

in the student's knowledge or poor mastery of elements essential to the effective completion of the lesson. In some cases' the entire lesson plan may have to be abandoned in favor of review.

5. Revise the Lesson Plan Periodically

After a lesson plan has been prepared for an instructional period, a continuous revision will be necessary. This is true for a number of reasons, e.g., availability or nonavailability of instructional aids, changes in regulations, new manuals and textbooks, changes in the state-of-the-art

E. LESSON PLAN ITEMS

All lesson plans should contain the following items:

1. Lesson Objectives

The objective of the lesson should be clearly stated in terms of desired student learning outcome. The objective is the reason for the lesson—what the instructor expects the student to know or do at the completion of the lesson. The objective for a lesson on safe gun handling could be, "The student will demonstrate safe gun handling principles in the classroom under simulated home and field situations."

2. Elements Involved

This is a statement of the elements of knowledge and skill necessary for the fulfillment of the lesson objective. This may include both elements previously learned and those to be introduced during the lesson. A statement of the elements of a lesson on safe gun handling could include: (a) safety conscious attitude, (b) basic gun handling rules, (c) operation of common action types and (d) identification of ammunition.

3. Schedule

The instructor should estimate the amount of time to be spent on a particular lesson, and also the approximate time to be devoted to the presentation of the elements of that lesson. For example, the time to be devoted to a lesson on safe gun handling could be 90 minutes, with approximately the following time periods being used to present each of the elements: (a) review gun handling rules, 10 minutes, (b) instructor demonstration of safe gun handling, 10 minutes, (c) student practice—loading, unloading, crossing obstacles, 60 minutes and (d) review of key points, 10 minutes.

4. Equipment/Aids

This includes all instructional material and training aids required to reach the lesson. Such items as films, slides, mock-ups, charts, firearms and reference materials should be included. For example, the equipment for a period on safe gun handling could include dummy ammunition, several firearm types, ropes and chairs to stimulate obstacles and vehicles and gun cases.

5. Instructor's Actions

This is a statement of the instructor's proposed procedures for presenting the elements of knowledge and performance involved in the lesson. Utilizing a combination of the lecture and demonstration-performance methods, the instructor's actions during a lesson on safe gun handling could be as follows: (a) discuss objectives, (b) discuss concepts of safety conscious attitude, (c) write a list of gun handling rules on the blackboard as the students answer direct questions about gun safety, (d) demonstrate safe gun handling principles as they relate to loading, unloading, shooting, entering, and exiting vehicles, having guns in the home, crossing obstacles and carrying guns in the field, (e) assign students the task of practicing safe gun handling under stimulated conditions in the classroom and (f) critique student's gun handling skills and assist students' practice of correct gun handling procedures.

6. Student's Actions

This is a statement of desired student responses to instruction. The student's actions during a session on safe fun handling might include: (a) discussing objectives, (b) listening, taking notes and asking pertinent questions as the instructor lectures and demonstrates, (c) visualizing safe gun handling procedures as the instructor lectures and demonstrates, (d) responding to questions posed by the instructor, (e) practicing safe gun handling procedures under instructor supervision and (f) responding to instructor's critique of gun handling performance and correcting faulty procedures.

7. Completion Standards

This is the evaluation basis for determining how well the student has met the objective of the lesson in terms of knowledge and skill. For a lesson on safe gun handling the evaluation may be accomplished by observing the student's ability to safely handle guns under simulated classroom or field situations.

8. Review

The review statement should include a summary of key points or skills, which should have been learned during the lesson. During the review the instructor should attempt to tie the current lesson to key concepts learned in previous lessons. A review for a gun handling session might include: (1) reemphasize key gun handling rules, (2) relate safe gun handling to personal responsibility, and (3) emphasize how safe gun handling is the foundation of all firearms-related activities.

9. Homework

Homework assignments should augment the student's learning by providing the opportunity to practice what was learned in class. Homework assignments should provide a reasonable challenge for the student while providing the opportunity to develop greater skill and knowledge. Homework should never be assigned as busy-work or as punishment for improper classroom behavior. During a unit on safe gun handling, a student might be assigned to practice the various firearm carries, or practice crossing obstacles while being supervised by a competent adult.

SECTION XIV

INSTRUCTIONAL AIDS

A. INTRODUCTION TO INSTRUCTIONAL AIDS

Any object used in connection with teaching a hunter education course through one of the senses—generally sight, touch, or hearing—is an instructional aid.

