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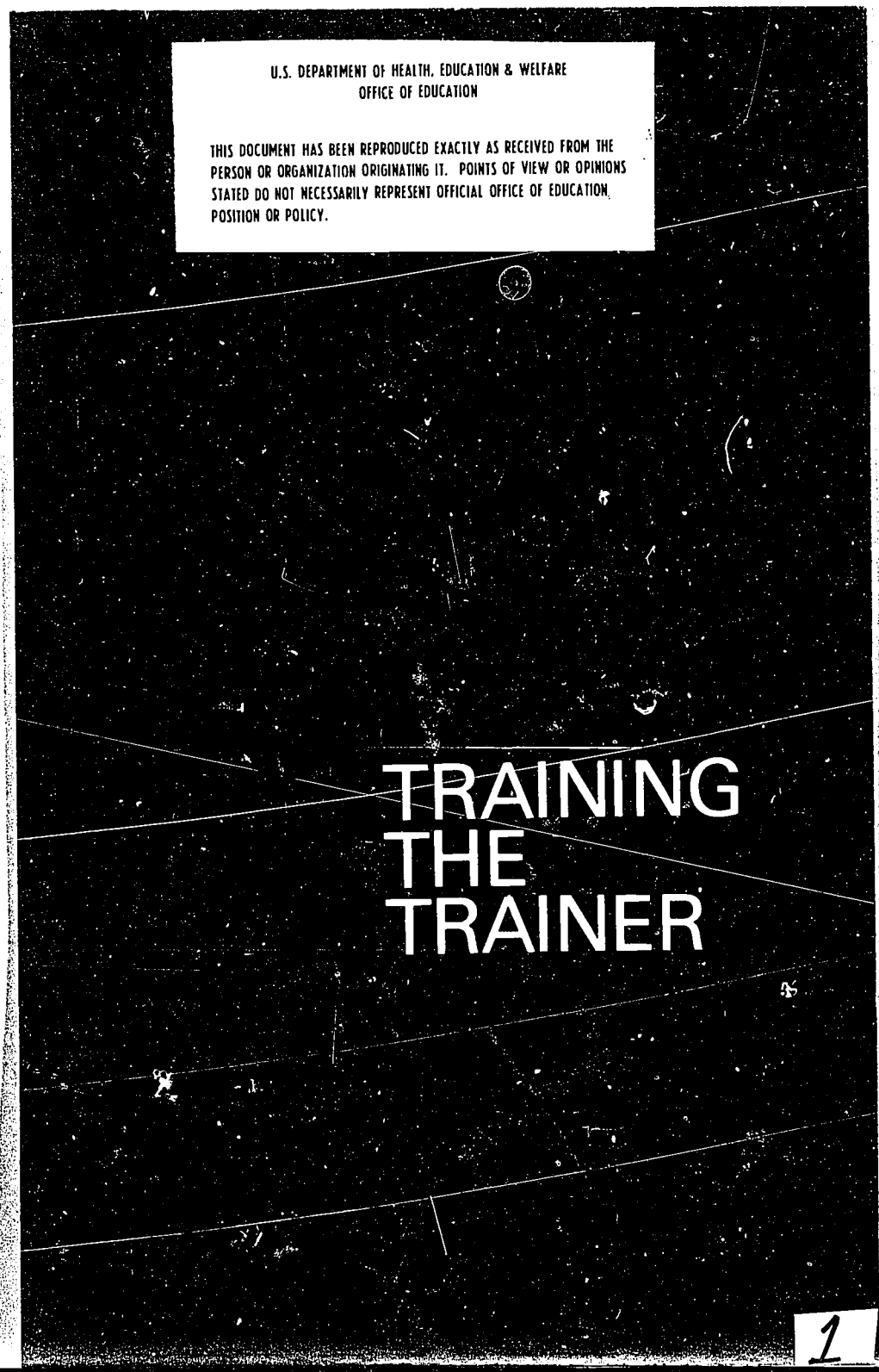
ABSTRACT

Guidelines are furnished for application of psychological theory (including principles of learning, motivation, and reinforcement) in the training room, job or task analysis, formation of learning objectives, and selection of appropriate training techniques and audiovisual aids. The importance of clear communication and a supportive learning climate is also underscored. Steps in planning and execution are traced through the actual training experience to program evaluation (followed by remedial training for those who need it) and, finally, to observation of on the job performance. In this last stage, feedback is sought for use in redesigning subsequent training efforts. An annotated bibliography (28 items) is included. (LY)



TRAINING THE TRAINER

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TRAINING THE TRAINER

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PREFACE

THIS BOOK IS USEFUL to trainers if they approach it with the idea that, regardless of their experience, they have something to learn. It was written especially for trainers—trainers of trainers in local government—and includes tried and tested approaches to the training process as well as innovative ideas.

The publication is a culmination of two years of field testing with trainers in local governments in Eastern Missouri. While it could serve as a text for self study, it best serves as a supplement in a face-to-face training program where the theories, ideas and suggestions presented can be discussed and applied to a trainer's particular situation.

We know of no book like this one written specifically for, and with the help of, trainers in local government. It is for trainers who are professionally interested in helping the personnel in their agencies become fully functioning members of the public service team.

ACKNOWL-EDGMENTS

The authors are most grateful to the following people and agencies who made this publication possible:

James J. Solem, now Executive Director of the Urban Affairs Council for the State of Minnesota, (and formerly Assistant Professor of Political Science and staff member of the Extension Division, University of Missouri-St. Louis) who was the author and original director of the project;

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Trainers in the City of St. Louis and St. Louis County governments who attended the many conferences, institutes and workshops from which this publication was developed.

We are most appreciative for the contributions by these agencies and people; without their assistance this publication would not have been possible. The authors must, however, accept the responsibility for the content presented.

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INTRO-DUCTION

Every agency of government is established and budgeted on the premise that the agency serves people. Perhaps different agencies serve different constitutuencies, but the concept of service to people is fundamental.

The agency that loses sight of this basic requirement of service will eventually lose sight of its own purpose and objectives. Such organizations may be able to justify their existence on paper, but not for long. Governmental agencies are meant to be appendages to the people's will; to be effective, the agency staff must be sufficiently skilled and trained to give dimension and structure to the people's needs so that they can be defined, articulated, and acted upon.

The effective agency is aware of clearly stated objectives that are communicated throughout the organizational structure. Each staff member becomes aware of his role in carrying out those objectives. He sees the importance of his contribution and strives to improve his performance. This is possible where it is realized that management is not a mystique in abstraction from the human beings within the organization. No group can produce beyond the collective capacity of the people who function within it. The implication is, of course, that all the elaborate organization charts, graphs, equations, systems, programs and matrices are mere symbols of performances by people.

Massive investments of land, buildings, furniture, machinery and computers will be ineffective if there is duplication, indecision, high turnover of staff, or general lack of appropriate skills.

Modern management recognizes the need for a staff that enjoys and takes pride in achievement, whose members are interested in accepting, not rejecting, responsibility. Modern management is not obsessed with organizational and technical procedures that threaten fulfillment of overall objectives.

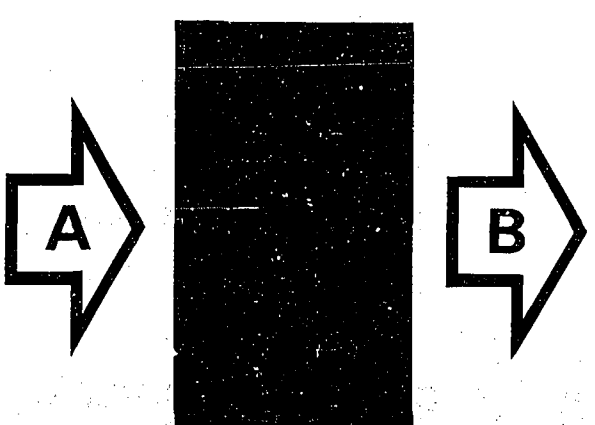
Since it is people who must ultimately accept the challenge of relating the work of the agency to the constituency it serves, it is clear that training becomes a crucial function of modern management. Good training programs not only provide the availability of basic skills, but also encourage adaption to new needs in a complex period of history.

The *process of training is to effect change in a person's behavior.* The trainer directs the training/learning process and the trainees participate in the process, which hopefully results in a change in behavior in a desired direction.

At a basic level, Figure 1 describes the training/learning process. Trainees enter the process at A and exit at B. Between these two points is the process itself labeled here as the "black box." We call it the black box not because something dark and mysterious happens here; quite the contrary. We know what happens here and the difference between a trainer as he functions in this arena is what makes a trainer good or not-so-good, perhaps even downright bad.

This publication focuses largely on the "black box." It presents those techniques a trainer needs to know in order to take trainees from point A to point B: the application of psychological theory in the training room, the analysis of jobs to be performed by the trainees, the writing of learning objectives, selecting training techniques, using training media, preparing lesson plans, arranging the training room to maximize learning, the training process itself, and evaluating the behavioral change of trainees.

FIGURE 1 - THE BASIC TRAINING PROCESS



"BLACK BOX"

LEARNING

CHAPTER 1

Learning is change in behavior. Hopefully change is directed to personal autonomy from earlier patterns of dependency. As a person matures, his inability to satisfy his needs changes into the ability to make deliberate decisions, functioning as an autonomous individual.

There are two basic kinds of learning patterns: The first involves **spontaneous interaction** with the environment. Generally, this is experience. In the course of one's lifetime, things happen that cause changes in knowledge, perception, skills, attitudes, and, of course, behavior. This is spontaneous learning, accidental, with no results that are measurable or predictable.

Experience, spontaneous interaction, is essential to personal growth, but, in and of itself, does not provide personal growth. Individuals may have years of experience but never learn from it. Experience can be misinterpreted. It can be too narrow to be valuable. Experience can have adverse effects on the learning and growing process.

The second type of learning is **systematic.** It is planned to produce specific, observable, measurable results. The changes in knowledge, skills, attitudes and behavior, are sufficiently organized to predict desired outcomes.

Systematic learning is the prime concern of this manual, TRAINING THE TRAINER.

Learning is change from undesirable behavior to desirable behavior. This statement obviously poses more questions than it answers. What is desirable behavior? Who decides? Most people could probably agree that being chronically drunk is undesirable behavior, as is habitually burglarizing neighbors, or beating children. But other behavior is not so clearly categorized. Is talking during a training session undesirable? Is the refusal to conform to traditional operating procedures necessarily undesirable? Is the lab assistant's unusual method of washing bottles really undesirable?

When behavior is clearly undesirable, as in the case of the alcoholic, that behavior must be changed. But bringing about that change is a learning process, not a punitive one.

When behavior is not clearly undesirable, it is the responsibility of the trainer to pose the basic questions as to whether the training process will benefit the individual, the organization and the community.

Learning is change from limited motor proficiency to optimal motor proficiency. What foot do you use to brake your car to a stop? What would happen if you used the other foot? The reason for the difference, of course, is that your regular foot has been trained. The nerves, muscles and organs have all learned to apply the exact amount of pressure needed to comfortably bring the car to a halt. Using the unlearned foot to apply the brakes could invite a trip through the windshield.

Motor skills are those using the physical functions of nerves, muscles and organs, on command from the brain. These physical reactions become automatic after training. A highly sophisticated level of motor performance is characterized by the ability to perform several tasks simultaneously with no supervision.

Learning is change from verbal ambiguity to verbal clarity. Advertisers, preachers, co-workers, spouses and politicians bombard us with words every minute of our lives. As the volume of verbiage increases, clarity in communications declines. Verbiage is reduced to garbage.

No matter how many syllables a word may contain, or how well it trickles upon the tongue, if the user does not clearly convey the meaning of that word, there is no communication. It is only an exchange of words. It is meaningless gobbledegook. The purpose of communication is to let other

persons understand our intentions or ideas. Unfortunately, words tend to rupture communication rather than create it.

The simple, direct, clear use of words, unencumbered by multi-syllabic affectations, is used by a learned person. Because he can separate ambiguity from clarity, he is not taken in by silly propaganda and grandiose claims. He is not easy prey to those who would exploit him.

Learning is change from limited perception to expanded awareness. The person inflicted by limited perception is the one afraid of new ideas. His emotional stability demands that he carefully cultivate and nurture his ignorance, prejudices and narrow vision. Anything contrary to his own biases is a threat. His inability to cope with complex issues or ideas makes him rely on simplistic analyses and simplistic solutions. This is one of the problems in adult training. Trainers must cope with possible emotional risk taken by those afraid of further learning.

The learned, mature, autonomous person is open to new and fresh ideas. But his openness does not require that he accept ideas simply because they are new. He tries to understand them within their own contexts. If fresh approaches to life offer new possibilities for progress, he is able to make the changes after investigation, and with a minimum of trauma.

Learning is change from limited experiential evaluation to optimal experiential evaluation. Experiential evaluation is the ability to learn from experience. It is occasionally suggested that age brings wisdom because of the vast amount of experience attendant to age. This may be true in certain cases, but surely the chronic drunk on skid row has experienced years of living under the most distressing circumstances; whether or not such experiences produce wisdom is debatable.

The person who claims wisdom because of age and experience deceives himself. While experience is essential to personal growth, it is not the sole criterion. If experience has been wrongly evaluated, it would hinder growth and learning.

A person with a wide variety of experiences is likely to gain from those experiences more than one whose background is narrow. A person whose life indicates progress and advancement demonstrates that he gains from experience.

Learning is change from weak reasoning ability to strong reasoning ability. Reasoning ability deals primarily with the relationships between evidence and conclusions. Deductive reasoning is the method by which an idea is stated first. In order to support the idea, evidence is gathered. Specific instances, the use of statistics, opinions of experts or analogies, and personal observations are used to lend substance to the idea.

Inductive reasoning is the method by which the conclusion is reached after the compilation of the evidence. The inductive reasoner refuses to draw conclusions until the thrust of the evidence points to the specific conclusion.

Some people do not hesitate to make claims without benefit of supporting evidence. They are exempt from the complex thought processes of ordinary mortals and have the inside information on the profoundest of issues without having to resort to proof. They are the ones who know all the answers but do not quite understand the questions.

Trainers, as well as others who deal with human beings, must be alerted to the need to suspend judgment until all the facts are in.

Learning is change from little qualitative discrimination to much qualitative discrimination. Evaluating and discerning excellence in products, actions, or works of art require having clear criteria by which to make such assessments. A discriminating sense of pride prohibits the learned and mature person from participating in projects or activities of low quality. He is not likely to permit shoddy services or workmanship in the things he buys. In all phases of his life, he works for excellence.

Learning is change from inaccurate self-appraisal to accurate and realistic self-appraisal. No notable achievement can be expected from a person who feels he is incapable of achievement. A person who has been downgraded and humiliated by society is not likely to enthusiastically serve that society or conform to its standards. Studies show that we are guided by the expectations others place in us. Those from whom little is expected will produce little.

Trainers can be most effective when they relate the needs of the organization with the needs of those to be trained. This suggests that the trainer must know a good deal about his prospective clients and the tasks they are expected to perform.

Trainers are the agents of behavioral change. They are called agents because they will create the environment and the experience that will help facilitate the desired change. In a sense, the agent is like the conductor of an orchestra. He is the person who brings together the stimuli, content, materials, methods, and facilities which will induce desired behavioral change in his trainees.

We have suggested that the agent of change must know a great deal about his clients before he can determine training needs. The ability to do this is based upon his powers of observing his clients **objectively.** This means he is

always alert to the behavior patterns, life styles, and attitudes of his clients. He is also concerned with the potential and level of proficiency. Because of natural inclinations by human beings to draw ready conclusions about other human beings, the agent of change guards against premature judgments.

The change agent makes judgments about other people only when such judgments are absolutely necessary; and these are only tentative. He also is careful about differentiating fact from opinion:

Opinion: Harvey is a lazy, shiftless bum.
Fact: Harvey arrived at work fifteen minutes late this morning.

Opinion: Department A permits too much goofing off.
Fact: Department A did not meet its production quota this quarter.

Opinion: Myrtle is a lousy trainer.
Fact: Myrtle's training sessions are noisy.

