

Training Guide

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SECTION 1.0 INTRODUCTION

Have you ever given thought to what successful men and women have in common? It doesn't matter whether they are bankers, merchants, or oil tycoons, they have something in common besides money. They all make careful plans!

Success in any field doesn't just happen. It requires careful and detailed planning. The businessman doesn't make hazardous or off-the-wall investments. A lawyer spends days getting ready to present a case to a jury. A minister or chaplain doesn't make up his sermons as he goes along. Even the "railbird" at the racetrack spends a lot of time studying and planning his bets.

Instruction is no different. Effective instruction, like success in any other field, requires planning. The instructor must know what he wants his students to learn. Then he will plan his materials so that the students can learn.

Why are lesson plans (AKA topical outlines) important? If such things as "to insure continuity of instruction" bother you, how about the following list for being pretty sound, sensible and logical reasons for preparing lessons plans?

- Shows your thinking - and organization on the subject.
- A map to your objectives - without being sidetracked.
- Relates to the rest of the units in the course - the "tie-in."
- Built-in interest and motivation - instead of leaving them to chance.
- Assure balance of emphasis - on equally important major points.
- Serves as a timetable - being at the right point at the right time.
- Assists your memory, provides self-confidence - a security blanket.
- Serves as an outline for back-up instructor - you may be absent tomorrow.
- Eliminates the "Cutting Z's" ZZZ, ZZZ, ZZZ, type of student participation.

Before you begin writing your lesson plan, let's take a look at the learning process. This will help you in your auxiliary job as instructor. This background information will aid you in developing a lesson plan, because it will discuss how students learn.

Causing student learning is what being an instructor is all about. Let's take a look at a simplified version of the Psychology of Learning.

SECTION 2.0 PSYCHOLOGY OF LEARNING

The expert instructor must have a working knowledge of the principles of educational psychology. Only the area that deals directly with the learning process will be discussed here.

First things first - what is a definition of learning? We all know that man learns from the day he is born until the day he dies. What happens to a person when he learns? What process does he go through? The individual, because of a learning experience, may change his way of thinking, feeling, doing, and seeing the world. So basically, learning is a change in behavior as the result of experience. This change, or learning, can be open to view and easy to see, or it can be in the mind or feeling and hard to see.

Psychologists say that certain things must exist within the individual for learning to take place. He must go through certain logical steps to learn. The characteristics of learning, learning concepts and generalizations, the "laws" of learning, factors that affect learning, and the transfer of learning will be briefly discussed.

CHARACTERISTICS OF LEARNING

Learning has a purpose. Most people have a pretty definite idea of what they want to do and achieve. A student brings his goals into the classroom. Some of these goals may be very personal and some he will share with his classmates. A student will learn best what will help meet his goals. The learner's goal or purpose is of chief importance in the act of learning. A good instructor tries to relate learning material to the student's goal.

Learning comes through experience. Learning is a very individual process and must be done by the student himself - the instructor cannot do this for him. Research has concluded that learning and knowledge are a part of a person. A person's knowledge comes from his experience, and no two people react to experience the same. Each learns different things depending on how the situation affects their different needs. "Previous experience conditions a person to respond to some things and to ignore others." Some experiences involve the individual as a whole, while others involve only his eyes, ears, and his memory. The instructor must provide students with experiences that are meaningful, varied and appropriate to the situation. For instance, by repetitious drill, a student can learn a "laundry list" of principles of leadership. But the list is useless if he can't apply them correctly in real situations. He can do this if his learning experience has been both extensive and meaningful and he understands how to apply the list. The learning experience which challenges the student requires involvement with feelings, thoughts, memories of past experiences; plus physical activity is much better than just requiring the student to memorize a "laundry list."

Learning is multifaceted. An instructor who thinks his job is only to train a student's muscle or memory is wasting his own and his student's time. Students may learn much more than the instructor planned or intended, because, as humans, they do not leave their thinking mind or feelings at home. As an example, a student studying

engine maintenance may be learning to perform a check on a particular piece of equipment. However, in the process, he is learning new concepts and generalizations. He may also be learning new uses for the principles of electronics. He may become interested in "black boxes" and learn something about handling electronic equipment in general. This experience results in changes in the student's way of seeing, thinking, feeling, reacting and doing, even though the instructor's primary objective was to teach the student only how to read a multimeter. Students in a classroom may also be learning cooperation, elements of good dynamics, and good and bad attitudes about the Company, or life in general. The list is endless and is sometimes referred to as "incidental", but it still has a great impact on the learning situation.

Learning is an active process. "Never assume anything just because it is obvious to you." All too often, after an instructor has taught a lesson many times and really knows the subject, he teaches his class strictly out of habit. Instead of watching his students, he is a robot who walks and talks at 0900 each Tuesday and Thursday. He pushes a button, and the words come out, but his mind is elsewhere. How can this be avoided? Keep everyone active in the class - the students as well as the instructor. The more actively a student is involved in the class, the greater his chances are for both learning and remembering. (If a student is to learn, he must react and respond. He is not a sponge that will soak up knowledge like water. The response may be outward or inward.) Since learning is a "change in behavior as a result of experience," the process must be active. This action can be either answering the instructor's questions, or working a practice exercise. The responsibility of creating active student participation lies with the instructor.

LEARNING CONCEPTS AND GENERALIZATIONS

Teaching people new ways to think about things is a challenge because you usually can't see if they are really learning. There is great temptation, among instructors, to believe that a student understands what you are saying if he can recite the key ideas or objectives. This is not always true. There are still a few instructors who try to teach mostly with words without causing meaningful learning experiences. These instructors waste the student's time as well as their own.

The definition of learning stated earlier involves a concept of learning; on the other hand, the characteristics of learning are generalizations. A concept is a mental picture of a group of things that have common characteristics. A generalization is a person's idea of the relationships between two or more concepts.