Aids include such items as blackboards, charts, posters, maps, news clippings, flannel boards, silhouettes, models, mock-ups, pictures, slides, videos, and motion pictures.

If an aid is to be used, be sure it is either secured or prepared in advance of the class session. Determine where and when it will fit the material being presented. Place the aid in a convenient location and keep it out of sight until the proper time for its use. This will prevent students from being distracted until the aid is needed to emphasize a point.

There are a number of times when the use of instructional aids will serve a better purpose than the real thing or when the real subject is dangerous or not readily available. A wooden gun may be used to demonstrate the danger of allowing a gun to fall. A chair can be used to stimulate an automobile. Ropes strung between chairs can represent a fence. Aids may also be valuable if the real object is too large or too small to be used in the classroom. A box used to represent a boat is a good example of the former. A small, round tin can and wooden anvil can help demonstrate how a primer works.

Instructional aids are valuable also when the action is too fast or too slow for normal observations. The path of a bullet can be shown by the use of ready-made charts, or by use of a motion picture. The expansion of gases within a gun barrel along with the movement of the shot or bullet through the barrel can be drawn on a blackboard.

The problem of what aid should be used can be solved easily. Each aid should be simply with no distracting material and should represent only one idea. It should be large enough to permit the most distant student to see the smallest detail. It should be used at the proper time to illustrate a point and should be flexible enough to be used under different training conditions.

Several instructional aids are discussed separately to assist in making the best use of each of them. Instructors are encouraged to use their own ideas. Aids, which permit student involvement, are better than those that require only passive viewing.

B. BLACKBOARD

The most flexible of all training aids is the blackboard. Its use is limited only be imagination and drawings should be prepared in different chalk colors before class. The different colors help separate the various parts of the drawing. Leave out unnecessary detail as this serves only to distract and confuse students.

C. CHART

Prepared charts offer one of the best training aids available. Use actual equipment with the chart for maximum effectiveness.

Charts can be prepared easily and inexpensively with the use of a felt pen and wrapping paper or blank newsprint. Different colored markers should be should be used on charts conveying more than one idea. Such charts are best if kept simple with large and clear lettering.

D. POSTER

Posters can be made with the use of cardboard and either colored chalk, felt pen or crayon.

E. MODELS, CUTAWAYS AND ACTUAL EQUIPMENT

These aids are generally made or furnished by the instructor. They are helpful in demonstrating the actual relationship of parts and the inner workings of an object such as a cartridge.

In using a cutaway shell or cartridge, be sure that the case does not have a live primer cap. NEVER USE LIVE AMUNITION EXCEPT UNDER SAFE CONDITIONS AND ON A FIRING RANGE. Remove the spent primer cap from a fired cartridge case and then seat a bullet in the mouth of the casing.

These aids may be passed around so each student can easily see how the object is put together.

Blown gun barrels are the best type of illustration for answering the question, "What happens when you shoot a gun and other is an obstruction in the barrel?"

Ping-pong balls are excellent for demonstrating a ricocheting bullet.

F. GUEST SPEAKER

Guest speakers can add a great deal to the course's effectiveness. Use the following guidelines regarding guest speakers.

1. Be sure the speaker will fill some education objective at the course. Do not invite a guest just to fill time.

2. Speakers should be particularly knowledgeable in their field. They may even be classified as experts. For this reason, be sure students are prepared for the speaker and you have some follow-up discussion after the session. At least review the main points of the guest speaker's lecture before going on to new material.

3. Be sure the speaker understands the material to be covered and the time available. Do not allow the session to run too long or diverge form the material to be covered.

Guest speakers may obtain from a number of local sources such as city and county law enforcement offices, wildlife biologist, local conservation organizations, local colleges and universities. Local muzzleloaders or archery enthusiasts are also good sources.

G. PICTURES AND PHOTOS

To make the best use of pictures and photographs, glue them on a piece of cardboard large enough to be passed around or easily seen by student's furthest form the instructor.

H. NEWS CLIPPINGS

News stories about hunting accidents or hunter conduct can be used in your instruction. Try to determine from the story what happened and what the individual involved should have done.

I. SLIDES

One of the most valuable aids that can be obtained readily by amateur photographers is the 35 mm color slides. Individual sets on any phase of the hunter education program can be worked up, for example, the steps in cleaning a gun, unsafe situations, gun carries or field dressing a deer.