The danger of confusing facts and opinions extends beyond mere name-calling and prejudice. In the first place, the human condition is such that no one, regardless of his wisdom or experience, has the right to pass judgment on his fellows. Few people have been designated by the Deity to pass on moral and mental assessments of their fellow human beings.

Persons who suspect they have been wrongly and unfairly judged will resort to bitterness that, at best, will reflect in the efficiency of the organization. At worst, they will internalize the valueless feelings, and their patterns of behavior will show them. Particularly in the learning process, it is well established that if the trainer indicates low expectations for a particular learning experience, the trainees will respond accordingly.

Some trainers conduct their training according to the "drip-drip" method, that is, they hand down assignments one small segment at a time. This prevents the trainees from relating the individual component to the whole operation. The trainers keep the overall objectives of the program to themselves. They keep the deep, dark secret so that they can retain power and authority, or perhaps they do not know any better.

Typical results of such a policy are resentment on the part of the trainees and a corresponding reduction in the quality and quantity of work.

KNOW THE CLIENT . . . . . .

- *The client is the focal point of the training experience.*
- *The client is the one whose performance is expected to change.*
- *The client will benefit from the learning experience.*
- *The trainer is not the center of attention.*

OBSERVE THE CLIENT in precise, objective, behavioral terms . . .

- his attitude toward himself; if he feels that he can not reach the objectives, he won't.
- his relationship with co-workers; generally his peers have a strong influence on his commitment on the job. Determine whether or not the relationship is fruitful.
- his approach to his job; does he appear interested in the goals of the organization? Can he be relied upon? What is the degree of his enthusiasm?

- his communicating skills; can he read well; can he write well, is he able to communicate his ideas clearly through speaking? If there is doubt about any of these, testing is warranted and remediation is available.
- his typical response to learning and change; does he seem enthusiastic about broadening himself and improving his skills generally?
- his reasons for taking this particular training; is he just interested in taking time off or is he genuinely interested in personal growth?
- his childhood experience with formal education; is the classroom situation reminiscent of days of petty humiliation and punishment or is learning something to be enjoyed?
- his job history; does it indicate progress and reliability?
- his performance record; do his supervisors and his peers have respect for his way of doing the job?
- his general health; his ability to perform basic motor operations. Is he physically capable of doing the job?

Adults must want to learn. This is the prime ingredient to an effective learning process. Much of the effort of the trainer should be to instill an appreciation for and a recognition of the constant need for upgrading knowledge and skills. The trainer helps the adult perceive a definite need for training.

Adults respond best to teaching/learning processes that involve active participation. To the extent real life situations can be simulated, the prospects of success increase. Most adults are impatient with abstractions.

The most effective and candid response to a teaching/learning situation will occur in an informal atmosphere. If the structure is too rigid, adults are not likely to penetrate the facade with embarrassing questions or alternate points of view. Informality encourages a livelier exchange of ideas and reduces normal tensions.

Adults progress most rapidly in learning situations that involve dealing with realistic problems. They appreciate solutions to their day-to-day concerns. They look for measurable benefits from the learning process.

Adults maintain interest by using a variety of methods. One single method, such as a lecture, can get monotonous.

Adults require reinforcement at each step. They neither care to invest effort if they are not confident they are moving in the right direction, nor want to commit resources such as time, energy and enthusiasm, only to find that they are misplaced. Reinforcement provides constant assurance that they are on the right track. Feedback is instantaneous evaluation of their efforts. When they are recognized as being on the right track, their sense of accomplishment spurs them on to new things. Feedback also provides the information when they are not on the right track, so the adult learner can quickly attempt to rectify the situation.

Ambiguity has no place in the learning process especially, as far as adults are concerned. They are apt to respond better when they know exactly what is expected of them in advance. Being particularly sensitive about mistakes and false directions, adults tend to move cautiously only after they know they have reasonable prospects for success. To lay out the whole program in the beginning of the training process will serve to reduce tension and increase the prospect for enthusiastic response.

Adults should be permitted to practice new skills. They want to put their motor abilities to work. But, as they attempt new efforts, it is important that they not become spectacles when mistakes are made. Learners, especially adults, should be made to realize that mistakes are expected, and that mistakes are important to the learning process. They must be assured that mistakes will be excepted without threat.

TO SUMMARIZE . . . . . .

- *Adults must want to learn.*
- *Adults must perceive a definite need for learning.*
- *Adults benefit most from the active participation in the teaching-learning process.*
- *Adults respond best in an informal atmosphere.*
- *Adults progress by solving realistic problems.*
- *Adults maintain interest by means of a variety of methods.*
- *Adults require reinforcement at each step.*
- *Adults require feedback at each step.*
- *Adults must have a clear understanding of what is expected of them.*
- *Adults should be permitted to practice new skills without threat.*

The state of autonomy is that final stage in the learning process. What will be expected of the trainee as a result of the particular experience? When he can perform the tasks to be learned and function with no supervision, we say he has reached the autonomous state.

The state of **initial proficiency** is that stage where the trainee is immediately before training starts. What can he do now? His ability immediately before the learning experience is the state of initial proficiency. It is determined by pre-testing. Among methods of pre-testing are:

ASKING THE CLIENT, using interviews, suggestion boxes, questionnaires, polls.

ASKING THE SUPERVISORS, using quality control standards, work records, job histories.

BRINGING IN OUTSIDE CONSULTANTS for fresh, objective points of view.

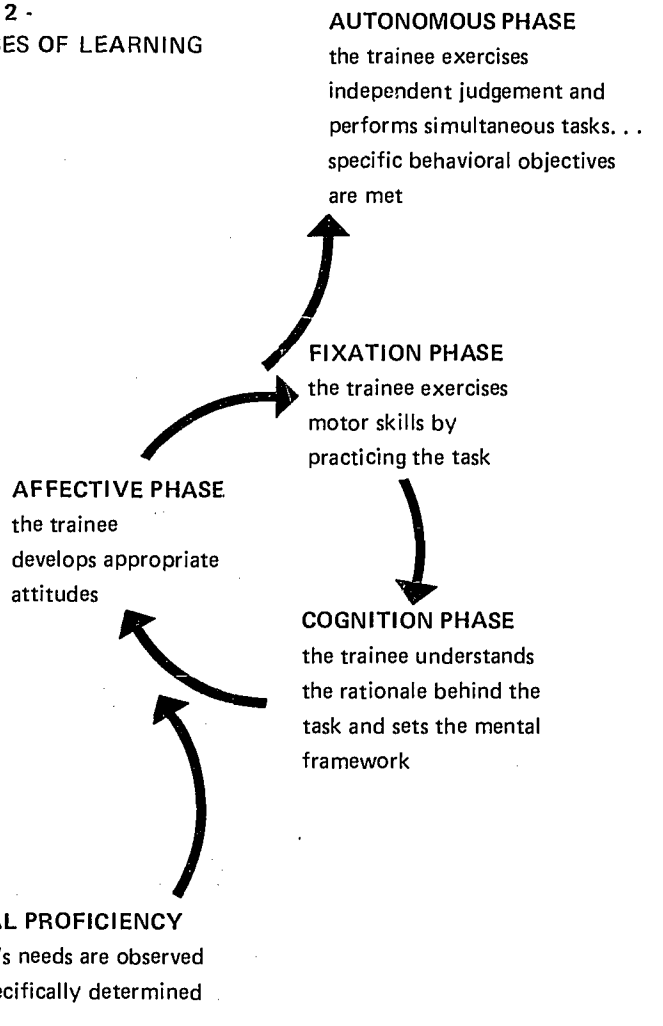
PRE-TESTING WITH LOCALLY MADE TESTS to determine the cognitive and affective state of the trainees.

PRE-TESTING ON-THE-JOB PERFORMANCE of psychomotor skills.

USING REPUTABLE TESTING INSTRUMENTS for comprehensive but precise indicators of proficiency.

COMPARING PRESENT LEVEL OF PERFORMANCE with the work required on the Task Analysis Sheet.

FIGURE 2 -
PHASES OF LEARNING



EXERCISE: Determine each sub-task as either cognition (C) or fixation (F).

TO DRIVE A CAR

1. F to brake while approaching stop sign
2. _____ to keep car within the lane
3. _____ to signal before a turn
4. _____ to keep the car in proper gear
5. _____ to know the speed limit
6. _____ to judge proper distance between cars
7. _____ to look for possible danger on the highway
8. _____ to steer into a skid
9. _____ to plan the route from one place to another
10. _____ to read warning signs on the highway
11. _____ to read the speedometer
12. _____ to read the odometer
13. _____ to watch for radar
14. _____ to fasten seat-belts
15. _____ to discuss laws regarding drunk drivers
16. _____ to take the written drivers' test

It should be apparent that, with No. 1 and with all sixteen statements, it is not easy to delineate cognitive from fixative activities. In several, even the emphasis is arguable.

All motor operations of the body are carried out as a result from a command from the brain. Many operations cannot be implemented unless the brain is taught the functions. In the example cited above, To Drive A Car, all are combinations of both cognition and fixation. Some emphasize instantaneous reaction (fixative) while others require judgments specific to the incident (cognitive).

MOTIVATION

CHAPTER 2

The most difficult question regarding human behavior is why humans act the way they do. The average person is beset by so many conflicting tensions and aspirations that it is safe to suggest that he is bound by no one specific motivating force. Behavioral scientists, as well as historians, poets, philosophers, and even backyard gossips, have speculated as to the motives behind people's actions. Identifying motivation in others can be dangerous. Even when we grapple with our own motivations, we should draw only very tentative conclusions.

Acting within an individual is a complex of several motivating factors. In order to help untangle the many knotted threads, Abraham Maslow organized some of the basic ideas of human motivation into a hierarchy of needs.* By applying his system for analytical purposes only, we can gain limited insight into some of the causes of human behavior.

Maslow theorizes that man's actions respond to certain types of needs perceived by him. On the first level are physiological needs; clearly man must act to satisfy them. Man has need for air, water, food, sex, for rest and sleep. The needs for maintaining chemical balance and proper body temperature are also basic. If man finds himself in a situation where the satisfying of those needs is prevented or postponed, it is possible to expect unusual and even undesirable behavior. For example, if the temperature in a training room is too high, one can expect the possibility that some trainees will find it very difficult to concentrate. Probably they will fall asleep. If trainees are hungry or thirsty, it is fairly obvious that they will not be interested, alert and cooperative. It should be no surprise that trainees who are chronically hungry, or cold, or lacking proper rest, will not respond to training experiences in a productive way. As the trainer observes unusual or unsatisfactory behavior in

*A. H. Maslow, *Motivation and Personality* (New York: Harper and Row,1954).

a trainee, it is wise to determine whether or not the trainee is ill or otherwise more concerned with the satisfying of basic needs.

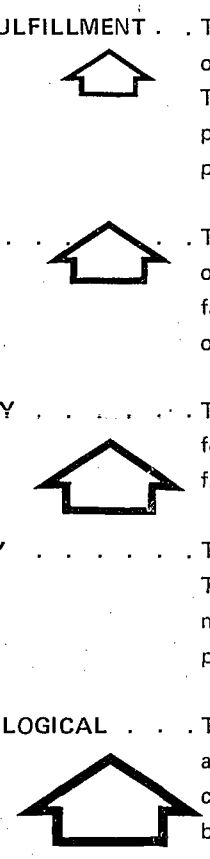
On the level immediately above physiological needs, man is concerned with his safety and security. He is concerned about protection for himself and his family from bodily harm. This corresponds directly to his need to be secure in a safe and stable environment. His emotional stability will often depend on a familiar, unchanging environment. Applying this particular human need to training situations, it can be understood why many trainees can be threatened by new situations, new environments, or changes in procedure. Even as an employee enters into a new office or department, he is tense until he feels secure with the new physical setting and new co-workers. When a trainee embarks upon a training program he is tense because of the newness of the situation. The first thing he is likely to ask is "What is expected of me?" "Am I safe from ridicule?" "Am I up to the task?"

Some learning experiences can be effective if the need for safety and security is deliberately jeopardized in order to evaluate the trainee's response to stress. Such programs should be very carefully planned, keeping in mind that when a human being's security is threatened, the change in his behavior may not be in line with desired objectives.

Public figures are known to make strong appeals to the need for safety and security in their constituents. The fact these appeals are usually responded to warmly amplifies man's basic need for safety from physical and emotional harm.

For the most part, the prospects for success in a training experience are improved if it is designed to protect the trainee's needs for safety and security.

FIGURE 3 - INFLUENCES ON HUMAN BEHAVIOR
MASLOW'S HIERARCHY OF NEEDS



SELF-FULFILLMENT . . The need to achieve important goals and objectives, to express one's self creatively. The need to develop and meet one's personal potential, to hold a respectable place in the community, and to enjoy life.

EGO . . . . . The need for prestige and status, power over others. The need to avoid feelings of failure or inferiority; to protect and defend one's self-esteem.

SOCIETY . . . . . The need to belong to a group. The need for support, affection and understanding from others.

SAFETY . . . . . The need for protection from bodily harm. The need to be secure in a stable environment, and to acquire objects for that purpose.

PHYSIOLOGICAL . . . The need for air, water, food, sex, for rest and sleep. The need to maintain body chemicals in balance and maintain proper body temperature.

The need for man to belong to a group is another fundamental human need on the Maslow hierachy. This is easily apparent. Man's striving to be accepted by others of common interest is clearly a behavior determinant. The need for support, affection and understanding from others is a paramount factor in behavior. As an individual acquires a "feeling of belonging" he contributes to the group as expected and receives approval in return. Peer group pressure is a particularly strong influence. Most people are sensitive to the opinions of others of like interest. Teenagers very often are primarily concerned with the approval by their immediate circle of friends, even if such approval risks negative reaction from parents, teachers, or society in general. Even college professors are not immune from being concerned primarily with the opinions of their colleagues as measures of professional competence.

Individuals are likely to seek out and join groups that profess common value systems and life-styles. By entering the group he reinforces the group attitude, and the group attitude reinforces his own. His relationship to his peer group is intensified over time.

If the training experience jeopardizes this basic human need, chances are the trainee will elect to retain approval from his peer group rather than be successful in the training. It is clear that the training experience should be designed to prevent deterioration of the relationship of the trainee and his peer group. If the training experience can enhance the relationship, the prospects for success are much improved.

Man's need to be accepted by and be a part of a group does not interfere with his need for feelings of worth, self-esteem and prestige. Some observers refer to this need as "ego"; others may refer to it as mechanism for acquiring "self-identity". Man normally wants to avoid feelings of inferiority or failure. He wants stature. The way he acquires stature depends upon the criteria agreed upon by his peer group. For example, in one circle of peers, an individual

can acquire stature by the shoes he wears, or the car he drives, or the house he lives in, or the manuals he writes. Perhaps one's self-esteem is assured if he is jailed for a cause or otherwise punished by an imagined oppressor. This imagined oppressor could even be a trainer or first-line supervisor. Whereas the group determines the criteria for prestige, it is imperative that the trainer know and understand what the criteria are, in order that the training objectives relate as much as possible to those criteria.

It is equally clear that if training objectives jeopardize a man's quest for prestige and status, chances for implementation of those objectives are negligible. Training that risks humiliation, lack of pride and feelings of worthlessness should not be undertaken.

Maslow says that the ultimate human need is to achieve important goals and objectives, to express one's self creatively, to develop and grow according to one's personal potential. To hold a relevant and respectable place in the community are important aspects of this level of needs, self-fulfillment. Some observers suggest that to satisfy this human need is a luxury available to the rare few. To have reached one's own capacity, and enjoy fame while doing it, may not come to every man. But the implications for the trainer are clear. If the training experience can help direct the trainee toward that end, greater aspirations, ambitions and achievements will result. The trainee will be infused with expectations for a satisfying, relevant and enjoyable life. The trainer should attempt to create the learning experience that will stimulate those highest of human motivations.

OBJECTIVES

CHAPTER 3

Before a training process is started, a clear understanding between the client (trainee) and the change agent (trainer) should be agreed upon. The understanding should incorporate a statement of specific behavioral objectives. Each of the parties involved in the training should know precisely, in advance, what is going to take place. A lack of understanding risks haphazard and ineffectual learning.