Concept formation. Concepts represent a group of solid objects, such as an airplane or book, or abstract ideas such as leadership and honesty. A concept is an idea about a group of things. A concept involves thinking about what it is that makes those things belong to that one group. Look at the following example:

Concepts are formed by naming and classifying things into groups. It is through experience that a person builds up his concept of the special things that make something belong to a specific group. Think for a moment of how a child forms his concept of DOG. First he observes and learns that the family collie is a DOG. This DOG has four legs, a long snout, long fur, and short ears that stand up. It also barks and appears to be friendly. He sees this thing as being quite large - larger than he is but smaller than his father. The child is now secure in his concept of DOG, that is,

until he meets a bulldog. Now he must adjust his concept. He knows that dogs can be of different sizes, can have short hair as well as long fur, can have almost no tail, and may have upright ears. Then one day, he sees a Mexican hairless dog. This calls for some major changes in his concept of DOG. Many experiences later, his concept of DOG is complete. He has reached the point where he can identify a new animal as being DOG or NOT DOG.

A great deal of concept forming occurs without any help from instructors. Often, concept formation depends less upon the depth of the experience and more upon the width and amount of it. A lot of experience with many kinds of encounters is necessary to build valid concepts.

Where does the instructor fit into this formation of concepts? First, he can identify these concepts and apply them in determining student needs. The student who gets more experiences can use these experiences by listening to well presented lessons in class and comparing his experiences with other students. The key word here is "experience" - true useful concept formation must be based on a hard core of firsthand experience.

Foundations of generalizations and concepts. Generalizations, like concepts, are formed from the experience of the learner. Often, concept formation and the development of generalizations take place at the same time. Problems can arise if a student has a good generalization but a weak idea of the concepts involved. Concept formation depends on having many different kinds of experience, not the depth and importance of them. Generalizations require a lot of different experiences that were also important and had meaning to the student. The instructor's role in this area is of increased importance, because he provides the experience.

Tips for the instructor. To have meaning in conceptual and generalization learning, the following tips are offered for the instructor:

- Reduce the number of concepts and generalizations taught so the student can completely understand and use what he does learn. Memorizing 100 theories or principles is useless to a student if he is going to forget 95 of them as soon as he completes the class. It is better to teach only 10 theories that the student can both learn well and apply.
- Remember that each student is different. Their previous training and their ability to learn present still another challenge to the instructor's planning. The good instructor always remembers that the objective and goal of his lesson is for each student to learn.

LAWS OF LEARNING

The six laws of learning are suitable for most learning situations. Keeping these laws in mind when planning a lesson lets the instructor create a better learning atmosphere for his students.

Law of Readiness. A person learns best when he has the necessary background, a good attitude, and is ready to learn. He does not learn much if he sees no reason for learning. Getting a student ready to learn is usually the teacher's job. A clear objective and a good reason for learning sometimes help to motivate students to learn even when they start off not caring. A student who is usually ready to learn

meets the instructor halfway. Sometimes the instructor can do little to create a readiness to learn. Outside responsibilities, overcrowded schedules, health, finances, or family affairs can take away a student's desire to learn.

Law of Exercise. Those things most often repeated are the best learned. This is the basis for practice and drill. The mind rarely retains, evaluates, and applies new concepts or practices after only one exposure. A student learns by applying what he has been taught. Every time he practices, his learning continues. There are many types of repetitions. These include student recall, review and summary, and manual drill and physical applications. All of these serve to create learning habits.

Law of Affect. This law is based on the feelings of the learner. Learning is stronger when joined with a pleasing or satisfying feeling. It is weakened when linked with an unpleasant feeling. An experience that produces feelings of defeat, anger, frustration, futility, or confusion in a student is unpleasant for him. This will decrease his learning capabilities. Therefore, instructors should be cautious about using punishment in the classroom. Every learning experience does not have to be entirely successful, nor does the student have to master each lesson completely. However, every learning experience should contain elements that leave the student with some good feelings. A student's chance of success is definitely increased if the learning experience is a pleasant one.

Law of Primacy. Primacy is being first, which often creates a strong impression. This means that the instructor must be right the first time. Everyone knows from experience how hard it is to break a bad habit. "Un-teaching" wrong first impressions is harder than teaching them right the first time. The first experience of a student should be positive. This helps to provide a stable foundation for all that follows.

Law of Intensity. A sharp, clear, or exciting learning experience teaches more than a routine or boring one. This law implies that a student will learn more from the real thing than a substitute. For example, a student can get more understanding and appreciation of a movie by watching it than by reading the script. A student will form a clearer concept of the speed of tank ammunition by watching it fired than by reading "5500 feet per second." The classroom places real limits on the amount of realism that can be brought in by the instructor. So, he should use his imagination to keep things as close to real life as possible. Mockups, videotapes, interactive courseware, slides, charts, and any number of other training aids add sharpness and action to classroom instruction. Demonstrations, skits, and role-playing do much to increase the leaning experience of students.

Law of Recency. Other things being equal, the things learned last will be best remembered. The opposite is also true. The longer the student is away from a new fact or understanding, the harder it is to remember. For example, it is fairly easy to recall a telephone number dialed a few minutes ago, but it is usually impossible to recall a new number dialed last week. The instructor must recognize the law of recency when planning a good summary. He should repeat, restate, or reemphasize the training objectives. He also repeats important information the students need to remember.

Not all of the laws of learning are in every learning situation. It is not necessary to determine which law operates in which situation. An instructor who understands the

laws of learning can deal intelligently with motivation, participation, and individual differences - the three major factors that affect learning.

PSYCHOLOGY'S RULES OF LEARNING

The objective of teaching a class is to have students learn something, and remember what they have learned. Instructors constantly employ many different psychological principles of learning. This section presents 20 principles of learning, established by psychologists, which are useful for training. Some of these principles have been followed by more experienced instructors for years. All should be useful to the instructor who wants to be effective and successful.

Stimulate Students. Unpleasant things may be learned as easily as pleasant things. The worst stimuli are those that cause little or no feelings. It is better to have rewarding conditions than unpleasant conditions, but either is better than neutral conditions.

Recognize Individual Differences. What your students can do is important in determining what can be learned and how long it will take. The ability to learn changes with age. It reaches a peak around 16 years of age then begins to decline steadily for most people. An instructor should be more patient if he is trying to teach older or slower students.

Understanding and Repetition Aid Retention. People remember what they understand better than what they try to memorize. Practicing a task over and over won't help unless the reason for learning is understood by the students. However, remember that a lot of drill is still very important in getting facts across, in reinforcing them, and in creating performance habits.

Distributed Practice Aids Retention. Practice broken into several periods is better than the same amount of practice crammed into a single session.

Show It Like It Is. Hands-on skills should be shown in the same way that the learner sees it in front of him. This is very important when you use classroom video. The videotape should show the student exactly what he would see if he were doing the task.