Slides should show only the process being illustrated. Slides should be arranged in proper sequence. Each slide should tell a story with a minimum of commentary. Preview the slides to be sure that all the material to be covered is included.

The following hints in using slides are included to assist you in avoiding some common pitfalls.

1. Set up the projector to be sure it is in working order.

2. Focus a slide on the screen and then run through the series to be sure none are upside down or backwards.

3. Anchor the extension cord to a table so the projector will not be pulled off its stand accidentally.

4. Do all these things before the students arrive to prevent a delay in your class schedule.

If a student is to run the slide projector, allow him/her time to become familiar with both the projector and the sequence of the slides. This allows the instructor to stand near the screen and point out the important items. Questions should be encouraged and answered while the material is being shown. Do not allow slide discussion to drag.

J. MOTION PICTURE

Another valuable training aid is the motion picture. This aid is an excellent tool for illustrating a variety of things under classroom conditions. To achieve the greatest learning effectiveness, films should be used as the following guidelines suggest.

1. Specific Objectives

What specific behavior is desired to develop?

2. Preview the Film

3. Introduction

a. Find out what the class already knows about the film's subject.
b. Introduce key words. Write them on the chalkboard. Define them and discuss their meaning
c. Make viewing assignments by asking certain students to be responsible for answering questions about the film.
d. Lead into the films using other mediums with the same subject.
e. Explain anything peculiar about the film (outdated dress, etc.)

4. Showing the Film

A number of techniques can be used to increase the effectiveness of the film. Not all of these will be used each time a film is shown.

a. Place projector on STILL mode, use pictures for discussion and careful study.

b. STOP the projector, back up, reshow a short segment, ask students to describe the action.
c. SHOW a second time. Make different viewing assignments.
d. SHOW SEGMENTS of more than one film for comparison.
e. STOP the film. Discuss what was just seen.

5. Activities After Showing the Film

Class discussion after the film should relate to the questions and main points made in the introduction to the film.

a. Divide the class into small groups to discuss key concepts learned in the film
b. Take the class on a field trip, which relates to the film content.
c. Let students practice the skills presented in the film.
d. Give a quiz on the major points of the film.
e. Assign student projects relating to the film's key concepts.
f. Ask students to write essays using words, ideas or themes found in the film.
g. Ask students to role-play a situation shown in the film.
h. SHOW segments of the film with the sound turned off and ask the student's to narrate the action.

K. OVERHEAD PROJECTOR

1. Always remove the projector from its carrying case.

2. Place projector so the projected image fills the screen when the image is in focus.

3. If possible, move the top of the screen toward the projector to prevent the "KEYSTONE" effect.

4. After focus is adjusted and the projected image s placed as high on the screen as possible, TURN THE PROJECTOR OFF.

5. Place the first transparency on the OHP platform.

6. When ready to show the class the visual, TURN THE PROJECTOR ON

7. While the visual is being projected, do not look at the projected image. Look at the transparency—stay facing the audience.

8. When pointing out an item, point directly at the transparency rather than pointing at the screen.

9. If the class should copy words from the image, give them time to finish writing.

10. When displaying a list of items, cover all the items except the one the class should see at the time.

11. When finished using the visual or to get the attention of the class TURN THE PROJECTOR OFF.

NOTE: NEVER CHANGE A TRANSPARENCY WHILE THE PROJECTOR IS ON.

L. VISUAL AIDS CHECKLIST

1. Is Visual Worth Using?

Is it essential to the understanding of the lesson? Is it aimed at your audience? Does it deserve the emphasis, which a visual gives? Are the objectives clearly defined?

2. Will Words Alone Describe the Point?

If words are sufficient, do not make a visual.

3. Does The Visual Supplement the Verbal Commentary?

Your visual should supplement the verbal medium rather than replace it.

4. Does Visual Achieve Unity?

Is it free from incompatible and complicating ideas, symbols, art techniques or typefaces?

5. Are Symbols Acceptable?

Does the visual consider the audience? Are the symbols used meaningful to the audience?

6. Is it Visually Fluent?

Is the art functional or ornate? Is it really one visual or several? Are complex subjects presented in comprehensive units (overlays)? Was the artwork designed for this medium or borrowed without modification from another type of presentation?

7. Is Visual Honest?

   Have the facts been distorted?

8. Does it utilize All Available Techniques Which Will Improve its Efficiency?

   Is color used effectively? Have you considered sequential disclosure or build-up?