> An objective is the *desired outcome* of a learning situation, stated in terms *of observable behavior of the learner.* To the extent possible, action verbs should be used.
>
> The observable behavior is the exact performance that the *learner is able to display* as a result of a particular training process.

Examples of "good" and "bad" objectives follow:

BAD: The trainer will lecture on the binary system.

GOOD: The trainee will be able to correctly transpose ten decimal numbers into binary in one minute.

BAD: The twenty-minute movie will teach "How To Compose Better Letters".

GOOD: The trainee will write letters that are brief, to the point and courteous. In ordinary circumstances he will be able to compose one letter every 15 minutes.

The objectives marked GOOD emphasize action on the part of the trainee: to transpose, to write. They specifically designate the behavioral change expected as a result of the training experience.

The behavior of the trainer or the methods used are not included in the statement of the objectives. The statement focuses *only on the trainee and his expected performance.*

Objectives are based upon *precise training needs,* or the gap between initial proficiency and the state of autonomy.

Statements of objectives include the desired *quality* of performance or production.

Statements of objectives include the desired *quantity* of performance or production.

Statements of objectives include each *task and sub-task* to be performed.

Statements of objectives include the preferred *methodology* of performance.

Statements of objectives include the *time allotments and deadlines* for each sub-task.

Statements of objectives of individuals are subject to *constant change,* as objectives of the organization change.

The objectives of the individual trainee are *realistic and attainable* as suggested by an honest appraisal of his natural potential.

The objectives of the individual should relate with those of the immediate group, the organization and society. This implies that those on top levels within the organization clearly enunciate their

interpretation of the organizational objectives, and the philosophy by which they operate.

Statements of objectives provide a "mental framework" for the individual trainee, giving him a *sense of direction* and thereby reducing tension.

Statements of objectives help the individual to be *receptive* to the learning experience.

Statements of objectives allow for the more efficient use of time, money and other resources. They encourage organizing the training steps into logical sequence. Materials, facilities and methods can be prepared ahead of time for exact purposes. With learner-oriented objectives, the trainer knows his own expectations; he can evaluate his own successes or failures, as his trainees reach (or fail to reach) autonomy.

A statement of objectives that is organized into sequence can be *measured, reinforced and evaluated* at each step toward the state of autonomy.

Prepared statements of objectives have been emphasized as crucial to the success of the training process. On every level of the administrative structure of the organization, it should be known exactly what the trainer is setting out to do. The trainees should know exactly what is expected of them. When the objectives are clearly communicated throughout, the chances of misunderstanding are substantially reduced.

Statements of objectives fall within one of three domains; cognitive, affective and psychomotor. At a simple level, these domains are best

remembered by referring to them as knowledge (cognitive), attitudes (affective), and skills (psychomotor).

Cognitive objectives emphasize remembering information such as facts, figures, methods, operating procedures, policies and the like; or recalling something which has been learned; or solving some intellective task for which the trainee has to determine the essential problem and reorder the information or combine it with previously acquired knowledge. A hierarchy of classes within the cognitive domain has been established on a continuum from simple to complex.*

Briefly, a trainee has to do the following in order to reach the state of autonomy.

acquire KNOWLEDGE or information;

COMPREHEND or understand the knowledge he has gained;

APPLY or use the information gained and understood;

ANALYZE the information into component parts and detect the relationship of the parts to achieve fuller comprehension;

SYNTHESIZE or combine several pieces of knowledge so as to arrive at additional information not clearly known before; and

EVALUATE the information gained using criteria or standards which reveal the extent to which the information is accurate, methods are effective, policies are reasonable, etc.

*For a detailed explanation of objectives in the cognitive domain, refer to Benjamin S. Bloom (Editor), *Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook I :Cognitive Domain*, New York: David McKay Co., Inc., 1956. 207 pp.

VALUE a person, organization, job, phenomenon, or behavior. The trainee takes unto himself a belief or attitude which becomes a part of his socio-psychological make-up.

An example of a cognitive objective would be as follows:

Given an organizational chart of his department, a trainee will be able to identify his immediate superior as well as the relationship of his superior to the general department head and to the person responsible for the overall operation of the organization.

Another example:

Presented with an employee handbook, the trainee will be able to determine the number of days sick leave for which he is eligible after six months of employment.

Affective objectives emphasize attitudes, beliefs, values, appreciations and interests, the intensity of which varies from simple attention of something that is happening to complex qualities of character or conscience. Like cognitive objectives, affective objectives are arranged in a hierarchy from simple to complex:*

A trainee RECEIVES, recognizes, or notices something. He develops an awareness of people and things around him; appreciates differences in individuals; becomes alert to the needs of others;

A trainee RESPONDS to what he receives. He complies with regulations; accepts responsibility for himself and his actions; takes pleasure in his job; enjoys self-expression.

*Refer to David R. Krathwohl, B.S. Bloom, and B.B. Masia, *Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook II: Affective Domain.* New York: David McKay Co., Inc., 1964. 196 pp.

A trainee builds ORGANIZATION into his value system. He first abstractly conceptualizes the value and then organizes a value system. He essentially combines several complex (and often disparate) values into an ordered relationship with one another.

At the highest level of internalization, a trainee is CHARACTERIZED BY A VALUE OR VALUE COMPLEX. The attitude, belief, or interest is so much a part of the trainee that he has built an internally consistent value system, and his behavior can be predicted.

An example of a behavioral objective in the affective domain would be as follows:

Given that the trainee is familiar with the safety standards of his job, he is willing to:

Wear a hard hat
Wear safety glasses
Wear steel-toed safety shoes

Another example:

Given access to the agency's library, the trainee seeks to develop insight about the total operation of his agency.

And, another example:

As a supervisor, the trainee will respect the worth and dignity of his subordinates.

Psychomotor objectives emphasize some motor or muscular skill, some manipulation of material and objects, or an act which requires neuromuscular coordination. Driving a car, operating a movie projector, and typing are

examples of psychomotor skills --- all requiring the application of knowledge and attitudes through muscle coordination of the body.

Like objectives in the cognitive and affective domains, psychomotor objectives have been ordered into classes, and, as with the first two domains, are ordered on a hierarchy from simple to complex.* The main categories are:

1. Perception (becoming aware of objects, qualities, or relations by way of the same organs)
   - 1.1 Sensory Stimulation
   - 1.2 Cue Selection
   - 1.3 Translation
2. Set (readiness to undertake an action or experience)
   - 2.1 Mental Set
   - 2.2 Physical Set
   - 2.3 Emotional Set
3. Guided Response (response under guidance of the trainer)
   - 3.1 Imitation
   - 3.2 Trial and Error
4. Mechanism (learned response has become habitual)
5. Complex Overt Response (a high degree of skill has been attained)
   - 5.1 Resolution of Uncertainity
   - 5.2 Automatic Performance

*For a detailed explanation of objectives in the psychomotor domain, consult Elizabeth J. Simpson, *The Classification of Educational Objectives: Psychomotor Domain,* a report of Grant Contract No. OE 5-85-104, U.S. Department of Health, Education, and Welfare, Office of Education, 1967. 35 pp.

Examples of behavioral objectives in the psychomotor domain would include the following:

> Given a typewriter with a standard keyboard a trainee will be able to retype a document of the agency at 40 words per minute with two errors, the errors being correctable with "Sno-pak."
>
> Given appropriate instruments, a trainee shall be capable of drawing a blood sample from the vein in a patient's arm within a three minute time period.
>
> Given a 15 h.p. Briggs and Stratton engine mounted on a Tuffy three gang mower, a grounds maintenance trainee will be able to determine if there is an adequate supply of oil in the engine for its safe operation within a two minute time period.

It can be seen in these examples that a trainee must have previously acquired certain cognitive (knowledge) and affective (attitudes) behaviors before he can adequately perform a psychomotor objective. This is evidence that the stating of objectives is a highly complex matter. Objectives must be carefully thought through and committed to paper by the trainer before any training can be conducted, training that is, which is systematic, logical, step-by-step, designed to change a trainee's behavior with the least amount of time and expense.

TASK ANALYSIS

CHAPTER 4

Without the statement of objectives, the training process is in danger of lack of direction, inefficiency and ineffectiveness. To begin training without clear objectives would be like building a house without a blueprint. The blueprint for training is the TASK ANALYSIS.

The TASK ANALYSIS includes all of these:

Job title

Major tasks of the job

Sub-tasks

Qualitative standards

Quantitative aspects

Skills and educational requirements

Materials and instruments needed

Time in which each sub-task is to be completed; deadlines

Constraints anticipated and to be overcome

Resources that can be summoned to deal with the constraints

Preferred methodology

Other considerations

This Task Analysis is not designed to box in an employee by depriving him of the flexibility that is essential in most jobs. If the employee is expected to exercise good judgment, there must be room for him to select alternatives. As society changes, institutional objectives change, so that a task-analysis is fluid, subject to continuing revisions appropriate to the time.

The TASK ANALYSIS provides:

Efficient measures of production;

Accurate indicators of training needs;

Instruments for forecasting future production and needs;

Sets of expectations for each employee;

Opportunities for the employee to think about his job;

Fair methods of evaluating performance;

Simple ways of documenting reports;

Handy devices for filling vacancies;

The elimination of "buck passing;" and

The writing of institutional objectives.

The TASK ANALYSIS provides:

Efficient measures of production. Since quantitative aspects of a given task are stated in the Task Analysis, the sum of several tasks indicates how much is being done.

Accurate indicators of training needs. Since the Task Analysis specifies the desired level of behavior for a given task, pretesting can determine the gap between initial proficiency and autonomy, thus precisely indicating training needs.

Instruments for forecasting future production and needs. A good Task Analysis cannot be drawn up unless particular attention is directed to present needs. From that point, it is but one step to think about future needs. Accumulated Task Analyses can provide

clues to developmental changes, thus providing clues as to what changes can be expected in the future.

Sets of expectation for each employee. When the trainee or employee sees the whole task laid out in detail before him, he can prepare physically, mentally, and psychologically. Because he sees the entire picture, he can understand all the components of the task and thus carry out the operation more efficiently. There are no surprises. His familiarity with what is expected of him reduces tension and encourages compliance.

Opportunities for the employee to think about his job. If the employee is encouraged to sit down and think about a given task, he may, on the basis of his experience, offer suggestions as to how the task can be performed more efficiently, with fewer exertions of resources, or in less time. As the employee assembles all the components of the task, he feels responsible for its completion. Because he participates in the writing of the Task Analysis, he feels committed, particularly if he has agreed to all the aspects. If he feels the Task Analysis is the result of HIS effort, chances are he will perform the task according to all specifications with no supervision.

Fair methods of evaluating performance. Because all aspects of the Task Analysis are committed to writing previous to implementation, misunderstanding about the quality or quantity of work is unlikely. The evaluative criteria are established beforehand. Because of this, a trainee can evaluate himself accurately. In this case, involvement by the trainer is lessened. If the trainee can evaluate himself accurately, he can identify his own deficiencies. If he can identify his own deficiencies, he will be receptive to improving performance and appropriate training. Personal whims are removed

from the evaluation process when the criteria are established beforehand in the Task Analysis system.

Simple ways of documenting reports. Just as the Task Analysis informs everyone what work will be performed in the future, it provides a measure of that which was done in the past. Reports that conform to the structure of the Task Analysis can be easily compiled.

Handy devices for filling vacancies. When a change in personnel takes place, recruiting is simplified because the recruiter knows exactly what to look for in a replacement. When the replacement arrives, he knows exactly how to fill the space because it is all specifically listed on the Task Analysis sheet.

The elimination of "buck-passing." As each member of an agency writes his Task Analysis the inevitable questions as to who performs what tasks cannot be avoided. Responsibility for certain decisions is clearly designated. Agencies oriented toward Task Analysis will not be able to procrastinate, or otherwise avoid making the tough decisions.

The writing of institutional objectives. If the heads of departments or agencies fail to communicate institutional objectives to all employees, there is little consistency of operation and much waste of resources. Occasionally, institutional objectives are not communicated because those responsible for the formulation of those objectives are unwilling or unable to make them. They prefer perhaps to work in an atmosphere of ambiguity and confusion in order not to be committed to a specific philosophy. If each individual within a given agency operates according to his own philosophy, he works at cross purposes with others in the agency, a wasteful

situation at best. High morale is not likely to blossom in agencies where the manner and philosophy of serving the clientele is not clearly stated.

Without a comprehensive Task Analysis system, an organization may fail to be sensitive to the needs of the people the agency is supposed to serve. When this happens, energetic reactions by the clientele group may cause the serving agency to be even more afraid to make decisions, causing further deterioration of morale and efficiency, until finally the entire system breaks down.

Task Analysis is designed as a system to marshall all available resources in response to the people's needs.

After the first writing of the task analysis, the next step is establishing of priorities. In the course of a given work period, what are those tasks that MUST be performed? All levels of administration throughout the organization should work together to agree on a system of priorities. Tasks should be listed in terms of importance.

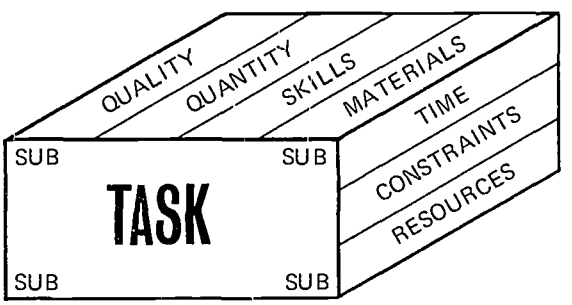
Those employees who are chronically worried about constant invasion of their in-basket should be encouraged to sort out those tasks that can wait. If they learn to commit their efforts to the tasks of prior importance, they might learn that the less important things tend to take care of themselves.

Some employees love to be overburdened by work. Their in-baskets are piled high, perspiration beads on the forehead, looks of perpetual consternation and martyrdom fish out for sympathy. Some overworked employees like conveying the impression that many urgent items require their personal and immediate attention.

In some organizations, playing the role of work substitutes for work itself. The only reliable index of output is the constant flow of complaints and sighs of frustration. The person who works according to a well-thought-out system of priorities conserves his physical, nervous and mental strength and other resources for the important th ıgs. He realizes that some aspects of his job are more important than others. He addresses himself to the minor matters when he has the time.

Chances are an employee with these attitudes is happier, more reliable, more stable, and a more efficient producer.

FIGURE 4 - TASK ANALYSIS: THE CUBIC DIMENSION



The Task is the sum of all of its parts. Unless all the dimensions of the Task Analysis are complied with, the task should not be considered complete.

TASK ANALYSIS

Names_____ Dept._____

TASK	
SUB-TASK	SUB-TASK
SUB-TASK	SUB-TASK

QUALITY	QUANTITY
CONSTRAINTS	RESOURCES
SKILLS	SPECIAL REMARKS
MATERIALS	
TIME	

TASK ANALYSIS

Names Sue Turner Dept. Public Health

TASK *To book a child hygiene clinic (booking means to process a record after clinic - including completion of statistical tabulation)*	
SUB-TASK *when new address is given, change all the forms to the new address*	SUB-TASK *complete special immunization form and fasten to record*
SUB-TASK *record immunization on front of child's record*	SUB-TASK *put new date on appointment card and file in correct box*

QUALITY
accuracy
thoroughness
neatness - legibility

QUANTITY
actual number of children in clinic varies daily, but all records are to be back in file within given time limit

CONSTRAINTS
Other assigned duties-time taken from above task, materials often deficient in extremely routine nature of work

RESOURCES
pride in work done well, personally and as part of a team. Response to positive reinforcement

SKILLS
organization,concentration,memory, ability to handle many details simultaneously

MATERIALS
paper products of several types, stapler, paper clips, pens, and pencils

TIME
3 days

SPECIAL REMARKS
Booking a clinic is an exacting, quite monotonous task. Without personal and team pride in a job well done, this task would be difficult to complete with accuracy

COMMUNICATING

CHAPTER 5

"A Fourth of July barbecue ended yesterday with one person shot to death and three persons injured after a dispute over a dog that wandered onto the lawn of a neighbor . . ." This item, taken from an edition of a local newspaper, suggests, among other things, a rather grotesque manner of communicating. Perhaps the incident climaxes many months of arguing, name-calling and even physical battle. Two neighbors failed to reach understanding that is necessary for them to live peaceably. The failure, like that of warring nations, ended in injury and death.