First and Last Impressions Are Retained. The order of presentation is very important. Points or objectives presented at the beginning and end of the class are remembered better than those given in the middle. So, if four objectives are given during an hour, the two most important points should be given first and last.

Exotic Experience Is Remembered. Students remember change or unusual examples better than normal ones.

Showing Errors Can Aid Learning. Showing how errors happen can lead to increases in learning. Showing not only "what to do" but "what not to do." This can be critical in teaching safety points. This doesn't mean teach "the wrong way" to do something, just show what could go wrong.

Rewards Aid Learning. Irregular or unexpected rewards are better than expected or constant rewards. Rewards that are always given at the same time (answering a question, when finishing a project, grading an exam, etc.) sometimes seems phony. Unexpected rewards provide tremendous encouragement and motivation and keep students "on their toes".

Recognition is Easier Than Recall. It is easier to identify something than it is to remember it.

Much Is Forgotten Rapidly. The rate of forgetting tends to be very rapid right after learning. It takes a lot of repeating in the early weeks of a class to overcome rapid forgetting.

Known Authorities Are Believed. Students will believe a known expert's quotes more than regular instruction. However, information that is repeated often enough works just as well as quotes. Good, lesser known instructors can help their students remember just as well as older or better known instructors.

Exact Repetition Is Effective. Repeating the facts over and over helps memory just as much as using new examples each time.

Fear Is Effective In Small Doses. The use of a moderate fear appeal is better than a strong fear appeal. "No stress produces no learning." However, too much stress is likely to turn off the students. A good instructor finds the right balance.

Success Begets Further Success. Knowledge of how well they are doing leads students to greater learning. So does telling them how the lesson will help them. Tell your students when they are doing well.

Tie-In Is Essential To Learning. The student must see some relation to his experience in order to learn. Few students can "leap frog" and learn facts that can't match up with what they already know. New information is easier to learn and accept if it doesn't go against earlier habits.

"Belongingness" and "Satisfiers" Aid Learning. Just repeating facts does not always lead to learning. Two things are necessary - "belongingness" and "satisfiers". Belongingness means that the things to be learned must belong together. They must show some connection or order. It is easier to learn 2, 4, 6, 8, 10 that belong together, than to learn 2, 1, 5, 7, 43 that do not. Satisfiers are real or symbolic rewards. It has been shown that just saying the word "right" when the person is making the correct response is a satisfier. This helps speed up the learning process. The word "wrong" is an annoyance or "punishment" and is not as effective.

Old and Strong Ideas Are Best Retained. Review of ideas that you have had for a long time causes more learning than review of a new one. You will not forget an old idea as fast as a new one. So, if you can tie your instruction to older ideas, your students will remember more.

Active Practice is Best. Learning is aided by hands-on practice rather than just listening. "Class Participation" is active practice. Make your students be an active part of your class.

New Learning May Detract From Previous Learning. Learning something new may cancel out something learned earlier. A person who studied French for an hour and then studies Chinese for an hour will not remember much French. He would remember more if he substituted an hour of rest in place of the study of Chinese.

Instructors should not blindly attempt to apply every one of these principles. You will go crazy trying. But, use of those principles when you can fit them in will help your students to learn and remember. After all, students are all much alike in that they are people reacting to materials that someone wants them to learn.

SECTION 3.0 PREPARE THE LESSON PLAN

It is important to stress that prior to putting pen to paper to develop a lesson plan, you read the pages preceding this section. If you are not an educator by profession, the beginning of this document is critical to your success as an instructor. The previous pages were written to help you consider and decide how to best present your course material based on the psychology of learning. If you skipped that section and jumped in here to begin developing your lesson plan, you have decided to sell both yourself and your potential students short! Take the time to read the beginning of this document so you can be the best possible instructor for your students. The investment in time is small in comparison to the pay back once you reach the classroom podium and see all those faces staring at you.

"Finally," you say, "We get to the reason you started reading this document in the first place - to learn how to write a 'lesson plan'". But to attempt to write a lesson plan without planning would be a classic example of "getting the cart before the horse". First you must:

Research the Topic

Is an instructor expected to be a research scientist or a specialist? Not exactly. Instructional research is getting all available materials on the subject together and reading or looking at it for relevant information. All supporting material and training aids must be checked for accuracy and usefulness. Are they current and up to date? Just ask yourself, "will this help the student meet the training objective(s)?"

Is a "war story" by an instructor appropriate? Yes, provided it isn't too long, it relates to the training objective, or it supports a teaching point. You know the old saying - "If the company wanted you to be a paid entertainer, they would have assigned you to "Recreational Services!" Your job is to teach your training objectives, not amuse the students. They won't be very amused when they find out they can't answer questions on the material you were "supposed" to cover in your class.

Writing Objectives

Second, you must consider what your course objective(s) will be. Objectives are the cornerstone, the base of the entire instructional pyramid. Presenting them to your students is the most important part of your introduction. Since they are important, let us take a close look at how they are made.

The objectives are your "contract" with your students. They say what you and they are going to accomplish. Like any other contract, objectives should be clear, honest, complete, and unquestionably correct!

A training objective must state the task to be done, the conditions under which behavior will take place and be observed, and the standards the behavior should meet. A complete objective will contain a Task, a Condition, and a Standard.

Description of Performance (TASK). The first requirement is that the objective contains an action verb that describes doing something that can be seen and measured. Words such as the following do not possess a common, single meaning and are capable of different interpretations:

Comprehend	Know	Contemplate
Fully Understand	Remember	Perceive
Grasp Significance Of	Have Faith In	Believe In
Be Aware Of	Decide	Recognize
Really appreciate	Enjoy	Experience
Have A Feeling For	Consider	Examine

These are legitimate goals, perhaps, but they are "fuzzies." How does an instructor see the action the student is taking when demonstrating that he can "appreciate," "have faith in," etc? Further, the student does not know just what he has to do. Do not use these words to describe the task the student must perform.

The following words say what the student must do; they can be good action verbs for a training objective:

inventory	overhaul measure	calculate	recover
test	solve	write	list
operate	construct	disassemble	detect
name	adjust	identify	define
assemble	explain	install	maintain
locate	remove	calibrate	replace
authenticate	rewire	troubleshoot	repair
build			

Determine the most accurate action possible. "Explain" is not as accurate as "explain in writing." The point is that both you and the student must agree on what you are going to have him do.