9. Is Visual Intended for the benefit of the Audience or the Speaker?

   Have you avoided projecting program notes or the speaker's outlines? Is your transparency visualization or a reading session?

10. Is visual Completely Readable by the entire Audience?

    Will there be an unobstructed view of the screen? Is the printing large enough? If you cannot read it from the back row, do not use it. (As a medium size, 3/16" letters are recommended for transparencies.)

11. How Much Effort Was Put into the Visual?

    Is it as good as possible? Have others critiqued it? Has the visual been tested?

12. Has it achieved the Objectives?

    Has the audience understood it? Has it changed attitudes and/or behavior?

SECTION XV

PUBLIC SPEAKING

A. PRINCIPLES OF PUBLIC SPEAKING

One of the instructor's greatest assets is the ability to speak effectively. Many people have been handicapped and held back by their inability to express themselves in form of others. Not only on the job but also in public life this ability to speak effectively is a great aid in putting yourself across—selling yourself and your ideas. This instructor especially will find it increasingly necessary to be able to speak to groups.

One does not have to be a polished orator to be an effective speaker. A good voice is not even needed. In fact, the more natural speakers are in front of a group, the more likely they act like themselves, and the better they are. A good speaker talks to a group in about the same manner that he would talk to one or two friends in a natural conversation. So start out by realizing that you are not going to have to become entirely different when you rise to speak.

1. There is no Substitute for Actual Practice

Make every opportunity to practice the ideas presented in this unit. Force yourself to speak to groups, even through your knees knock, your voice quivers and the words come hard! Remember, some of the greatest speakers of all times were not born that way. They acquired their ability by conscious effort. Many businessman and others have also learned that the ability to speak is very important. That is why Toastmasters clubs and public speaking classes are so popular today.

2. Preparing to Talk

The most important step in giving any presentation is THOROUGH PREPARATION. Nothing else will be of more help in combating nervousness. Study the subject thoroughly—become a specialist in it. Get all the background material that can be found. As you do this, you will become enthusiastic about the subject perhaps even reach the point of being eager to deliver the prepared material.

Write out the speech completely if absolutely necessary, but don't try to memorize it and don't plan to read it word-for-word. A canned speech sounds like a canned speech, and under pressure the person who memorizes a speech will be in trouble if a line is forgotten. It is better to form words as you think them out in front of the group. For ideas to carry out to the audience, the speaker has got to be thinking about what he/she is

saying. Even if you do write a speech word-for-word, make a brief outline of it and then throw the written speech away!

Some find it helpful to write a few lines of the introduction, to help get started. Those first few sentences are the tough ones. A few key words or phases in an outline can keep a good speaker on track and with a carefully thought-out summary off to a good start. If there is danger that no table will be available on which to place notes, the outline can be made on small cards, which can be held in the hand. Practice the speech. Time it. Usually it takes much longer to deliver than first figured. Fix clearly in your mind the opening and closing.

3. Combating Stage Fright

Almost everyone has experienced the terror of stage fright. Stage fright is fear—fear that people will see your faults; fear of ridicule; fear that making a mistake; fear of failure.

The most important thing to remember is that this nervousness is perfectly natural. Nervousness before rising to speak is a sign of a good speaker. Without this charge a speech would be pretty dull. Even great artist with years of experience in front of the public has this feeling of nervousness before a performance. Some of the great speakers have deliberately "keyed up" before a speech. Nervousness is a sign of having a feeling of responsibility toward your audience.

When asked to make a speech, be convinced that the people who made the request want to hear you—an honored guest. The audience wants a speaker to do a good job—to succeed.

Carefully prepared visual aids such as charts, graphs, demonstration pieces or pictures will aid the development of a speech. When the time comes to deliver your speech, dress neatly and conservatively with your instructor shirt. Knowing that you are looking your best will help.

PREPARATION IS THE GREATEST SINGLE FACTOR IN COMBATTING FRIGHT

4. Presentation

Attitude is extremely important. Don't slouch or drag when approaching the speaker's platform. Force yourself to assume a confident, enthusiastic attitude. Enthusiasm is contagious. Remind yourself that the audience wants to hear you and they are interested in the topic. Most important of all be sincere, there is not substitute. You must be sold yourself to sell others.

A cheerful, friendly attitude will open the doors to the listeners' hearts. Smile! Control nervousness. Take it easy. Knocking knees are knocking and pounding hearts are not nearly as apparent to the audience as you think. In front of the group, stand up straight, pause for a moment, look at the audience in a friendly manner. Wait until reaching the platform before starting to talk. Then begin with the opening remarks as planned. Use simple language. Short sentences will keep the words flowing and proper grammar in tact.