Not all communication failures end in such extremes, but it is not uncommon to see such frustrations end in emotional disaster.

What exactly is communicating? Why do we do it? Do we communicate if the other party does not get the message? Do we communicate to get a response from the other party? Or do we communicate to get "stuff off our chest?" Are there certain fears that go with communicating? Can verbal communicating be accurate? Are there others means of communicating?

The effective trainer is an effective communicator. He will study ways to elicit positive responses from his clients. His purpose is to create clear understanding. He is aware of the potentials and limitations of various means of communicating.

The effective trainer knows that communicating is *trainee oriented.* He doesn't ask himself, "How will I feel after conveying the message?" "How will I look during the communicating?" He asks, "Will this message be clearly understood by the trainee with minimal confusion?" The trainer takes the necessary steps to guarantee clear reception.

In addition to its capacity to convey beauty, wisdom, and wit, the English language is also capable of ambiguity, confusion and even destruction. Abstract works in particular generate confusion. For example, people are known TO LOVE . . .

God

Spouse

Mother

Child

Stock car races

Rover the dog

Peanut butter and jel., sandwiches.

Let us agree that by the word, *love*, we mean responding favorably to a given thing or person. Hopefully, we see that the individual will not *love* God in the same way he would *love* his spouse, he would not *love* his spouse the same way he would *love* his mother, or his child the same way he would *love* his country, or Rover the dog the same way as peanut butter and jelly sandwiches.

In each situation the word *love*, means something different. In these contexts, the words *love* are simply not the same word. They might as well be spelled and pronounced differently, as there is no similarity between the *love* of God and the *love* of peanut butter and jelly sandwiches.

Any communicator has an obligation to define the terms he uses. If there is any possibility that his trainee might be confused by ambiguity, the trainer should exert great effort to assure clear understanding of the meanings by the recipients.

Define the following:

Patriotism

Common sense

Intelligence

Morality

Thirst

Good

Beauty

Chair

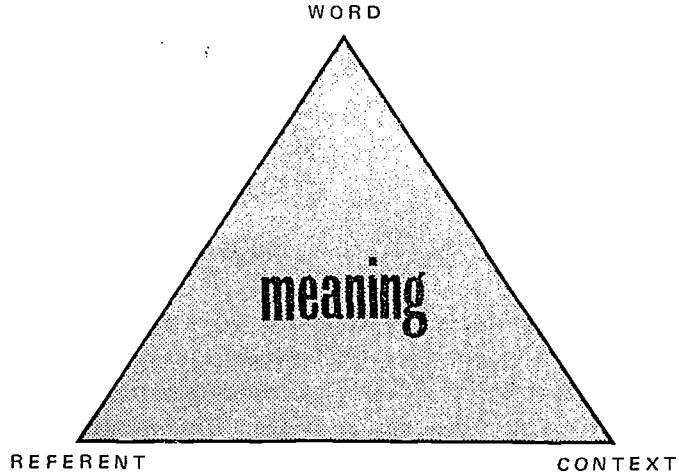
Ring

If a trainer uses equally abstract words to define the above, he is simply talking in circles. If he wants to clarify the above, a trainer will have to find agreement as to the context in which the word is used; then determine the referent, or the specific item or situation to which the word refers. Agreement as to meanings of terms can frequently forestall subsequent unnecessary arguments and misunderstandings. Time is saved, emotions are calmed, energies are preserved, efficiency is served when every party to a communication understands each other exactly.

Unfortunately there are trainers who find satisfaction in using high-sounding words, and who do not feel an obligation to define them. Usually, when pressed for definition they get defensive. The reason may be that big words are used to impress people, not to convey clear meanings. Such trainers feel good, important and perhaps compensated for self-doubt.

The upshot is that a trainer should concern himself with the clarity of the message, not whether it will make him look good to his boss, his peers, or his subordinates.

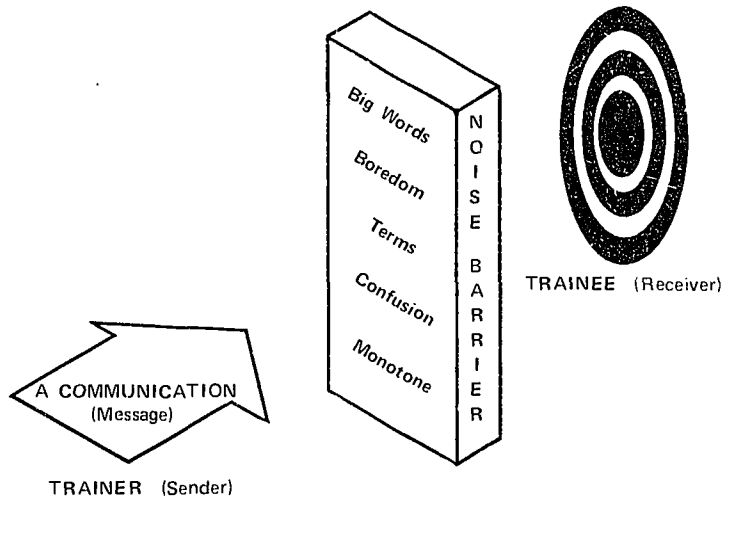
FIGURE 5 - UNDERSTANDING THE WORD



If it is the objective of a trainer to confuse the issue, the use of ambiguous and abstract verbiage serves this purpose. The words sound good, they are impressive in size and sound, and, thus, since the trainees do not want anyone to think they are stupid, they pretend to understand perfectly and even reply in kind. The training session is in danger of collapsing under the weight of its own baloney.

Remember that words can impede effective communication as well as help. With that recognition, the trainer should be careful to make certain that his message is properly received.

FIGURE 6 - COMMUNICATION BARRIERS



Some thoughts on improving communication:

1. If the message is written, make sure the trainees see it. Lettering should be big enough for all to see, memos by mail should get to the intended recipient. Make sure everyone gets the message.

2. If the message is spoken make sure the recipients hear it. Don't mutter under your breath. Speak slowly, clearly, loudly enough so that all the trainees hear all of the message. However, remember that high volume does not correlate with correctness of position.

3. Make sure the words are clear and simply defined. Avoid abstractions that are subject to a variety of personal interpretations.

4. Make sure the context is agreed upon.

5. Invite a friendly and positive response from the recipient. Set the message up so that the trainee is inclined to respect the message. Planning the message and trying to anticipate the trainee's reaction will help.

6. If there are differences of opinion, avoid personal references that might be misinterpreted.

7. Repeat the message if necessary, but do not underestimate the intelligence of the trainee.

8. Avoid slang and other imprecise terms.

9. Be prepared to assume the burden of proof. Sound analysis of a situation includes supporting evidence such as facts, statistics, personal observation, specific instances, opinions by experts.

10. Beware of assuming faulty causal relationships. Don't confuse symptoms with causes.

11. Do not let your selection of words or tone of voice carry implied threats.

12. Be yourself. Do not let role playing impede clear communication.

LEARNING MEDIA

CHAPTER 6

There are, of course, many ways of communicating---through the spoken and written word, by touching, smelling and tasting. Any medium which stimulates our five senses can be used to enhance the communications process. And, the task of the trainer is to select and utilize the best and most appropriate medium which can bridge the communication barrier between the sender (trainer) and the receiver (trainee).

Most trainers are acquainted with audio visual aids and, without question, have used them in the training/learning act. The use of flip charts, blackboards, overhead projectors, and "movies" are all a part of the trainer's repertoire. Learning media include these more commonly known instructional aids but the phrase "learning media" is, itself, indicative of a broadly conceived array of communication barrier breakers which focuses all efforts on the learner.

This newer concept, learning media, is a deliberate attempt to lead trainers in asking the question, "What media can be used to most effectively help the trainees learn this behavioral objective?" We have heard (at one time or another) one trainer asking a colleague, "Hey, Jack---do you have a P.K.* I can use? I'm on the stump in ten minutes and have to keep these guys happy!" This is, certainly, an extreme case and is used here to stress a point. But we all know trainers who have attitudes toward media which run the continuum from "P.K. to instructional film."

AGAIN, LEARNING MEDIA FOCUS ON THE NEEDS OF THE TRAINEE. WE ARE CONCERNED IN THE TRAINING/LEARNING ACT WITH CHANGING THE BEHAVIOR OF TRAINEES AND IT IS THIS SINGULAR END TOWARD WHICH A TRAINER'S EFFORTS MUST BE APPLIED.

*A "P.K." is a "period killer," called inappropriately a "movie"—properly an instructional motion picture film.

What are learning media? Basically, they are any stimuli which act upon the five senses of the body. It is through these senses of sight, sound, touch, taste and smell that a person receives all messages.* A trainer must cause these senses to be stimulated before learning can occur.

While a listing of learning media follows, it should be understood that in any such list some media have more application than others in a given training/learning act. A trainer's task is to determine which medium, if any, can best be used to enhance the acquisition, retention and application of content specified in the behavioral objectives.

VISUAL Stimuli

- Bulletin Board Displays
- Cartoons
- Chalkboards
- Charts
- Comics
- Computer Assisted Instruction
- Diagrams
- Dioramas
- Displays
- Face-to-Face (eg., Lectures)
- Filmstrips, Motion Pictures, Microfilm
- Flannel Board
- Globes
- Graphs
- Hook-and-Loop Boards
- Magnetic Chalkboards
- Maps
- Mock-ups
- Models
- Objects
- Paintings
- Photographs
- Pictures
- Posters
- Printed Media: Books, Pamphlets, Information Sheets, Programmed Instruction
- Video Recordings

*We are of course referring to the typical training situation. Experiments on animals are now being conducted which suggest that sometime in the future it might be possible to bypass these receptors by a direct input to the brain.

HEARING Stimuli

- Computer Assisted Instruction (with sound track)
- Face-to-Face (eg., Lectures)
- Motion Pictures (with sound track)
- Mock-Ups
- Models
- Objects
- Radio
- Recordings: Tape, Disc, Video (with sound track)

TASTING Stimuli

- Objects
- Specimens

FEELING Stimuli

- Globes
- Mock-Ups
- Models
- Objects
- Specimens

SMELLING Stimuli

- Mock-Ups
- Models
- Objects
- Specimens

This list, it will be noted, does not include projectors, recorders and other hardware devices. They were excluded purposely to differentiate between hardware and software and to again stress that the concept of learning media is of central importance.

The **trainer, in selecting or designing learning media, should think less about what to show it on and *more* about what to show.** The question, "What learning media can I use to effectively help the trainees learn, retain and apply this content?" is much more important than "What hardware do I have available and know how to use?"

TRAINING METHODS

CHAPTER 7

The selection and use of a learning medium is interdependent upon the training method used. Like media, the criterion for selecting one training method over another is trainee oriented. The trainer should ask: "What method can I use to most effectively help the trainees learn, retain and apply the content of this behavioral objective?"

The alphabetical list below presents thirty four commonly and not-so-commonly used training methods. While each is briefly described, a trainer could profit by seeking detailed information about the methods, their pros and cons, in sources such as METHODS IN ADULT EDUCATION by Barton Morgan, Holmes, and Bundy, and ADULT EDUCATION PROCEDURES by Paul Bergevin, Morris and Smith.

1. ASSIGNMENTS

   Commonly called "homework," assignments include reading, writing, viewing, or listening tasks given to trainees as conditioning for a topic to be presented or as a follow-up to a presentation. Trainers are expected to review the assignments and to give trainees feedback where possible.

2. AUDIENCE REACTION TEAM

   An audience reaction team generally consists of two to five trainees who react to a trainer's presentation. Members of the team are expected to interrupt the trainer to seek immediate clarification of points that are not clear, and otherwise help the trainer to meet the specific needs of the trainees.

3. BRAINSTORMING

   Brainstorming is a free-wheeling technique where creative thinking is more important than practical thinking. The format is to have trainees spontaneously present ideas on the topic without regard to how practical

the ideas might be, to jot the ideas on the chalkboard, and then to edit the list. An atmosphere must be created which will cause the trainees to be uninhibited.

4. BUZZ SESSION

The buzz session is a method involving all members of a training group directly in the discussion process. The group is divided into triads (3 members) for a limited time (about 5 minutes) for discussion to which each trainee contributes his ideas.

5. CASE STUDY

The case study is a detailed account of an occurrence or series of related events usually presented to a training group verbally or in printed form, although film, or a combination of these media can be used. The case is then analyzed and discussed.

6. CLINIC

The clinic is a meeting or extended series of meetings which involves analysis and treatment of specific conditions or problems.

7. COLLOQUY

The colloquy is a modified version of the panel using three or four resource persons and three or four trainees. The trainees express opinions, raise issues and ask questions to be treated by the resource persons.

8. COMMITTEE

A committee consists of a small group of trainees selected to fulfill a function or perform a task that cannot be done efficiently or effectively by either the entire training group or by one person.

9. CONSULTATION

A consultation is a deliberation between the trainer and an audience of one or more people. Included are telephone conversations, personal letters, and on-the-job visits.

10. CORRESPONDENCE COURSE

A correspondence course is a self-instructional course using print and/or non-print materials as the educational medium. Such courses may include tutorial or small group sessions, consultation from a trainer, written assignments, passing examinations, and assigning grades.

11. CRITICAL INCIDENTS

Critical incidents are contrived or dramatized educational experiences in written, audio and/or visual form which simulate real life events. They generally require trainees to make decisions and perform acts in a "laboratory" setting at critical moments in behavioral situations. The technique is used, for example, to teach foremen how to handle a recalcitrant employee, or to teach interviewers how to obtain information from prospective employees.

12. DEMONSTRATION (METHOD)

The method demonstration is a presentation that shows how to use a procedure or to perform an act. It is often followed by the trainee carrying out the activity under the supervision of the trainer. It is basically a visual presentation accompanied by oral discussion where psychomotor skills are taught.

13. DEMONSTRATION (RESULT)

The result demonstration shows by example the outcome of some practice that can be seen, heard, or felt. It often deals with operational

costs, production procedures, or with the quality of a product, and generally requires a considerable period of time to complete.

14. DISCUSSION GROUP

A discussion group includes a meeting of two or more people informally discussing a topic of mutual concern. It is generally based on a common background achieved through assigned readings or shared educational experiences.

15. EXHIBITS

Exhibits are collections of related items displayed to assist in the learning process or to carry an educational, informational or inspirational message.

16. FIELD TRIP OR TOUR

These are purposefully arranged events in which a training group visits a place of educational interest for direct observation and study. Field trips usually involve less than four hours while tours include visits to many points of interest and require from one day to several weeks to complete.

17. FORUM

A forum is an assemblage of trainees used to facilitate discussion after a topic has been introduced by a speaker, panel, film, or other technique. A moderator is used so that everyone has a chance to voice his views in an orderly manner.

18. INFORMATION SHEETS

Commonly called "handouts," information sheets are learning aids given to trainees in support of a presentation. They may be in narrative or outline form, trainer-made, or copied from published materials.

19. INTERVIEW

An interview is a presentation in which one or more resource persons respond to questioning by one or more trainees (interviewers). It is used to explore a topic in depth where a formal presentation is not desired by either trainees or resource persons.

20. LECTURE (OR SPEECH)

A lecture is a rather formal and carefully prepared oral presentation of a subject by a qualified expert.

21. LECTURE SERIES

The lecture series is a sequence of speeches extended over a period of several days or intermittently as one day a month for four months. The general format is for the lecturer to deliver a formal presentation while the trainees listen.

22. LETTERS, CIRCULAR

Usually not as personal as a newsletter, circular letters carry announcements, reports and training information. Such letters are usually printed or duplicated.

23. LETTERS, NEWS

A newsletter is mailed to many people. It carries a message which might be an announcement or report. It often carries training information and is the trainer's way of personally communicating with many people.