Conditions Under Which The Behavior Is To Be Observed. The objective will contain the conditions under which action will take place. The student deserves to know what he will be given, or not given, to do the task. The question to be asked is, "Do the conditions affect task performance? Do they affect the type and amount of training?" Generally the types of conditions to be considered are as follows:

Job aids, handbooks, instructions, pre-printed forms, other written documents. The student should be told what he will be given in order to complete the task. The action verb "to write," it is not necessary to state "given pencil and paper."

Standards The Students Must Meet. The last part of the complete objective is the standard of performance. This is what a student must accomplish before the instructor can be satisfied that he has learned the task. Seldom is it necessary for a course of instruction to teach to mastery level. Mastery of a skill or knowledge often requires too much time. The student is taught how to do the task but he must practice on the job to be good at it. It will not usually be necessary or reasonable to expect the student to perform without error just to pass a course. Usually, it will be possible to expect a student to solve a certain percentage of problems, complete 9 out of 10 parts of a form, or meet specific accuracy standards, or to do things within a certain amount of time. These criteria (speed, accuracy, quantity) are often the standards. They tell the student how well and how fast he must complete the task. This should be presented to the students as part of the training objective(s).

Examples of training objectives that contain all of the elements of a clear, explicit training objective are:

CONDITIONS	TASK	STANDARD
Given the draft of a 100 word letter and a format guide	You will type a letter	The letter must contain no errors and be completed within 30 minutes
Given a simulated patient, oral thermometer, and a watch	You must measure the patient's temperature	To within plus or minus 0.4 degrees of actual temperature within five minutes
During daylight in unfamiliar terrain, with the aid of a watch	You will locate north	Plus or minus 7 degrees east or west within one hour

To summarize this complicated topic, the objectives for a training environment must contain:

1. A condition statement that informs the student of what will be provided, or denied, and the physical environment if that is appropriate.
2. A task statement that describes the action the student will perform.
3. A standard that states how well and how fast the task must be performed.

As a side note, please do not feel that the objective must be written in the order of condition, task and then standard like the examples above show. As long as you have all three elements (task, condition and standard) present in the objective, you can begin with either task or standard too. Order is not important here!

LESSON PLAN SECTIONS

The lesson plan is made up of several main sections, they are:

- Introduction
- Explanation/Demonstration/Application
- Evaluation

The first section of the lesson plan is the Introduction. The Introduction is usually numbered paragraph 1. It contains the reason for the training, class objective(s) and procedures.

The second section of the lesson plan is (often called the body of the lesson plan) the Explanation, Demonstration, and Application portion of your training. This is the section where you will have all your teaching information. This section is usually numbered paragraph 2. It contains the information you plan to explain to your students, any demonstrations on how to do a task, and time for the student application of what you explained and demonstrated. NOTE: If you find your topic to be lengthy...over eight hours, you might want to consider making the Application portion of the lesson plan a separate paragraph numbered 3. If this is the case, remember to number the evaluation section paragraph 4.

The last section of your lesson plan is Evaluation. Evaluation is usually numbered paragraph 3. (See above note for exception). The evaluation section contains that portion of the lesson that allows you to evaluate your students understanding of what you just taught. This is good for both the student and instructor. You get feedback on how well you did your job teaching, and the student gets feedback on whether he absorbed class information and could apply it.

There must be 9,000 ways to do a lesson plan. The samples included here can be used in at least 10 different formats. The point here is this is a means to an end. The best constructed lesson plan on paper will not make you a great instructor, will not make the students learn or even like your class. There is a whole lot more to being a good instructor than your lesson plan format. Please do not get wrapped around a lesson plan format. This is merely your roadmap to disseminate information, ensure you cover everything, and do it within your allotted time frame. What follows is a good guide to use for a lesson plan. But you need to make this work for you and a tool you want to use.

To list a few purposes of a lesson plan:

- Plans what will be taught and the order of disseminated information.
- Records what will be taught so that a back-up instructor can disseminate the same information in your absence.
- Consistency of information disseminated from class to class.
- Allows for planning of the class length.
- Allows for revisions based on student evaluation. If it is not written down how do you know what to revise?

INTRODUCTION SECTION OF LESSON PLAN

We are going to start at the beginning, or paragraph 1 of the lesson plan. This discussion will focus on the Introduction section of the lesson plan. Remember, you will get one chance to make a good first impression with your students. Really give the introduction section of your lesson plan some thought and consideration.

Being an instructor depends first upon the view you have of your students as you face them from the front of the classroom. It also depends upon many other things. First, what do you see? Do you see formless, faceless blobs? If yes, then you are not an instructor. You are at best a dispenser of information. The Company has other

means of presenting information: text, manuals, handbooks, audiotapes, and interactive media, which may be even more efficient at this than you can be.

Are you focusing on the faces of your students, and in particular on their eyes? Perhaps then, you have a bit of a beginning contact that will grow with your further efforts, into individuals capable of doing a job they could not do before your class. You will note that each face is different. You are in contact with individuals. They come from the complete range of backgrounds, races, intelligence, family lives, education, and physical characteristics that our nation produces. Many people think of schools as buildings, classrooms, parks, equipment, books, and training aids...hopefully attractive, comfortable, antiseptic, and in perfect working condition. A school, or class, is people: instructors and students. A school, or class, is a society. You, the instructor, are the second most important member of that society (the first being the students). Your effectiveness will depend on your knowledge, talent, and effort in doing what an instructor must do. Your beginning in "heating up the iron" is the introduction to your lessons. A well-planned introduction is your first step toward good instruction. Instruction begins somewhere; by definition, the introduction should have been your beginning. Give yourself the best start you can by designing an introduction that includes; (1) reason/motivation; (2) objective; and (3) a procedures paragraph.

Reason/Motivation

Some students may impress you as being like the proverbial mule; they must first be hit between the eyes with a 2 by 4 to gain their attention. Despite the exaggeration of this example, the fact is that you must begin somewhere. The student must begin his learning somewhere. Your beginning will be the reason. Do your best to give yourself the best start that you can invent. The opening statements and actions designed by the instructor can be more important for him than for the students. First impressions can be quite influential and lasting.