Don't run sentences together with "and…. and….and…."

Drive home points with stories. People love to hear real life stories. Stories of real life experiences are best, but if necessary use stories of great men or women, or stories you have heard or read. Humor is excellent, but the funny stories should be used to drive home a point, not just for humor alone. Never use dirty or vulgar stories.

Don't pass out literature or an outline of your talk until you have finished. If this is done first, the group will read the literature instead of listening to the speaker.

Avoid trite or stale expressions such as, " and as I said before…" "In other words…" "What I meant to say was…" Just say it and be done.

When quoting statistics or numbers, round up the figures. Instead of $1,965.73 say about $2,000. Comparisons mean much more than figures. It is much more meaningful to say, "It is like falling off a three-story building," then to say, "It strikes the ground with force of 3,000 foot-pounds."

Quit while the interest is still high. Summarize your talk and finish up with a good punch line. Don't drag out the ending and finish up with "I guess that's about all I have to say." It is said that the sweetest word ever heard in a lecture are "in conclusion…" You will probably find that you have skipped or forgotten several things. Don't go back and add these things. The audience will not know the difference anyway!

There are three kinds of speeches: the speech you prepared, the speech you actually gave and the speech you wish you had given.

5. Speech Organization

"A speech is a voyage with a purpose, and it must be charted. The an who starts nowhere, generally gets there, "according to Dale Carnagie.

A speech must be organized into logical sequence to be effective. After deciding the main ideas or purpose, it becomes necessary to outline a presentation into an orderly arrangement.

The following formula for the most common type of speech will help in organizing a talk. It is probably the simplest formula ever devised, and yet, a very good one. That formula is to:

> Tell the audience what you are going to say. Say it. Then tell what you have told them.

There you have it—the introduction (or the objective), the body of the speech and the summary.

6. Final Tips on Speech Delivery

Don't apologize. The most common tendency of every amateur speaker is to start out with "I'm not very well prepared on this subject." Begin this way and the group will agree. Let them find out for themselves—don't tell them.

Don't shoot the bull. Get down to the facts. Hit the nail on the head. Get into you talk according to plan. The formulas for speeches discussed in this unit will help you get started.

Talk to the audience. Eye contact is one of the most important things in an effective presentation. Personalize your talk by looking at various members of the audience for a moment while speaking, rotating your gaze around the room. Try to look at every person in the room at some time during the talk. When an instructor must refer to notes, glance down at them, and then retain eye contact as you deliver your remarks. Don't look at the ceiling or out the window. Don't look at your audience as a fuzzy blur. Actually see them. Look at them as warm, friendly, interesting human beings. By looking at your audience you can catch reactions and change your tactics if necessary.

Don't lean or slouch over the lectern. Don't sit on the table. Don't pace widely back and forth, but do move occasionally. Otherwise forget appearance, instead think, of what you are saying. If instructors are enthusiastic, warm-up to their ideas and sincerely try to put them across, more will be accomplished by being natural.

Be natural! Gestures should be smooth, free and easy. They are used to emphasize a point or to describe something. Movement attracts. Don't be afraid to move away form the lectern or to use gestures. This puts life into your talk.

Don’t smoke or chew gum. Any personal mannerisms which are unusual, like weight shifting, playing with a button or other subject, shoe shuffling, hand lifting, facial movements, taking glasses off and putting them back on, and other mannerisms, are sure to detract.

Don’t conspicuously look at your watch. To time yourself, put your watch by your notes where it cannot be seen.

Your voice should be natural, personal and conversational. Increase the power but not the pitch. Don’t drop your voice toward the end of each sentence. Keep up the volume at all times, but vary the volume and pitch to avoid monotony. Change pace, too.

Learn to emphasize key words and phrases even though you may thing it sounds corny at first. Most people talk in a dull monotone, which puts an audience to sleep. Listen to good radio or television announcers. Study their voices. Practice putting the same force and emphasis in your voice.

Personalize your talk by referring to members of the audience if possible. Ask questions and invite them to participate if appropriate. It is human nature for them to want to get into the act.

Use a chalkboard or other visual aids where practical to emphasize key points, to draw illustrations or to show comparisons. This takes way the monotony of speaking alone, utilizes the sense of sight and adds variety.