24. LISTENING TEAM

A listening team listens, takes notes, questions and/or summarizes a training session. The team is used to provide interaction between a

speaker and the trainees and is especially useful where the speaker is not especially knowledgable about an agency's unique problems.

25. PANEL

A panel is a dialogue between a group of four to eight experts on an assigned topic in front of a training group. A moderator insures that order is maintained, that each resource person gets equal time, and that the topic is covered in depth.

26. PROGRAMMED INSTRUCTION

Programmed instruction is a method of teaching, in a self-instruction format, using print and/or non-print materials as the training medium. Examples are programmed textbooks, teaching machines, computer assisted instruction, dial access information retrieval systems, and other devices.

27. QUESTION PERIOD

The question period is an organized follow-up session to a lecture or speech in which trainees ask the lecturer questions. It is during this time that trainees ask for clarification of points made in the formal presentation, and take the opportunity to ask for information which was not covered by the speaker but which is of interest to them.

28. ROLE PLAYING

Role playing is a technique where a small group of trainees act out a real-life situation in front of the group. There is no script; the trainees make up their parts as they act. The performance is then discussed in relation to the situation or problem under consideration.

29. SEMINAR

A seminar consists of a recognized expert leading a discussion among a group of trainees engaged in specialized study. The leader generally

opens a seminar with a brief presentation, often covering provocative issues, and then guides a discussion in which all trainees participate.

30. SIMULATION

Simulations are contrived educational experiences, in audiovisual or model form, which have the characteristics of a real life situation. Simulations allow the trainee to make decisions or take action in a "laboratory" setting prior to interacting with people and things. Examples are driver/trainer simulators, and educational "games" such as Monopoly, Blacks and Whites, or CLUG (Community Land Use Game) which require actions by the trainees.

31. SKIT

A skit is a brief, rehearsed dramatic presentation involving two or more trainees. Working from a prepared script, the trainees act out an event or incident which dramatizes a situation taken from on-the-job experiences.

32. SYMPOSIUM

The symposium is a series of prepared lectures given by two to five resource people; each speaker presents one aspect of the topic. The presentations should be brief, to the point, and generally not exceed 25 minutes.

33. TEACHING/LEARNING SYSTEMS

Teaching/learning systems include telelecture-electrowriter, all forms of television and radio, programmed instruction and teaching machines, compressed speech, dial access information retrieval systems, computer assisted instruction and other newer teaching/learning devices in support of a training program.

34. WORKSHOP

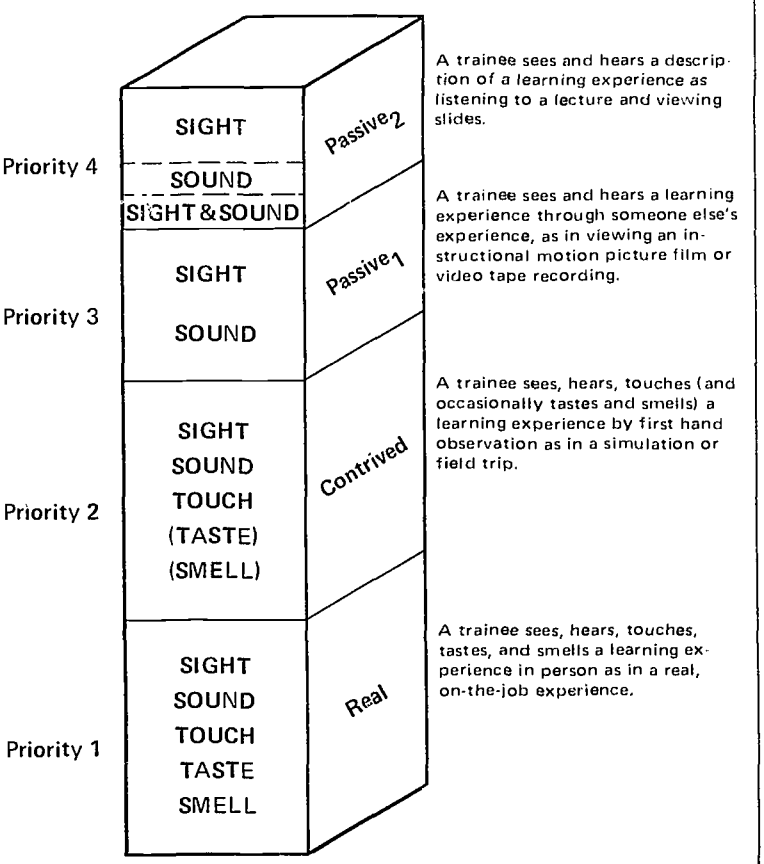
The workshop is a training method which permits extensive study of a specific topic. It usually gathers 15 to 30 people who meet together to improve their proficiency, collectively develop new operating procedures, or to solve problems.

The trainer's task in selecting appropriate learning media and training methods will depend upon many factors, the most important of which relate directly to the trainee oriented behavioral objectives stated at the outset of the training process.

Whatever methods and media are selected, the trainer should strive to lead learning experiences which involve the trainees in the training/learning transaction. The best possible choice, as seen in Figure 7 is methods and media which involve all the senses, in a real life situation. It is at this Priority 1 level where trainees see, hear, touch, taste and smell the learning experience which can be described as on-the-job, real life experience. While Priority 1 situations are the ideal, it is not often possible for a trainer to provide what nearly has to be a one-to-one relationship with the trainee. Experiences at this level can best be taught by a trainee's supervisor after the basic functions have been learned through level 2 through 4 experiences.

Priority 2 experiences include contrived situations such as simulations, critical incidents, skits, demonstrations, field trips, exhibits, models, mock-ups, specimens, and objects. It is with these methods and training media that trainees see, hear, touch (and occasionally smell and taste) a learning experience by direct observation or participation. A trainer would do well to become thoroughly familiar with these methods and media and attempt to use them whenever possible.

FIGURE 7 - PRIORITY LEVELS FOR SELECTING METHODS AND MEDIA



Priority 3 learning experiences include situations where a trainee sees and hears a learning experience through someone else's experience. Instructional motion picture films, sound filmstrips, and videotape recordings are the learning media most often used in level 3.

Priority 4 is the level at which many trainers operate. It is here where a trainee sees or hears, or sees *and* hears a description of a learning experience. Methods used include the audience reaction team, buzz session, discussion, the infamous lecture or speech, listening team, panel and programmed instruction while learning media include bulletin board displays, cartoons, chalkboards, charts, comics, diagrams, dioramas, flannel boards, globes, graphs, hook-and-loop boards, magnetic chalkboards, maps, paintings, photographs, pictures, and posters, radio and recordings - tape, disc, video with sound track. Hopefully, trainers will see the merits of providing fewer Priority 4 and more of Priority 1 through 3 experiences.

Once again, and this point cannot be stressed enough, **the criterion for selecting and using learning media and training methods is directly related to the statement of behavioral objectives.** If the methods and media help the trainees acquire, retain and apply the content of the objective with a minimum of time, effort and expense, those methods and media are the best ones to use.

LESSON PLANS

CHAPTER 8

Lesson plans "put it all together." It is at this point in the training process where the trainer musters all of his talent, experience and background, and commits to paper his, as well as his trainees', precise intended actions in the training room. While statements of objectives and task analyses provide the blueprints for training, lesson plans can be thought of as detailed drawings breaking the blueprints down into its component parts.

There are several reasons why lesson plans are important even to the experienced trainer. A partial list would include the following advantages.

A lesson plan:

- Forces the trainer to organize the training/learning transaction
- Leads the trainer to carefully develop a logical, sequential, step-by-step training session
- Again specifies the behavioral objectives to be met thereby focusing attention on the objectives and not on extraneous or peripheral content
- Outlines the content to be covered rather than presents a paper for the trainer to read
- Identifies the methods, media and equipment needed to help the trainees acquire the specified behavioral change
- Reminds the trainer to vary the methods and media used
- Sets an example for the trainees; if the trainer is well prepared and organized, chances are that the trainees

will be well prepared and organized and develop an attitude that their training is a serious business

- Leads the trainer to build evaluation into each training session
- Reminds the trainer that the trainees might have to prepare themselves for the next session
- Provides a written point of departure for revamping the lesson
- Serves as a detailed guide for a substitute trainer should the trainer not be able to present the lesson

What should lesson plans include? As a basic *minimum*, they should consist of the behavioral objectives to be effected in the trainees and an outline of the introduction, presentation and summary. Additionally, classification data such as the lesson plan number, trainer's name, date of the session, lesson title and brief description of the trainees is desirable. The suggested lesson plan on the following page further includes space for marginal notes on the training methods, learning media and audiovisual equipment required, as well as space for notations dealing with evaluation and what the trainees need to do to prepare themselves for the next training session.

All of these items seem desirable to include in lesson plans. Some trainers suggest that is important to include: time frames (eg., introduction, 9 to 9:10AM; presentation 9:10 to 9:45; summary, 9:45 to 10:00AM; etc.); a description of trainee activities; questions to ask the trainees; a listing of supplementary learning materials; a description of motivation techniques; references to the task analysis; etc. A trainer is advised to use the suggested

FIGURE 8 - SAMPLE LESSON PLAN

LESSON PLAN (NO. _____)

Lesson Title _____ Trainer _____
Trainee Description _____ Date _____

Behavioral Objectives
1. _____ 2. _____

	Training Methods	Learning Media	Audiovisual Equipment
I. Introduction A. B. 1. 2. II. Presentation A. 1. a. b. 2. 3. a. b. (1) (2) B. 1. 2. 3. a. b. c. C. 1. 2. III. Summary A. B. C.			

Evaluation Notes

Student Preparation for Next Training Session

lesson plan format presented here and modify it to what he needs and is comfortable in using.

Again, whatever format is used, most trainers agree that **the basic lesson plan should include at least the trainee oriented objectives, introduction, presentation and summary.**

The objectives would be abbreviated from the list of specifications and need not be further described here. The introduction, presentation and summary is the basic three–step process used by most teachers and trainers:

- The introduction tells the trainees the content they will learn;
- The presentation covers the content or what is to be learned; and
- The summary tells the trainees what has been learned.

Where psychomotor skills are to be learned two additional steps are included between the presentation and summary:

- The trainer demonstrates the skill to be learned; and
- The trainees demonstrate the skill to be learned.

Special mention should be made of the purpose of the introduction. It is here the trainer shares with the trainee the trainee-oriented behavioral objectives. The trainees, in this sense, are told what will be expected of them and the parameters of their performance are established. It is here the trainer stimulates the trainees to want to learn the content. It is here the trainer briefly summarizes the previous training session if the content of that lesson has any bearing on the present session. It is here the trainer attempts to build upon common past experiences and, in a sense, takes the

trainee from the "known to the unknown." Contemporary terminology for the introduction is "establishing set."

The summary, or "achieving closure," also needs special mention. It is during this review of what has been learned that the trainer would do well to attempt to use different techniques of presenting the content than he did during the presentation. If, for example, the content was presented by the lecture method, then the discussion method might be tried in the summary. If the content was presented by the demonstration method, perhaps an instructional motion picture film clip which reviews the skill learned could be used as a summary. Not all trainees learn equally as well by one method and varying the training method might assist the trainees to achieve closure.

There is an attachment to the lesson plan which trainers might find of of value, namely, the "Check List for Trainers." A sample list follows although most trainers will prefer developing their own specialized list. This check list is an indication of those "things" which a trainer might use to arrange a carefully organized training session.

CHECK LIST FOR TRAINERS

- ☐ Announcement designing and printing
- ☐ Ashtrays
- ☐ Audiovisual equipment
- ☐ Budget
- ☐ Coat racks
- ☐ Coffee, other refreshments
- ☐ Electrical outlets
- ☐ Extension cords
- ☐ Guest speakers
- ☐ Learning media
- ☐ Lesson plans
- ☐ Lodging
- ☐ Meals
- ☐ Name tags
- ☐ Notepaper, pencils
- ☐ Pad, easel, crayon
- ☐ Parking
- ☐ P.A. system
- ☐ Podium
- ☐ Post-tests
- ☐ Pre-tests
- ☐ Publicity
- ☐ Registration
- ☐ Restrooms
- ☐ Room reservations
- ☐ Rostrum
- ☐ Seating arrangements
- ☐ Transportation
- ☐ Travel arrangements
- ☐ Ventilation

THE LEARNING CLIMATE

CHAPTER 9

There is no check list system that guarantees an excellent training process. Much depends upon such variables as the knowledge, skill and personality of the trainer, and especially the attitudes of those to be trained. The trainer's major responsibility is to create learning climate encompassing the free exchange of ideas, mutual respect, an openness to fresh approaches, and general feeling of "glad-to-be-here."

The trainer cannot be a robot programmed to certain rituals assuring success. Because he is basically sensitive to the needs of his trainees.he is continuously alert to the manner in which the training experience is being received. If the subject matter is too complex or difficult, he is ready and able to make necessary adjustments. On the other hand, he is swift to change his approach if it is apparent that the material is redundant or too simple.

One way to assure a relaxed atmosphere from the very beginning is to make certain that all persons know one another by name and where they fit into the organization. This can be done with the use of name tags, and brief self-introductions by each participant when possible. Communication among persons is less difficult if everyone has been formally introduced. Each trainee should be asked to stand up and give a brief, informal introduction of himself, including his name, job, department, and, if time and circumstances permit, even his hobby or other point of personal interest. It's good idea to ask each trainee to say something about himself which is bizzare enough so that people will remember both the incident and his name. This encourages the trainees to mix and speak with one another at break time. The early requirement to stand up and make the self-introduction serves to reduce some of the early tensions. The trainer should, of course, participate in the self-introduction.

One of the key points for the trainer to keep in mind is that he should be in complete control of the learning experience at all times. This he must do without making it too apparent. He must control the discussion without appearing to do so. He must see to it that only one person speaks at a time, that no one person monopolizes the activity, that the less-aggressive trainees be given the opportunity to express themselves. The trainees will look to the trainer to set the pace, and the trainer must do so. His leadership should be unobtrusive, softspoken, courteous, confident and competent.

Because the trainer is aware of the objectives of the learning experience, he can plot where he is in relation to those objectives at any given point in the experience. He knows when he is on schedule and if the subject matter and methodology are relevant. He can be comfortably alert to the dynamics of interpersonal behavior within the group. He can tell when he must slow down or speed up; to repeat information or not; if he should elicit more questions or comments. Because he has mapped the training experience beforehand, the trainer can expend his energies on his trainees, not the subject-matter. He attempts to determine the degree to which the subject matter is being understood and practiced. Because he had anticipated the problems, his solutions are immediately implemented, thus increasing the measure of confidence his trainees have in him. He is not caught by surprise because he has expected, thought out, and solved every constraint beforehand.

As the trainer displays competence, respect for him increases, he gains more control of the learning experience and can expend even more energies seeing to the needs of the trainees. What should the trainer do if he is unable to gain control in the beginning? Suppose, for example, that one or more groups of trainees carry on private conversations during a presentation? If the trainer attempts to speak over the mumbling, the mumbling will increase in volume. **The trainer should never begin any presentation until everyone indicates attention.** The training presentation should never compete with extraneous conversation or distraction for any reason. If it is impossible for all the participants to give undivided attention to the training situation, it should not be started.

If the training situation is so inappropriate or poorly presented that large numbers of trainees refuse to show interest, the objectives of the training situation have not been carefully established. Either the subject matter or the methodology is rejected by trainees, a situation the trainer would prefer to avoid.

If the trainer is reasonably sure that the training subject matter and methodology are appropriate, and the majority of trainees seem to agree, it would be unfair for the trainer to permit the experience to be jeopardized by one or two uncooperative or discourteous individuals. Again, the experience should not begin until there is undivided attention. If interruption occurs after the experience begins, stop it, and wait out the interruption. This should usually suffice unless you are dealing with an unusually obnoxious trainee population. In that case, you should anticipate such a constraint and incorporate it in your planning. Seek advice from informed and experienced individuals as to how such behavior should be handled.