The reason lets you focus the attention of the class upon the subject matter. It also lets you gain all-important contact and rapport with the class. This you must maintain throughout the lesson, the instructional block, or, perhaps the entire course. The class should view you as confident, competent, knowledgeable, professional, and definitely concerned and sincere. Your reason helps give that view.

Many instructional tools and methods are available to you in this effort to begin well. We won't list all the possibilities here. Let's just look at a few.

Electronic slides, videotapes, audio quotations, music, chalkboard, charts, models, games, mockups, and actual equipment can be used here. The rules are that the message must be understandable, quick, sharp and relevant. It must not present subject matter that the students know nothing about or cannot grasp. You do not want to spend a lot of time here orienting your students. The medium must contain its own message.

Students will learn because they want to learn. Students who do not want to learn, or refuse to learn, will not. You do not possess a hypodermic syringe filled with knowledge that you can inject into them against their will. The mythical bottle of "learning pills" is not perfected yet. There are no clear answers as to what you must do to motivate a particular class to learn a specific subject, under specific conditions,

and to specific standards. All of these variables, and the most variable thing can be the needs of the students in the class. Who are they? Where are they going? What is their job? There are some generalizations that can be made about motivation. The more you learn about your class, the more effective you will be in causing the students to want to learn.

First, we know something about what we mean by motivation. We know that it is part of a person. We know that it will exist to fulfill one or more of his personal needs. We say that it is an internal driving force that causes a person to do something (physically, mentally, or both) to move toward a goal. He will have this drive as he feels this need and clearly perceives the goal.

The needs of the spirit are those most often receiving the instructor's attention. Guiding students to the fulfillment of their needs is certainly one of the instructor's greatest rewards. Sometimes the student will not truly recognize these needs. Therefore the instructor must make the needs clear. He does this by convincing the students of the importance and truth of the material to be learned.

The relationship between the job and the subject matter must be clear, detailed, and specific. The reasons must be honest, sincere and accurate. The students must be appealed to personally, or as members of a critical team. Everything available to the instructor for getting attention is also available for giving motivation.

Motivation for most students should be positive. Negative motivation is supplied by such elements as: "You will be held responsible for all of this material on the exam." "Forty percent of our students have failed this one!" "Our attrition rate is currently 25 percent. That means approximately one out of four of you won't be around when the course is over!" Avoid this type of motivation. They'll find out anyway, if it is true. Your job is to help them avoid failing, not to help fail them.

Objective

The objective as its formally written will be placed in this section of the lesson plan. Write, or if you prefer, rewrite the objective so that it can be presented in a conversational manner. The objective in the lesson plan will still contain the task, condition and standard, but written for the spoken word. Even if you should elect to hand the students a written copy of the objective, please, please, make sure you verbally tell the class the objective(s) when you begin the introduction of your lesson plan.

Procedures

You must inform your students of the methods of instruction you will use. For example, if you are going to conduct the early part of the class as a platform presentation, followed by a demonstration that is in an interactive media format, followed by student team exercise, then it will mentally set your classroom stage. Inform the students just how the class will be organized, conducted and how it will progress.

2. LESSON PLAN BODY

The body of the lesson is the most difficult and by far the most time consuming portion of the lesson plan to develop. Before you can confidently develop this section, you need to know:

- What you're going to teach. What is your exact topic?
- Extensive research on your topic. Become an expert before you get to the podium.
- Know time frame availability for the training. Without this information, you cannot determine level of detail.
- Who is your target population? Level of instruction must be geared to the learning population.
- What instructional method(s) will you be using in this class?
- How will you organize your subject material?
- Is media a consideration?

There is a lot to be researched prior to beginning this section of the lesson plan. Please read the rest of this document for helpful information to plan for writing the body of the lesson plan.

Lesson Plan Paragraph Format

Paragraphs are used to distinguish main points or concepts from each other. Subparagraphs are used to divide main concepts into component parts. The paragraphing system incorporates a series of numbers, letters, and symbols to distinguish main paragraphs and various levels of subparagraphs from each other. Notes, cautions, questions and answers can be inserted as needed.

Note: The word "paragraph" is used to mean spacing. You will probably find that your Main and Subparagraph information will be no more than a few words in length. The lesson plan is a guide, not a manuscript. Do not write it so that you find yourself reading from it.

EVALUATION SECTION OF THE LESSON PLAN

In our situation, an instructor rarely formally tests students during a lesson. However, the instructor must have some way of determining whether the student leaves the class with the knowledge presented. This is done through non-graded evaluation/student exercises.

The evaluation paragraph of the lesson plan is a set of directions to the instructor telling him how to conduct the evaluation. The evaluation is the final section of the lesson plan. It will specify what the instructor must do before, during and after the evaluation.

The Purpose Of Student Evaluation. If it is worth teaching, it is worth testing! If you ask a student why tests are given, the majority will say, "So the instructor can give us grades". The majority of instructors would answer that question in the very same way....sad but true! Assigning grades is but one tiny purpose of student evaluation. The most important part of student evaluation is to provide some kind of system for quality control. There are two sides to this system. First is to monitor student achievement of objectives so that the instructor can determine learning took

place. Second is to identify problem areas in the lesson material presented to students and determine the reasons for the problem so it can be fixed.

Secondary Evaluation Functions:

- Lets you know if you were successful teaching your objectives.
- Allows you to make decisions about the instructional methods and/or materials.
- Judging student progress.
- Facilitating student learning.

Please remember, there are some students who will mentally escape during your class if they know there will be no evaluation of learning. No evaluation means the student does not have to take responsibility for learning/comprehending the information you will be presenting. Think this aspect over very carefully before you decide not to evaluate student learning at the end of your class.

Did you know that using evaluation situations in your classes would aid student learning? There is a lot of evidence that evaluation is one of the best ways to increase student learning. A course or class evaluation is a chance for the student to do what he has been taught. Research shows that some kind of evaluation increases learning and remembering, if evaluations are directly related to objectives.

LESSON PLAN COVER PAGE

This is the last portion of the lesson plan you will develop....it is called the Cover Page. You are probably wondering why we do the cover page after the lesson plan is completed, when in fact it is placed on top of the lesson plan. The items contained on the cover page cannot be determined until after the lesson plan content has been researched and constructed. This way, you only have to write the cover page once. What is a cover page? It is a vital part of any lesson plan. It is the one place an instructor will look to see what he needs for the class he is about to teach.

The cover page of the lesson plan contains several items of essential information as identified below. If any item does not apply to a particular unit of instruction, the heading is listed and is followed by the word "None."

Instructional Unit. List Name of Subject to be presented.

Primary and Secondary Instructor Names. Need the names of the primary and back-up instructor in case you are absent.

Type. Which Methods of instruction will be used: Lecture, demonstration, case study, practical exercise, etc., or combination of these.

Time. Length of presentation in minutes.

Required Training Aids. What training aids will be required for your presentation?

Handouts. List title of all your handouts.

Objective. List the specific things students are to learn during your presentation.

Purpose. Tell the students why they should find this topic useful to them on the job. In other words, why is this topic important to them? Create a need to know.

Tie-in. How does this tie in to the big picture of the Company? How will this information help them on-the-job?

SECTION 4.0 INSTRUCTIONAL METHODS

Determining Instructional Methods

There are many instructional methods that may be used in the classroom. Each has certain advantages and disadvantages. Some are better suited for certain kinds of instruction than others. Different methods require greater or lesser participation by students. One method, or perhaps a combination of methods, is usually most appropriate for most subject matter and objectives. Based on your subject matter, you will need to determine what instructional method(s) will showcase the information you will be teaching. The paragraphs below discuss the most commonly used methods.

Lecture Method. The lecture method has a place for many units of instruction. It is instructor centered training in that the instructor is the sole disseminator of information. The Instructor presents information to the student systematically in this method. The best approach is when the instructor presents a segment of instruction, questions the students frequently, and provides periodic summaries or logical points of development.

Advantages. The primary advantage or value of the lecture method is its flexibility. Students are encouraged to ask questions about points that are not clear, and the instructor is free to take the necessary time to answer these questions (keeping in mind the amount of material to be covered during the unit). Information that seems less clear can receive more attention and explanation from the instructor. This method also permits more material to be covered in a shorter time.

Limitations. There are two major limitations of this method. Only limited discussion is possible because of larger classes and greater amounts of material to be covered. This method does not lend itself to controversial materials.

Demonstration Method. The Demonstration method is one in which the student observes the portrayal of a procedure, technique, or operation. The demonstration method shows how to do something or how something works. It may or may not introduce new methods.

Advantages. It sets standards by showing exactly how a thing is to be done and the degree of proficiency required to meet objectives. The demonstration appeals both to the sense of sight and hearing. This reinforces the subject matter and dramatizes realistically the teaching points. The method saves time since principles, theories, and operation can usually be shown more quickly than they can be explained.

Limitations. Since students do not actively participate in all demonstrations, there is less reinforcement of teaching points if this method is used alone. Thus, this method should be followed with a practical exercise in which the students do participate.

Practical Exercise. A practical exercise (PE) may take many forms. Basically, it is a method of training in which the student actively participates, either individually or as a team member. He does this by applying previously learned knowledge's or skills. All students actively participate although they may work at their own rate. Students may or may not be required to follow a set sequence. The various forms of the PE are explained in detail below:

Controlled PE. The controlled PE is a form of PE where the student is guided, step-by-step through a procedure, technique or operation. It is characterized by two things: (1) Students participate as a class, (2) they are guided through a set sequence, and students generally complete each step and are checked by the instructor prior to continuing to the next step. A mistake is corrected before the student is allowed to proceed to the next step.

Advantages. The instructor retains firm control and is able to better judge individual student progress. This method ensures a more standardized presentation of subject matter than in some other methods.

Limitations. The primary limitation of this method is that it is very time-consuming. The instructor must check each step for each member of the class before the student can continue. This restricts the amount of information that can be taught during a fixed amount of time. Students may be less motivated in this form of the PE. The slower student may become frustrated if the pace is too fast. The fast learner gets frustrated if the pace is too slow.

Practice Method. Students (alone or as part of a team) repeatedly perform previously learned actions, sequences, operations, or procedures. This method may take several forms: team, coach and pupil, or independent practice.

Case Study Or Team Practice. The student performs as a member of a group to solve a textbook problem with a team solution or practice completing a sequenced task.

Coach And Pupil. In this method, the student performs individually while being observed by the "coach". The coach's responsibility is to ensure that the student performs the action or process correctly. When the student then completes task, he assumes the role of the "coach" and the coach becomes the pupil.

Independent. The student applies the skills or knowledge in either an actual or training situation. He practices by himself although he may ask for instructor advice if necessary.

HOW TO DEVELOP A TEACHING POINT

As you scan through this section, you will learn what kind of information goes into the Explanation/Demonstration/Application portion of the lesson plan. Any

combination of this heading can be used depending on your lesson. You will read suggestions and other guidance that hopefully will help you prepare you subject.

You need to keep certain basic requirements in mind. Your communication of subject matter must be accurate, complete, and clear. It must have a logically advancing flow of information and activity.

The instructor must answer a series of questions in order to achieve his purpose. These questions concern the various steps in the accomplishment of his presentation. We already considered some of them in preparation of the lesson introduction. They need more study in greater detail to design the lesson body. These questions are: What to teach? How to teach?

The answers are obtained from training objectives, available/existing material on the topic, experienced instructors, and education/training specialist types.

The objectives will dictate the main points to be presented and learned. These points must agree with the objectives and match their intent. Also, they must be arranged in a logical sequence. Sequence is a matter of choice if the main points are independent of each other. The main teaching points often have a logical dependency in technical and in complex skill/knowledge areas. So start with the simplest teaching point and use it to help teach the next one. Then use those two to teach the next one, etc. Decide which material goes where and the logical sequence in organizing it by applying the "Laws of Learning." The organization of the subject material must show a relationship to the main teaching points of the class. This can be accomplished by developing the main teaching points in one or more of the following ways:

From Simple to Complex. Using this pattern will help you the instructor lead the students from simple facts or ideas to an understanding of involved theories or concepts. The student of Biology studies the simplest forms of life first, then the intermediate forms, and finally the more complex organisms.

From Known to Unknown. The instructor can lead the students into new ideas or concepts by using something they already know as the starting point into new material. You should take the student from familiar information into unfamiliar information.

From Most Frequently Used to Least Frequently Used. Certain information or concepts are common to all who use the material in some subjects. This organizational pattern starts with ideas that are used every day before progressing to the less frequently occurring ones.