In any event, it is probably best not to confront the deviant trainees by threats or preachments. The best advice is to attempt to objectively seek out the cause for the disruption. Obviously, the trainees do not share the stated objectives, or perhaps they do not understand the objectives of the training. Cool and careful appraisal of disruptive behavior might often bring about solutions; if the trainer loses self control, however, he not only will fail to solve the problem, but the other trainees may lose respect for him.

The trainer will not control the training process if he does not control himself. His demeanor is important. His dress and posture should be appropriate. His manner of delivery should elicit respect. One of the important aspects of a proper demeanor is eye contact. The trainer should look at his trainees in the eye in the course of his presentation. Clear communication is not served if the trainer fails to do this. Good poise is indicated by a sure manner, an apparent control over the subject matter, as well as enthusiasm and respect for the subject matter. If the trainer indicates that he is not sure of himself or the subject matter, it is not likely that the trainees will respond favorably.

Response from the trainees can be evoked by the skillful use of questions. Questions should not be used as weapons to bludgeon people to prove their

lack of knowledge (except in certain circumstances). Questions should be designed to stimulate discussion, clarify ambiguous points and to give opportunities for quiet trainees to express themselves. The skillful use of questions will lead the discussion to the point where the trainees come up with the correct answers on their own. Well stated questions lead to more questions, leading the trainees to greater insight as they plow though the thought process. If the trainee can be intellectually shoved in the right directions, he can do much of the thinking on his own, and his chances of reaching the stage of autonomy are much enhanced. If the trainee has reached the point of discovering for himself, the active involvement of the trainer is reduced and the quality of training experience is assured.

Skillful questioning is a refined art. If the art is used to stimulate the trainees to do their own thinking, the trainer diminishes in importance but qualifies as an excellent trainer. Remember that autonomy means independence. The objective of the trainer is to enable his trainees to reach that state. Creating dependency is not training.

The learning climate, it can be seen, is created primarily by the trainer in concert with the trainees. The climate is built on an understanding and application of learning theory and motivation as well as on the style of the trainer. Another important aspect in creating the learning climate for shaping behavior is the manner in which trainee behavior is reinforced.

REINFORCING

CHAPTER 10

To reinforce is to reward desirable behavior.* One of the most effective training techniques is to acknowledge sound performance. If a trainee's efforts are recognized, he is likely to continue making that effort. If his efforts are ignored, chances are that he will no longer expend energies in that direction. Psychologists suggest that being recognized is to have one of man's basic psychological needs fulfilled. Men do not behave in a vacuum. They behave to satisfy a variety of psychological needs. Most of those needs concern an individual's relationships to others; his peers, his superiors and his subordinates. He wants to avoid humiliation, and he does what he can to be cited with approval from specific individuals or groups.

One of the stronger influences on individual behavior is pressure from the peer group. Very often the worker is more concerned with the opinion of his co-workers than of his superiors. A trainee may be concerned with his fellow trainees' attitudes about him than those of his supervisors'. Because of peer group pressure, it is possible that **disapproval by an authority-figure will actually constitute a reward.** Thus "chewing out" a trainee could actually reward obnoxious behavior because the trainee may be respected by his peers as a result of the punishment. A trainee who incurs the wrath of disliked trainers may actually be rewarded because of the esteem with which his peers look up to him. Under these conditions, the undesirable behavior is being rewarded by the trainer, and therefore, the undesirable behavior is being taught and reinforced. The undesirable behavior will continue, probably with greater intensity, and the trainer works against himself. What he considers to be punishment is actually reward. Reward is reinforcement. Reinforcement is teaching. Teaching provides increase in the level of desired behavior.

*Reinforcement can be positive (rewarding) or negative (punishing) and both can be used to change behavior. We prefer, here, to stress reinforcement as reward.

Even if there was universal agreement among individuals as to what constitutes punishment, its use does not guarantee improvement in behavior. Punishment, if inappropriate or administered unjustly, will have the reverse effect of creating bitterness and lack of cooperation. It is ridiculous to expect a trainee who has been unjustly treated to conform to standards of desirable behavior from "hard-core" personalities if those so designated are forever stereotyped. Trainers cannot expect a positive response to their training efforts if the recipients are victims of a maladministered system of rewards and punishments rather than partners cooperating in the teaching/learning experience.

It is again emphasized that, in order to know what constitutes reward or punishment to an individual, the trainer must know the individual. He must be discriminating to his trainees when he communicates approval or disapproval. He must take into account the type of reaction he can expect from that individual. If the trainer has a reputation for fairness in his assessments of human behavior, he can expect cooperation from those he seeks to train. Even if he makes an occasional mistake, it will not be held against him. But to those trainers and supervisors who are careless in their dealings with their workers, chronic troubles can be predicted.

Remember that no one enjoys shabby treatment. No one thrives on being wrongly accused or treated. Effective and spirited trainees rightly expect fair and impartial assessment of their efforts.

No matter how menial the task or inconsequential the effort, if the behavior is consistent with the objectives of the organization, if it is in conformity with the agreed upon task analysis, that behavior should be rewarded. If Harvey is assigned to mop the hall according to the criteria agreed upon in the task analysis, that behavior should not be taken for granted, and should be rewarded. Some may say, "Well, that's what Harvey is being paid for!" And

that's true. But the trainer knows that behavior must be recognized if Harvey is to continue as a happy and trusted employee. A simple statement of "Good job, Harvey" or even an occasional enthusiastic compliment will enhance Harvey's status, not only with his peer group, but with himself, and Harvey can be expected to be loyal, trusted and efficient because the performance of his day-to-day menial job provides for the satisfying of human needs. When the satisfaction of these needs is consistent with the efficient performance of his job, maximum production can be predicted. When the contrary occurs (when Harvey is criticized, humiliated, ignored, or reminded of his low status) minimal compliance with the task analysis can be expected. For Harvey, the satisfying of his human needs is more important then a well-mopped floor.

Pete the supervisor, doesn't have to reward Harvey everytime he does the work for which he is paid. But Pete should let Harvey know that he is aware and pleased with Harvey's performance. He should never let good work go unnoticed and unrecognized. This simple recognition constitutes the rewarding that will encourage and teach improved performance.

Because of the ambiguities of reward and punishment, the question arises, "What do we do about undesirable behavior?" Our first reaction should be to wait it out if possible. When circumstances permit, it is good advice to ignore the behavior to make sure that it is not being recognized and therefore reinforced. This is not to say that when behavior becomes obnoxious it cannot be calmly pointed out as being inconsistent with the agreed-upon task analysis. This system provides a fair and impersonal way of handling errors. Since the error, by definition, is a deviation from the task analysis, the task analysis sheet provides the framework for discussion of the error. Such an approach minimizes personal threat since the task is being discussed and not the person. Measures can be discussed to improve the performance and not the person. Compliance with the task analysis is improved because it has been agreed upon beforehand, and, if the worker was a participant in writing the task analysis,

he is actually called upon to conform to his own agreement. In this way, the burden of responsibility is on the worker, not on the personal whims and prejudices of the trainer.

EVALUATION

CHAPTER 11

Each part of the training process is important. The process of evaluation is perhaps a bit more important for it is here where both the trainer and the trainees are evaluated. After all, the purpose of training is to change a person's behavior, in a desirable direction, so that a trainee becomes more valuable to his agency or organization. While objectives specify where we want to take the trainees, evaluation tells us first if we reached our mark and secondly provides data whereby future training sessions can be modified to better effect behavioral change.

Evaluation can take many forms. The training process really starts out with one form of evaluation when the boss says, "John, we're having difficulty with out clerks in the file room. What can be done to get them to file alphabetically, and especially to file the large backlog of files that are stacking up? You know how important it is for us to have instant access to records in our operation, John, and sometimes we have to wait two hours before the file we need is brought to our desks!" The boss has made an evaluation and has gone to John, the trainer, for help.

Another form of evaluation occurs when John talks with the file room supervisor to determine in detail the training needs of the file clerks. The trainer develops a list of these needs, but he also determines that in the opinion of both the clerks and the supervisor that the "folks upstairs" could make the filing job much easier if they would cooperate by following Agency Operating Procedure 13.41A, that is" ... all documents submitted to the file room are to be coded...."! This latter evaluation tells the trainer that people in the agency other than file clerks need to be trained too in order for the boss's problem to be solved.

Another form of evaluation, again evaluation which preceeds the actual training, is an assessment of the cognitive, affective and psychomotor skills of the people to be trained. This is a measure of initial performance and asks

the question "What do the trainees know right now so that we can design a training program which will start where they are and take them to where they ought to be." Such an evaluation is commonly called a pre-test. It is a measure which helps a trainer build upon the trainees' background and makes the training program relevant, not easy but hard enough to motivate the trainees.

A pre-test can take at least four forms: (1) direct observation of behavior; (2) interviews with the trainees to be trained; (3) written questionnaires; and (4) written examinations.

Direct observation of behavior should be done systematically and carefully. It can, of course, be done by the trainees' supervisor but objective data is more nearly assured by an "outsider" such as the trainer. Care must be taken for the trainer to explain that he is not there for the purpose of gathering information to fire someone. The trainer's purpose is to observe the potential trainees on the job and to take notes on what they appear to know and don't know.

Interviewing the trainees should be done also by a trainer and if possible combined with direct observation of behavior. The interviewing should not be a haphazard gab session; rather an interview schedule should be developed with specific questions asked of each potential trainee.

A written questionnaire is a detailed interview schedule which, by itself, is the only communication the trainee has. Unlike the interview where a trainer can answer questions or give explanations of certain items, the questionnaire stands on its own. While this is the easiest way to collect information and can be given to a large group in a brief period of time, there always exists the hazard that the information collected will not represent what the trainees really know or want to express.

A paper and pencil pre-test samples what the trainees know. It is not meant to be all-inclusive, to measure a person's knowledge in depth. And, it is used more often for the trainer's purpose as a benchmark from which behavioral change can be measured.

In other words, if a trainer conducts a training program and doesn't measure entry level behavior, how does he know, when exit behavior has been measured, that the knowledge gained was a function of the training or of what the trainee knew before the training? Questions on a pre-test can be in the form of typical examination questions: true-false, multiple choice, completion, matching, essay and the like. This form of pre-test is especially appropriate where training programs have been conducted for the same type of trainees in the past. It is a simple matter to construct a pre-test in this instance by taking a random sample of one-tenth or one-fourth of the items in the final examination and making a pre-test out of it. A paper and pencil pre-test is also appropriate where objectives in the affective domain are to be measured because, admittedly, attitudes are difficult to measure any other way and a special attitude scale has to be administered.

In determining initial performance, no one method of evaluation is best. It would be ideal, however, if time permitted, to use at least two of the methods to determine entry level behavior. Whatever evaluation is used, the trainer should develop a generalized profile of the trainees which summarizes the mean initial performance. If the evaluation data shows a polarized mean, that is the trainees fall within two separate groups, a pre-training program might be specified to bring the "lower" group up to the "higher" group. In the instance of the file clerk example, to clarify this point, if six of the twenty file clerks did not understand how to file alphabetically, they should enter a pre-training experience so that in the training program the people who did understand how to file alphabetically did not have to be bored by learning something they already knew. The pre-training experience can be conducted

in many ways, and even include the prescription of a self-study programmed learning format, available through commercial publishers.

Another form of evaluation occurs constantly during the training program itself. A good trainer knows by the non-verbal behavior of the trainees whether or not learning is taking place. While this is almost an intuitive form of evaluation, the non-verbal response is always there to read and interpret. Pursed lips, a raised eyebrow, tongue in cheek, a tapping of fingers, a quizzical glance to a buddy, or slouching in a chair are all non-verbal responses which can and should be evaluated. Such responses, while difficult to teach anyone to interpret, are important evaluative indicators; properly read, a trainer cites an additional example, redefines a new term, attempts to stimulate the trainees to motivation, tries a different method of teaching, terminates the session to redesign it for another time.

The form of evaluation which is generally known by all trainers is the examination or test administered at the end of the training session. Even though this form of evaluation is a part of every trainer's repertoire, it is probably the most misused. Many trainers are content to take a "happiness rating" and ask the trainees such questions as:

List the three sessions from which you learned the most

1st Priority_____

2nd Priority_____

3rd Priority_____

What did you like least about the training program?

_____

_____

_____

_____

_____

Why?

_____

_____

_____

_____

What speakers would you like to invite back again next year?

1st Priority_____

2nd Priority_____

3rd Priority_____

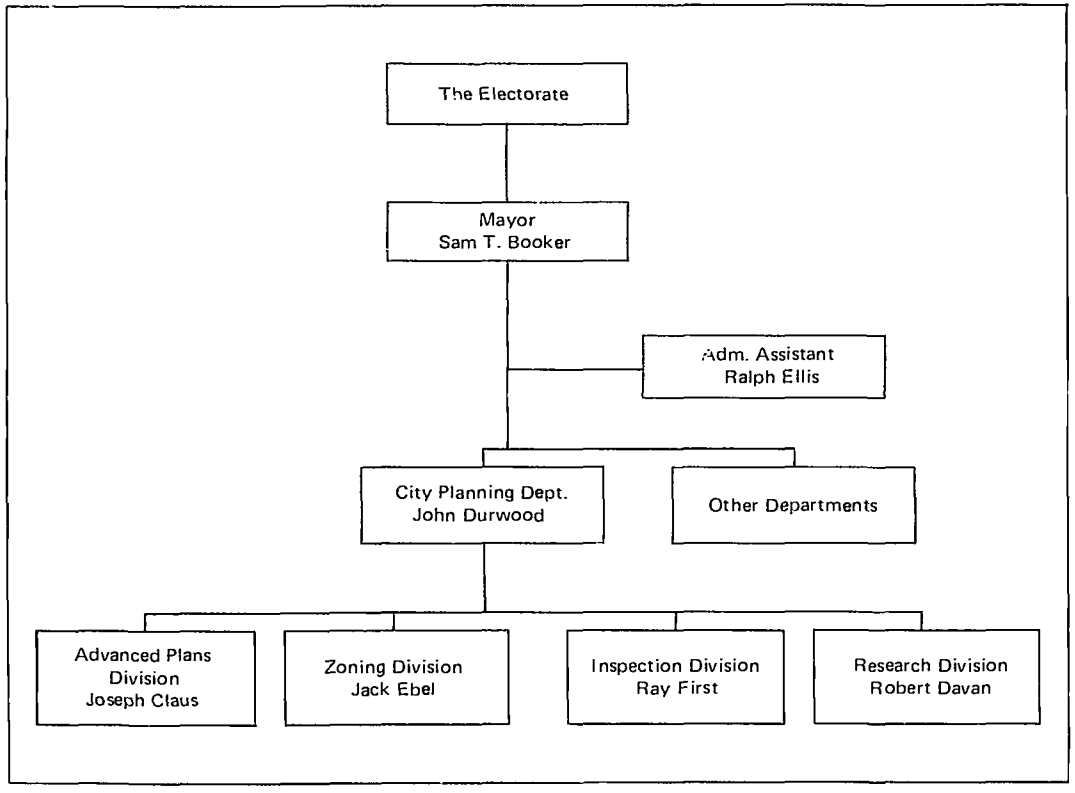
While this type of evaluation has its place in a training program, it in no way substitutes as a measure to determine if behavioral change has occured.

The central focus in evaluating the terminal behavior of trainees should be the behavioral objectives stated at the outset of training. From these objectives is taken the content of the examination. For example, consider the following objective.

> Given an organization chart of the city administration, a trainee will be able to identify his immediate superior as well as the relationship of his superior to the department head and to the person responsible for the overall operation of the organization.

A test item to determine if the trainee has reached this objective might be as follows:

> The following chart represents the major divisions of our organization. Answer these questions on the basis of this chart. (The trainee in this example is a housing inspector).


The Electorate
Mayor
Sam T. Booker
Adm. Assistant
Ralph Ellis
City Planning Dept.
John Durwood
Other Departments
Advanced Plans
Division
Joseph Claus
Zoning Division
Jack Ebel
Inspection Division
Ray First
Research Division
Robert Davan

1. Your immediate supervisor is_____
2. If your division head had a grievance against the zoning division, to whom should he report?