From Past to Present. The subject matter is arranged chronologically, from the past to the present or from the present to the future. Such relationships in time are very suitable when history is an important consideration, say in the development of weapons systems, radars, or nuclear weapons.

Under each main teaching point sub-elements should lead naturally from one to the other. Each point should lead logically into, and serve as a reminder of the next. Meaningful transitions from one main point to the next keep the students oriented

and aware of where they have been and where they are going. Organizing the material so that the students will understand the steps you are taking is not an easy task, but it is of chief importance if the students are to learn. Poorly organized information is of little or no value to the student.

The lesson as discussed up to this point resembles a lecture. A lecture keeps the student in a passive state. The student who is being talked at and, worse yet, talked down to, perceives and retains from 0 to 30% of the presentation. How can the communication be made more efficient and effective?

The answer is very simple. Whenever you can show the student what you are talking about, do so....show him. Demonstration together with the lecture allows the student to SEE what you are talking about. The demonstration should:

- Create interest.
- Cause the use of more senses.
- Give experience not otherwise reachable.
- Show the whole picture.
- Increase memory retention.

A demonstration to illustrate key points could include the following forms:

- Procedural Demonstration
- Displays
- Role Playing
- Video
- Skits
- Games
- Case Studies

It is important for you to provide for student participation during the class. Students learn and remember more when they are required to perform a task immediately after seeing a demonstration of that task. Student participation may be a "hands-on" practice exercise. Participation may take the form of discussions, preparing reports, completing a form, solving tactical problems for non-equipment subject areas, team case studies, etc. The important thing to remember is that student participation must be included in your lesson plan. This can be accomplished by including practical exercises in paragraph 2 of your lesson plan, or as a separate paragraph (Application), or in the form of questions and answers written into the lesson plan.

Instructor notes should also be included in the lesson plan. They are excellent reminders for the instructor and are placed in the lesson wherever needed.

SECTION 5.0 HOW TO CONDUCT CLASSROOM PRESENTATIONS

Libraries are full of entire books on this topic. The attempt here is to cover some basic skills and knowledges concerning effective instruction.

Effective instruction requires many skills and much knowledge...and a little natural talent doesn't hurt. The art of effective speech can apply to anyone. But the instructor/educator needs the dedication of a clergyman, the selling abilities of a

salesman and the diagnostic acumen of a physician, combined with the capabilities of a silver-tongue orator to be truly successful. Let's take a look at what makes a good disseminator of information.

Knowledge of the subject to be taught. Effective communication cannot result if the process consists of ignorance talking to ignorance. An instructor's communication of thought, concept, skill, or teaching must be based on a foundation of subject mastery. No one lives who knows everything about anything. The instructor must regard himself as a student. You learn something new with every class you teach. Enter the classroom feeling that you have more ammunition in your mind than you will ever have to fire! This raises your self-confidence and your enthusiasm will be at high pitch.

Effective communication. You actually listen more than you speak. Analysis of communication must look at both the listener and the speaker. This is the foundation for student-instructor interaction. Only 25% of a person's time deals with reading and writing. So, we will concentrate our efforts with the speaker/listener process. It is very rare to get a student who has been trained as a listener. High schools/colleges don't have listening training. This means you must teach so that the student must listen. Communication means transferring your ideas to a listener. This process - interactive teaching - is the foundation of any communication effort. Talking to students can take various forms. Teaching one student or a group, the only way you can know they understand is to interact with the listener. YOU become a teacher AND a listener; so does the student. The better you listen, the better you speak. A better speaker is a better teacher.

One-way communication is only as good as the student's memory, if he's awake. Remember, to communicate well, you must involve the listener, creating a two-way channel. You need to interact with your audience/listeners. This lets you know that they know what you are teaching.

What about reading your class presentation? This is a poor substitute for instruction. Most students will hit you with "if you can read it, so can I. Give it to me, and let's go home". Reading allows no interaction and very little eye contact. Extemporaneous means to speak without notes after careful preparation. This is also the method with the most flexibility. Let's look at some of the characteristics of effective speaking. Primarily there are three:

1. Communicate interactively.
2. Use animation or gesture.
3. Be sincere.

These break down further into the communication vitalities.

The first is Physical Vitality. Use movement in the classroom to your advantage. Gesture, use aids effectively and correctly, be animated rather than a stone figure. This makes you much more interesting to listen to.

The second vitality is Contact Vitality. Try to make each student feel that they are an important participant in the class. Spread your eye contact to all. Speak to students as individuals. Generally, sell your product - teach it like it matters.

Voice Vitality is third. The human voice has tremendous capabilities, and the good talker uses as many of these as he can. Tone, pitch, and hardness all contribute to the quality of your vocal sounds.

The forth vitality deals with words. It concerns using and selecting words that can be easily understood by all of your students. Students who can't understand you can't learn from you. Dr. Ralph Nichol, Professor at the University of Minnesota, conducted a research study on communications. He found that the distortion in one-way communication from the top down in a chain of command amounted to 70% by the time the message reached the worker. Instructors cannot tolerate such a percentage of error. You must ensure that the word of the lesson and the actions of the listener are true reflections of what was intended or required.

Personality traits. You might expect that the extrovert, the bold action type, would make the best speaker, and the shy, quiet, introvert would be the worst. Don't count on it. Many individuals, shy and retiring by nature, have given history its finest examples of the spoken word; e.g., Abraham Lincoln. The following traits will be most important in your work as a teacher:

Enthusiasm. A teacher who displays interest both vocally and physically in the subject he teaches will find that most of his students learn with interest.

Honesty. Honesty used in reference to instruction means telling your students the truth. Always honestly separate the "need-to-know" information from "nice-to-know" information.

Humor. A sense of humor is vital to a teacher. This does not mean skill at telling jokes. It is best defined as your ability to laugh at yourself when necessary.

Tact. Treat an audience or class with courtesy and patience.

SECTION 6.0 THE USE OF TRANSITIONS

A well presented lesson progresses by steps. When presented smoothly, transitional words, phrases, sentences, or statements connect the parts. Transitions make it easy for the students to follow the material, know when one point is finished, and the next point is introduced. Some techniques that help instructors make smooth transitions follow:

Refer to the subject. If, for example, the lesson is the principles of lean, proceed to the next principle by referring back to the subject. "another principle of lean that we must consider is the principle of eliminating waste."

Use frequent subsummaries. This is a valuable transition technique because it makes use of repetition. The internal summary is also an excellent way to move from one point to another.

Use rhetorical questions. Here the instructor answers his own question.

Use connective word and phrases. Words such as, however, moreover, therefore, and accordingly all serve as signals that one idea is being closed and another being opened. Do not overwork one particular connective word.

Number points. Use ordinal numbers such as “first” or “second.” List points on a board or chart.

SECTION 7.0 ADVANTAGE OF QUESTIONS

Asking and answering questions are important to communication. Questions stimulate thought and encourage or force participation. They also help the instructor adjust the class to the students. Questions may uncover misunderstandings, and allow you to clear them up before student evaluations begin.

Questions should be asked for a specific reason. They must have a purpose. This may be to emphasize a point, review material, or stimulate thought. See explanations below:

Increases Student Interest. Class interest increases and improves when student participation is obtained by questions. These questions can come from the instructor or a student. Students generally are more interested in hearing one of their group than the instructor. They feel that they add to the instruction if they can ask questions and answer questions from the instructor.

Stimulate Student Thinking. Students are more alert when they are held responsible for learning. They will pay closer attention and think more about the subject if they know that questions will be asked. Instructors who ask questions and call for student questions are helping their students learn.

Reveals Student attitudes. Students’ responses often show how they feel about the subject or the entire training program. Student attitudes are important to the instructor. They reveal the presence or absence of motivation.

Permits Student Contribution. Students will have new ideas about the lesson material and should be encouraged to contribute these to the class. Such participation is good. It stimulates interest, adds variety, and also adds material to the lesson.

Provides Emphasis and Reinforcement of Main Points. Remembering important points is made easier by questioning. Just asking a question about some point emphasizes that idea. Correct responses to questions reinforce the correct ideas in the students’ minds.

Checks the Effectiveness of the Instruction. One of the best ways to check the understanding of ideas is by direct questioning. This shows if the methods, techniques, and approach you have used are working. Student answers to these questions show exactly where the instruction has been poor.

QUESTIONING TECHNIQUES

In most situations, the ask, pause, and call technique is effective. Ask the question, pause to allow each student to prepare an answer, then select an individual to answer the question. Once the answer is given, it needs to be evaluated. Evaluation of the answer encourages additional student participation. Degrading a student who has made an inaccurate response discourages other students from participating. A checklist for good questioning techniques follows:

- **Specific purpose.** Questions should be designed for a specific purpose. Questions may be used to emphasize a major point, stimulate thoughts, arouse class interest, or alert students. A question may check immediate understanding and a later question on the same point may check for recall.
- **Clarity.** Questions should be phrased in understandable terms and language. Avoid lengthy questions that require clarification. Use simply worded, direct, and easily understood questions.
- **Require a definite answer.** State the questions so a definite answer is required. Do not allow students to bluff. A vague and indefinite question invites a vague and indefinite answer.
- **Emphasize one point.** If questions require several responses, distribute the requirement among students. Dividing the requirement will result in equal participation.

SECTION 8.0 QUICK LIST OF HINTS FOR GOOD INSTRUCTION

The Introduction

Motivate	Create interest. Make the individual want to learn.
Brevity	Make your introduction brief, clear and convincing.
Why	Tell students what will be learned. Stress importance to individual. Tell them how it is to be used.
Associate	Relate to previous instruction and to what follows.
How	Outline the method of presentation. Let the students know what is coming and what is expected of them.

The Delivery

Attention	Be sure you have your students' full attention before starting.
Volume	Adjust to the size of your audience. Be sure that you can be heard.
Enunciation	Speak clearly and distinctly.
Pronunciation	Be sure you are correct. Get the "dictionary habit."
Avoid	Use of localisms, slang, profanity and monotonous connectives should be avoided.
Contact	Look directly at and speak directly to students.
Excuses	Prepare yourself. You won't have to make excuses.
Vocabulary	Adjust to the level of the students. Define new terms.
Emphasis, Repetition	Gain emphasis by forceful presentation, repetition, gestures, pauses, and variation in rate, pitch and intensity.
Sell Your Subject	Convince yourself of its value. The rest is easy.

Prepare	Have your questions and expected answers ready prior to class. Make sure questions are clear and concise and answers definite.
Kind	Be specific. Each question should contribute to the instruction. Be certain that each point of the instruction is covered.
Stimulate Thinking	Phrase your questions to bring out the WHY and HOW. Don't let your students guess.
Rotate Questions	Cover the entire class. Recognize and evaluate student's responses.

The Summary

Essential	Summarize frequently as each major point is made. Conclude each period, course, or phase of instruction with a summary.
What	Restate major points.

Classroom Management

Preparation	There is no substitute for preparation. Know your subject and lesson plan. Check on seating, lighting, ventilation, instructional materials, equipment, training aids, and assistant instructors before class.
Exercise Control	Remember, you are the instructor. Don't let a class get out of hand, don't argue, and keep the lesson moving toward objectives.
Timing	Cover all material. Prepare a schedule and stick to it.
Be Alert	Continually check class reaction.
Question	Direct questions to inattentive students. Question students frequently to keep class alert and to check their understanding.

Demonstrations

When	If it will contribute to student learning or understanding.
Preparation	Plan every detail. Train personnel. Rehearse. Follow a written lesson plan.
Introduce	Carefully outline the procedure to be followed.
Realism	Make the situation genuine. Use realistic aids.
Explain	Cover every detail. Demonstrate only one thing at a time. Be sure that each is understood before proceeding. Leave out unnecessary information.
Safety	Emphasize safety factors.
Standards	Set high standards.
Summary	Review what the demonstration has shown.

Application - Practical Exercises

Why	Doing is the most effective form of learning.
Introduce	Carefully outline the procedure to be followed.
Phase	Work step-by-step. Complete each one before proceeding to the next.
Standards	Set high standards. Continue work until they are met.
Supervision	Observe performance so that you can furnish constructive criticism. Correct errors on the spot. Don't permit practice of incorrect methods.
Be Patient	Take time to assist students. Things that seem easy to you may not be so easy to them.

Competition Developing a competitive spirit will increase interest, motivation and learning.

Evaluations

When Informal testing should be continuous.

Performance On the job performance is the best test of learning. Use it to check instruction when ever practical.

Oral Good for informal testing. Limited to small groups.

Written Good for testing large group.