   A. Joe Claus
   B. Mr. Booker
   C. John Durwood
   D. Another department head

3. The electorate is responsible for the overall operation of the city administration. True False

4. This is a matching question. Select the person in the right column which best answers the question in the left column.

   Answer Here

   (1)_____If you had a death in your family who would you go to for release time?

   (2)_____If you wanted to talk with the Mayor about official business to whom would you go for permission?

   (3)_____If a citizen complained to the Mayor about your using abusive language, who would the Mayor talk with to rectify the situation?

   (4)_____To whom does Ray First report?

   (5)_____Who is responsible for the overall operation of the Inspection Division?

   A. The Electorate
   B. Mr. Booker
   C. Ralph Ellis
   D. John Durwood
   E. Joe Claus
   F. Jack Ebel
   G. Ray First
   H. Bob Davan
   I. You

Objectives which represent desired affective terminal behavior can also be measured by paper and pencil tests but, admittedly, direct observation is a better measure. The trainer is not always able to observe this behavior in

practice, however, so he must devise ways and means to measure whether behavioral change has occured. Consider the objective:

> Given that the trainee is familiar with the safety standards of his job, he is willing to wear a hard hat, safety glasses and steel-toed safety shoes.

One way to evaluate change of behavior is the following test question:

> As you prepare yourself to inspect a downtown commercial building under construction, which of these items do you consider to be essential in the performance of your job:
>
> A. Inspection Code Book A-93
> B. Hard Hat
> C. Tensile strength tester
> D. Building's blueprints

A common way to evaluate behavioral change in the affective domain is to develop a scale which measures a trainee's attitudes. Such a scale contains a list of opinion statements, each carrying only one thought, with which a trainee can rate "strongly agree" through a continuum to "strongly disagree." An example to measure terminal behavior for the following objective is given below.

> As a supervisor trainee, a student will respect the worth and dignity of his subordinates.

The test item:

> Below you will find a list of five statements about people who will work under your supervision. Read each statement carefully and rate it according to the following criteria:
>
> SA– I strongly agree with the statement
> A– I agree with the statement
> U– I am undecided about the statement
> D– I disagree with the statement
> SD– I strongly disagree with the statement

There are no right or wrong answers. Respond to each statement according to your honest feelings about the statement.

Statement	SA	A	U	D	SD
1. All people are basically good, hard working people.					
2. Blacks are difficult people to work with.					
3. People need close supervision at all times in order to get a job done on time.					
4. Subordinates generally put in a day's work for a day's pay.					
5. People have a tendency to "dog it" even in jobs they like to do.					

This example is for illustrative purposes only. Such attitude scales should have at least ten to twenty items on it to obtain a valid measure of a person's attitude.

The question rises in the use of an attitude scale, "How do we arrive at a score and when do we know a score represents a good attitude or a bad attitude?" Two methods are used. The first is decided by the trainer, *a priori*.

In the type of scale used in the example, it is possible to assign statements the following scale values:

Statement	SA	A	U	D	SD
1	5	4	3	2	1
2	1	2	3	4	5
3	1	2	3	4	5
4	5	4	3	2	1
5	1	2	3	4	5

If a person strongly agreed with statements 1 and 4 and strongly disagreed with statements 2, 3, and 5, his total score of 25 would be indicative of a very healthy attitude. On the other hand if a trainee strongly disagreed with 1 and 4 and strongly agreed with 2, 3,and 5, his total score of 5 would indicate a very bad attitude toward his subordinates. *A priori*, then, a trainee who scored 25 would have a highly desirable attitude and one who scored 5 would have a highly undesirable attitude. Since it is reasonable to assume that a trainee would neither strongly agree nor strongly disagree with every statement, the scores can be combined on a desirable-undesirable continuum such that scores from 15 to 25 would represent a desirable attitude and scores from 5 to 15 would represent an undesirable attitude. Scores in the 13 to 17 range would approximate neutral attitudes.

Another method to arrive at "passing" and "failing" score ranges is to administer the scale to a group of persons who are known to have desirable attitudes and another group known to have undesirable attitudes toward the worth of people. Ranges can be derived by this process which reveal the tendency of a trainee's attitudes.

As you know, the objectives above were in the cognitive and affective domains, and terminal behavior is easily measured in these domains with paper and pencil tests. Objectives in the psychomotor domain present a different kind of evaluation problem in that the performance of a task, generally within time limits, is the best indication that a trainee has reached the specified terminal behavior. This evaluation is called a performance test and is most often given in individual testing sessions.

How would a trainer evaluate a trainee's behavior for this objective?

> Given appropriate instruments, a trainee shall be capable of drawing a blood sample from a vein in a patient's arm within a three minute time period.

The best way, of course, would be to collect the appropriate instruments, a patient, and a stop watch. Direct the trainee to draw a blood sample and time her from start to finish. A grading scale might be developed such that if the sample was drawn in three minutes the trainee would be given the grade of "C"; in 2.5 minutes, a "B"; in 2.0 minutes, an "A"; in 3.1 minutes or over, an "F".

On the basis of these evaluations of the training program, a trainer can determine whether a trainee has reached the specified terminal behavior level or whether remediation is needed. There is little sense in subjecting trainees to training, and then at the end have trainees not be able to perform the objectives specified at the outset. There are at least two reasons why a trainee will not be able to perform: first, the trainer did not design an appropriate training experience; and secondly, in rarer instances, the trainee is either not capable of being trained or does not really want to be trained.

Whatever the reason, the trainer should question his own ability first. After all, the personnel department tested the trainee at the time of employment and the trainee met the qualifications for employment. Remedial training should be prescribed and a special training program for non-achieving trainees should be designed. **This is a reason for evaluation in the first place--to determine whether a trainee has reached the terminal behavior specified in the behavioral objectives.** And, on the basis of this evaluation, redesign the training program (or parts of it) and provide a point of departure for remedial training.

Another form of evaluation, and the best evaluation scheme devised, is the observation of on-the-job performance. The evaluation conducted at the end of each training session or at the end of the training program is at best a simulated exercise. It tells us how well a trainee performs in answering questions with paper and pencil or under simulated conditions where psychomotor behavior is being measured. **Nothing can be a substitute for the**

observation of overt behavior. The behavior is permanent when Harvey reports directly to Ray First and doesn't bypass First in reporting to Mayor Booker. The behavior is permanent when the building inspector wears his hard hat, safety glasses, and steel-toed-shoes and likes to do it. The behavior is permanent when Mr. Supervisor is rated "superior" in his ability to work with his subordinates. The behavior is permanent when Miss Jones is able to draw samples of blood from twenty patients an hour.

Evaluation in the training process is never ending. It can begin with bosses evaluating subordinates, subordinates evaluating bosses, trainers evaluating information from both bosses and subordinates. It includes a trainer's assessment of initial performance of trainees, the non-verbal responses of trainees in the training sessions and of course, a measure of terminal behavior at the conclusion of the training program. Evaluation can either end or start with an observation of on-the-job performance.

One thing is certain: evaluation is an on-going process. It is a process complicated by the fact that a trainer's superior in pushing for training and more training, not evaluation and more evaluation. It seems that the superior just wants to be going somewhere, where doesn't matter, how well doesn't matter--just as long as we're going!

SUMMARY

Training is a complicated process to be sure. It is one of the most important functions of any organization even if the training budget does not reflect the importance of the function.

And, a trainer himself is a man for all seasons. At one time he is a psychologist. At another, he is a human relations expert. At one time, he is a file room specialist and at another an arbitrator. Whatever else a trainer is, he must be like a master conductor of an orchestra. From the far reaches of a complex stage, he brings together disparate elements into a training program. Attention focuses upon the trainee as he proceeds into the training/learning act. It is the conductor-trainer's charge to manipulate the environment so that a trainee is brought from dependency to autonomy, from entry level behavior to terminal behavior.

While the training process is a complex task, its major elements can be easily charted. Figure 9 graphically summarizes the process and while a "start" and "finish" is shown, one should realize that training never really starts or ends. It is a continuous process.

The 1st phase of the training process is determining needs, measuring initial performance and writing the task analysis. The information gained here forms the overall goals of the training/learning act.

The specification of behavioral objectives is the 2nd phase. It constitutes the specific terminal behavior desired to effect in the trainees. The data derived from these four tasks--determining training needs, measuring entry behavior, writing the task analysis and the writing of specific behavioral objectives--provide the trainer with the blueprints for the training program.

Phase 3 of the process is based upon these blueprints. The trainer chooses the training technique which will effect the desired behavioral change with

FIGURE 9 - THE TRAINING PROCESS

the least amount of time, money and effort. He selects the learning media needed to assist or enhance the meeting of the behavioral objectives, and if the media are not available, designs and constructs them. It is also during phase 3 that the trainer selects the best physical arrangement of the training room to meet the objectives, and prepares lesson plans which will be used as a guide during phase 4.

The training/learning act is the phase toward which many hours of preliminary work have been directed. It is here where the content of the training program is presented by the trainer (and occasionally by the trainees) and hopefully learned by the trainees. It is here also where a knowledge of learning theory, the application of communication models, and a knowledge of the teaching process are used. This is the point that most trainers have been waiting for.

Phase 5 in our model constitutes the evaluation part of the model. We know this is not entirely true, however, because like the training process itself, evaluation is continuous. This is the point that few trainers—the good ones—look forward to. The proof of the pudding is in its tasting. When we evaluate the training program we find out how good the program was and answer the question: "Did each of the trainees reach an acceptable level of terminal behavioral change?" If not, the trainer finds out where not and prescribes remedial training in phase 5A for those trainees who did not measure up to standards.

The observation of on-the-job performance, or phase 6, reveals if the training was truly effective. The trainer or the trainees' supervisors can witness the trainees through the observation of overt behavioral acts. OJ observation answers: "Was the behavioral change permanent?" It further provides feedback (phase 6A) to the trainer and gives information which can be used to redesign training programs for subsequent trainees.

As we began, training is a complicated process. The conscientious trainer can do justice to the process and in doing so makes each member of his agency or organization a fully functioning member of the team.

FOR ADDITIONAL READING*

APPENDIX

Behavioral Change:

MANN, JOHN, Changing human behavior. New York: Charles Scribner's Sons, 1965. 235 pp.

This volume concentrates on an approach, adopted by scientists interested in behavior changes, that utilizes experimental methods to study specific aspects, or components, of behavior-change processes under controlled conditions. It therefore limits itself to topics about which clear, scientific evidence is available. Chapter titles are: The Evaluation of Behavior-Change Processes; Models of Behavior-Change Systems; The Psychopharmacology Revolution; Hypnotic Suggestion; Learning and Conditioning; Components of Psychotherapy; The Small Group as a Behavior-Change Medium; Attitude Change Produced by Interpersonal Influence; The Mass Media as Vehicles for Attitude Change; Improving Intergroup Relations; Creativity; The Extension of Human Development; Eastern Religions and Philosophies; and Western Religions and Philosophies. The two appendixes are entitled "Technical and Social Difficulties in the Conduct of Evaluative Research" and "The Outcome of Evaluative Research." References, a glossary, suggestions for further reading, and an index are included.

Perception:

GIBSON, JAMES J. The senses considered as perceptual systems. New York: Houghton Mifflin Company, 1966. 335 pp.

The chief aim of the book is to explain how the senses, as active interrelated systems, provide continuous, stable information that alone makes

*One of the best available annotated bibliographies on training methodology is the four-part series published by the Public Health Service of the U.S. Department of Health, Education and Welfare. The additional readings suggested here were adapted from this series to illustrate the wide range of coverage in the publications. Available from the U.S. Government Printing Office, the titles are, *Training Methodology....An Annotated Bibliography: Background Theory and Research (PHS 1862-Part I); Planning and Administration (PHS 1862-Part II); Instructional Methods and Techniques (PHS 1862-Part III); and Audiovisual Theory, Aids, and Equipment (PHS 1862-Part IV). Parts I, II, and III cost $1.00 each; Part IV costs $.75.*

adaptive living possible. Successive chapters embrace the contribution made by each of the main receptor systems that are basic to the adjustment of the organism to its world. The author introduces the concept of "ecological optics," and in terms of this point of view the book examines some fundamental questions in psychology: What is innate and what is acquired in perception?, What is the role of learning in establishing adult perception?. How is perceiving related to expectancy?, What is the effect of language on perceiving?, What are perceptual illusions? A bibliography and index are included.

Motivation:

GELLERMAN, SAUL W. Motivation and productivity.
New York: American Management Association, 1963. 304 pp.

The three main purposes of the book are: (1) to draw together the most significant achievements in the study of work motivation; (2) to present a theory that puts most of this research into a single, understandable perspective; and (3) to show the practical implication of all this research and theory for management policy. The selected materials represent either older studies (10 years old or more) that have lasting significance or recent material that makes an important contribution to the understanding of work motivation. The book is divided into three parts. The first deals with motivation from the standpoint of the environment, that is, the various kinds of rewards and pressures within which people operate at work. The second part considers motivation from the standpoint of the individual himself, his needs and purpose and how he acquires them. In the third part an attempt is made to show how the environment and the individual interact, and how most of the studies considered in parts one and two can be integrated by a set of linked ideas that accommodates most of what is presently (1963) understood about work motivation. In the final chapter a number of major managerial problems are analyzed in the light of the theory.

Communication:

RUESCH, JURGEN and WELDON KEES
Non-verbal communication. Berkeley and Los Angeles: University of California Press, 1959. 205 pp.

The theoretical and systematic study of communication has serious limitations inasmuch as scientific thinking and reporting are dependent upon verbal and digital language systems, whereas human interaction, in contrast, is much more related to nonverbal systems of codification. A number of nonverbal ways in which people attempt to communicate with one another are explored. With the aid of still photography, the informal and often spontaneous methods of communication are presented here.

WILEY, J. BARRON. Communication for modern management. Elmhurst, Ill.: The Business Press, 1966. 327 pp.

"Today's educated person must know how to communicate in many different media and how to choose the most effective one for the particular situation. . . . . A company may want to make use of the knowledge possessed by its own employees with regard to its products and company policies. These people may have only limited familiarity with the use of audio-visual materials in communication. They need information as to the medium that will best solve their communication problem and how to make the best use of that medium" (from author's foreword). This book attempts to cover the whole range of industrial communication using the audiovisual media and "is intended to serve as a guideline to the college student or the person just entering the audio-visual field. It will indicate to him the areas of communication which could take advantage of the increased efficiency which is made possible through the wise use of these media, and the various tools and techniques of communication, including the advantages, disadvantages, and problems involved in their planning, production and utilization." Bibliographies of references for more detailed information on each subject follow each chapter. Chapters and selected topics are: (1) Introduction (the nature

of communication, what audiovisual materials are, results of research on their use in education, specific applications to business communication, types of audiovisual tools); (2) Employee Recruitment and Training; (3) Employee Relations; (4) Public Relations; (5) Sales and Promotion; (6) Reporting to Management; (7) Reporting to Stockholders; (8) Visualization of Information; (9) Photography; (10) Motion Pictures; (11) Slides and Filmstrips; (12) Overhead Projection; (13) Opaque Projection; (14) Flipsheets; (15) Audio Recording; (16) Exhibits; (17) Television; (18) Teaching Machines; (19) Facilities for Audio-Visual Utlization (need for proper facilities, location of the room, specific suggested facilities). There is a name and subject index.

Adult Learning:

KIDD, J.R. How adults learn. New York:
Association Press, 1959. 324 pp.

Adult education has become extensive, but little has been done to apply psychological theories of learning to the teaching of adults. This book is a synthesis of theory of and experience in adult education. Chapters are: (1) Learning Throughout Life; (2) The Adult Learner; (3) Physical and Sensory Capacity; (4) Intellectual Capacities; (5) Feelings and Emotions; (6) Motivation; (7) Theories of Learning; (8) Some Fields of Practice; (9) The Environment for Learning—Forms and Devices; (10) The Teaching-Learning Transaction; (11) The Teacher in the Learning Transaction. Each chapter includes a summary, a list of references, and a list of suggested readings. The book is indexed.

Learning Theories:

HILGARD, ERNEST R. and GORDON H. BOWER
Theories of learning. 3rd edition. New York;
Appleton-Century-Crofts, 1966. 661 pp.

This book provides an orientation to the main influences on learning theory prominent in the first half of this century and rates how they are represented in contemporary experimentation and theorizing. Note is also

taken of the newer developments not well coordinated with these by now "classical" theories, and in view of the importance of new technologies of instruction, attention is also given to them. The chapter titles indicate the contents: (1) The Nature of Learning Theories; (2) Thorndike's Connectionism; (3) Pavlov's Classical Conditioning; (4) Guthries's Contiguous Conditioning; (5) Skinner's Operant Conditioning; (6) Huff's Systematic Behavior Theory; (7) Tolman's Sign Learning, (8) Gestalt Theory; (9) Freud's Psychodynamics; (10) Functionalism; (11) Mathematical Learning Theory; (12) Information Processing Models; (13) Neurophysiology of Learning; (14) Recent Developments: I, The Basic Conditions of Learning and Retention; (15) Recent Developments: II, Discrimination Learning and Attention; and (16) Learning and the Technology of Instruction. References and subject and author indexes are included.

Reinforcement Theory:

KELLER, FRED S. Learning: reinforcement theory . New York: Random House, 1954, 37 pp.

The reinforcement theory of learning is explained in detail; its principles are indentified and clarified, and their interrelationships and possible extensions indicated. Included are discussions of operant and respondent behavior; respondent conditioning; operant conditioning; positive and negative reinforcers; extinction; extinction and negative reinforcement; primary and secondary reinforcement; generalization; discrimination; differentiation; chaining; and secondary negative reinforcement. Suggestions for further reading and a brief bibliographical essay on these readings are given.

Programmed Learning:

GREEN, EDWARD J. The learning process and programmed instruction. New York: Holt, Rinehart & Winston, 1962. 228 pp.

The author's objective in this book is to bridge the information gap between the experimental psychologist and the teacher. Programmed instruction is seen as "the first application of laboratory techniques utilized in the

study of the learning process to the practical problems of education." At present it employs only the simplest of behavioral control techniques. The author suggests that "looking at behavior from the point of view of the experimentalist can provide the teacher with fresh insights that need not dehumanize his relationship with his students, but rather affords a more effective teacher-student relationship in the best sense of the term." The first half of the book deals with behavioral psychology concepts, the second half with aspects of programmed instruction. There are 76 references and an index of names and subjects. Chapter titles further indicate content and organization: (1) Assumptions; (2) Definitions; (3) Basic Conditioning Processes; (4) Motivation; (5) Complex Processes; (6) Concept of Programmed Instruction; (7) Teaching Machines; (8) Techniques of Programming: (9) Evaluation; (10) Problems. The appendix contains a statement on self-instructional materials and devices released by a joint committee of the American Psychological Association, and the Department of Audio-Visual Instruction of the National Educational Association.

Training Systems:

WALRATH, DONALD C. A systems approach to the training program. Training in business and industry 2:1, January-February 1965. pp. 22-44.

A systems approach to training is one that takes into account the importance of "human factors" or "human engineering" within an organization. Applied to industrial training, the systems approach implies that the training elements will be combined in a rational way to make up a complete system, affected not only by internal factors but by elements outside the training package, such as the attitude of the trainees toward the training or the "climate" in which the training takes place. A diagram showing the ideal situation for perfect performance of a man-machine system is presented and explained. The human and economic limitations that make the existence of such a system impossible are discussed, and the necessity for compromise is pointed out. Six common training "trade-offs" that can provide for acceptable

compromises are discussed. Determination of training needs and methods are also discussed in relation to the systems approach.

Group Dynamics:

CARTWRIGHT, DORWIN and ALVIN ZANDER (eds.). Group dynamics: research and theory. 2nd edition. New York: Harper & Row, 1960. 826 pp. (3rd edition, 1968, is now available)

The book is divided into six sections and contains 42 papers by various authorities in the field. Sections are: (I) Introduction to Group Dynamics (origins, issues, and basic assumptions); (II) Group Cohesiveness; (III) Group Pressures and Group Standards; (IV) Individual Motives and Group Goals; (V) Leadership and Group Performance; (VI) The Structural Properties of Groups. References follow each paper. There is a name and subject index.

Organizational Change:

McGREGOR, DOUGLAS. The human side of enterprise. New York: McGraw-Hill, 1960. 246 pp.

The purpose of this volume is "to encourage the realization that theory is important, to urge management to examine its assumptions and make them explicit." The author attempts to substantiate the thesis that "the theoretical assumptions management holds about controlling its human resources determine the whole character of the enterprise." He repudiates the traditional view of direction and control (called Theory X) and proposes a theory involving the integration of individual and organizational goals (Theory Y). As he states in conclusion, "if we can learn how to realize the potential for collaboration inherent in the human resources of industry, we will provide a model for governments and nations which mankind sorely needs."

WHYTE, WILLIAM H., JR. The organization man. Garden City, N.Y.: Doubleday Anchor Books (paperbound edition), 1956. 471 pp.

"As more and more lives have been encompassed by the organization way of life, the pressures for an accompanying ideological shift have been mounting. The pressures of the group, the frustrations of individual creativity,

the anonymity of achievement . . . [have caused the organization man to seek] a redefinition of his place on earth—a faith that will satisfy him that what he must endure has a deeper meaning than appears on the surface." Thus, a body of thought called the Social Ethic is replacing the Protestant Ethic. The roots of this current phenomenon are discussed and its impact on individuals is suggested by description of the organization man in college, his initial indoctrination in organization life, analogies in research labs and academic life, expressions in popular fiction, and examples of far-reaching effects as seen in the new suburbia. The problem has swung too far in the direction discussed so that a re-emphasis on individualism—within organization life—is now needed.

Lesson Plans:

ROSE, HOMER C. Preparing courses of study and lesson plans. IN HIS The instructor and his job. American Technical Society, 1961. pp. 165-188. (Also in Rose, Homer C. The development and supervision of training programs. Chicago: American Technical Society, 1964.

A practical, illustrated guide to the title subjects is presented. The following topics are discussed: Naming the Course; Stating the Course's Objectives; Determining the Course's Specific Content; Arranging Units in Order They Will Be Taught; Purpose, Selection, and Use of Textbooks; Using Projects in Course of Study; Planning the Lessons; Typical Lesson Plan Elements; Sample Lesson Plans; Other Activities to Consider in Planning a Course of Study (field trips, special lectures and demonstrations, outside reading, semi-social activities).

Determining Needs:

GILBERT, THOMAS F. Praxeonomy: a systematic approach to identifying training needs. Management of personnel quarterly 6:3, Fall 1967. pp. 20-33.

Four rules provide a basis for deciding how to limit training objectives to a practical program of instruction. The first rule: instructional objectives

should be expressed in terms of deficiencies only, determined by subtracting the behavior that the trainee already knows from what he will have to know in order to master a subject or task. It is a waste of time and money to teach a trainee what he already knows. The second rule: acquirement (what a person has learned) must be differentiated from accomplishment (the value of what a person has learned). For diagnostic purposes in instruction, attention should be directed to acquirement. It should be recognized that individual differences in acquirement are relatively small, whereas differences in accomplishment are large. The third rule: deficiencies in knowledge must be differentiated from deficiencies in execution. Training is not the remedy for deficiencies in execution; their remedies must be determined by special study. There are four causes of faulty execution: (1) inadequate feedback; (2) task interference; (3) punishment; and (4) lack of motivation. These problems should be removed from a list of instructional objectives. The fourth rule: the value of overcoming a deficiency should be compared to instructional objectives. The fourth rule: the value of overcoming a deficiency should be compared to instructional costs to determine a priority of objectives before planning instruction.

STERNER, FRANK M. Determining training needs: a method; a systematic procedure for establishing needs and priorities. Training directors journal 19:9, September 1965. pp. 42-45.

This article is concerned with a technique by which inappropriate and ineffective training may be avoided. The method described includes six major steps: (1) study of the work, (2) development of training needs checklists, (3) survey of training needs, (4) analysis of training results, (5) establishment of priorities and initiation of training, and (6) a periodic review of needs. *(USCSC 4, edited)*

U.S. CIVIL SERVICE COMMISSION. Assessing and reporting training needs and progress (Personnel Methods series no. 3). Washington: U.S. Govt. Print. Office, 1961. 80 pp.

Methods and approaches to reviewing training needs, planning training for meeting them, and evaluating the training provided are suggested. The chapter on identifying training needs presents an approach to need identification based on an analysis of organizational problems and conditions and of employees' performance, problems, and potential. The advantages and limitations of need identification methods are reviewed: interview, questionnaire, testing, group problem analysis, job analysis and performance review, and records and reports study. The chapter on evaluation considers the nature and purpose of evaluation; suggests major steps to follow in planning and conducting it; considers the problem of standards; and discusses sources, treatment, and use of evaluation data. The chapter on meeting needs lists methods and resources and describes the major steps in planning training. Examples are given of suggested approaches to assessing training needs and progress. References are cited in the text, and a 54-item bibliography is included.

Task Analysis:

McGEHEE, WILLIAM and PAUL W. THAYER. Operations analysis. IN THEIR Training in business and industry. New York: John Wiley & Sons, 1961. pp. 61-87.

Operations analysis is described as one phase in a threefold approach to the determination of training needs (other phases being organization analysis and man analysis). This phase establishes the content of the training program. The data of operations analysis consists of performance standards; task identifications; job methods; and skills, knowledge, and attitudes. Procedures for conducting an operations analysis are discussed. These include reviewing literature about the job, observing the job, performing the job, and asking questions about the job.

MILLER, ROBERT B. Task description and analysis. IN Gagne, Robert M. (ed.) Psychological principles in system development. New York: Holt, Rinehart and Winston, 1962. pp. 186-228.

The purposes of task description and analysis are described and their relation to the process of system development is indicated. The general rationale for task description within the framework of system development, the nature of task description, its categories of operation, and its terminology are all discussed. Finally, the analysis of tasks into their behavioral requirements and the use of the analysis for the design and evaluation of training are discussed.

Objectives:

MAGER, ROBERT F. Preparing instructional objectives. Palo Alto, Calif.: Fearon Publishers, 1962. 60 pp.

This programmed text is intended to teach the reader how to specify and communicate the instructional intents he has selected; it is not concerned with who should select objectives or with which objectives should be selected. Discussed are the importance of being explicit, the qualities of meaningful objectives, identifying the terminal behavior, defining the conditions of performance, and stating the criterion for successful performance. A self-test is provided.

WALBESSER, HENRY H. Constructing behavioral objectives. College Park, Md.: University of Maryland, College of Education, Bureau of Educational Research and Field Services, 1968. 90 pp.

The reader is instructed in the identification and construction of behavioral descriptions. The instruction is separated into three units. Each unit is designed to help the reader to acquire certain specific competencies. After covering the first unit, Behavioral Objectives: Appearance and Components, the reader should be able to (1) distinguish between behavioral and nonbehavioral descriptions of objectives when given a list containing statements

of each kind; and (2) identify and name the characteristics of a behavioral objective. The second unit, Behavioral Objectives: Operational Practices and Construction, is meant to enable the reader to: (1) describe a set of procedures employed in the construction of a minimal working set of action verbs for use in the description of behavioral objectives; (2) identify an assessment task consistent with an action verb; (3) identify action verbs consistent with assessment tasks; (4) identify appropriate action verbs for behavioral objectives; and (5) construct a behavioral objective and an assessment task. Objectives for the third unit, Behavioral Hierarchies, are to develop the reader's abilities to (1) distinguish between a behavioral hierarchy and a scope and sequence chart; (2) describe a procedure for constructing a behavioral hierarchy; and (3) demonstrate the behavioral hierarchy construction procedure by providing one subordinate level of behaviors when given a terminal task. Self-assessment questions are included at the end of each unit.

Training Methods:

DePHILLIPS, FRANK A., WILLIAM M. BERLINER and JAMES J. CRIBBIN. Criteria for selecting appropriate training methods. IN THEIR Management of training programs. Homewood, Ill.: Richard D. Irwin, 1960. pp. 166-171.

Eleven criteria for selecting appropriate training methods are discussed: pertinence; effectiveness; trainer's familiarity with the method; factors of time and physical facilities; cost; size of the trainee group; type of training program; attitudes of the training group; the trainer's motivation; the trainer's personality; and company climate.

Instructional Media:

ALLEN, WILLIAM H. Media stimulus and types of learning. Audiovisual instruction 12:1, January 1967. pp. 2731

The effectiveness of audiovisual instructional media in accomplishing different types of objectives is considered. A table gives a rough and preliminary rating information; visual identification; principles, concepts, and

rules; procedures; performance of skilled perceptual-motor acts; and (2) for developing attitudes, opinions, and motivations. The following step-by-step procedure should be used in order to make the most effective application of instructional media to teaching: (1) state the exact behavior expected of the learner; (2) identify the type of learning objective being met by the instructor; (3) determine availability of the instructional media; (4) determine availability of equipment; and (5) arrange for preparation of unavailable instructional media and/or access to needed equipment. A list of references is included.

PARKER, JAMES F. and JUDITH E. DOWNS. Selection of training media (ASD technical report 61-473). Wright-Patterson Air Force Base, Ohio: Aeronautical Systems Division, Aerospace Medical Laboratory, Behavioral Sciences Laboratory, September 1961. 94 pp.

Translating statements of desirable personnel performances and capabilities into training objectives is discussed. Statements on the ability of various training media to meet specific types of objectives are justified in terms of objective evidence. An example illustrates the selection of training media for a typical Air Force operator position. Chapter headings and sections following the introduction further indicate contents: Chapter II, The Classification of Human Performance within Systems; Chapter III, Efficient Learning Environments; Chapter IV, Simulation of Contextual Environments; Chapter V, Training Media—simulators, procedures trainers, animated panels, charts, training films, transparencies, mock-ups, television, teaching machines or automated training; Chapter VI, The Selection of Training Media in Relation to Specific Training Objectives. There is a 7-page bibliography.

Evaluation:

FLYNN, JOHN T. and HERBERT GARBER (eds.). Assessing behavior: readings in educational and psychological measurement. Reading, Mass.: Addison-Wesley, 1967. 377 pp.

The readings are organized under ten headings: (1) Purposes and History; (2) Essentials of a Useful Test; (3) Reliability and Validity; (4) Test Score

Interpretations; (5) Measuring Cognitive Variables; (6) Measuring Noncognitive Variables; (7) Decision-Making and Prediction; (8) Teacher-made Tests; (9) School Testing Programs; and (10) Measurement in Research. A chart correlating the readings with chapters in popular measurement texts is provided at the end of the book.

FURST, EDWARD J. Constructing evaluation instruments. New York: David McKay Company, 1958. 334 pp.

The basic problems in evaluation are discussed in Part I under the chapter headings: Determining What to Evaluate; Defining the Behavior; Selecting Appropriate Situations; Getting a Record; and Summarizing the Evidence. Part II gives specific information on constructing achievement tests in separate chapters on: Planning the Test; Constructing Items to Fit Specifications; Constructing Supply-Type Questions; Constructing Choice-Type Items; Review, Assembly, and Reproduction; Administration and Scoring; Analysis and Revision. The book is designed to help those concerned with evaluation of instruction (1) acquire an understanding of problems involved in developing an evaluation technique; (2) further their understanding of principles of test construction; (3) become familiar with some of the best references in the field; and (4) broaden their understanding of the purposes which can be served by tests and other techniques of appraisal. Chapters include graphic illustrations, concrete suggestions, and recommendations for further reading. The book is indexed.

SCHULTZ, DOUGLAS G. and ARTHUR I. SIEGEL. Post-training performance criterion development and application; a selective review of methods for measuring individual differences in on-the-job performance. Wayne, Pa.: Applied Psychological Services, 1961. 60 pp.

The authors review the current "state-of-the-art" and the techniques used such as production records, interviews and questionnaires, work samples

and situation tests, and appraisal of executive performance rating scales. The conclusion is that an "integrating conceptual framework is needed to order and organize the field of measuring individual differences and to provide a more satisfactory basis for evaluating measurement techniques." *(USCSC4, edited)*

KIRKPATRICK, DONALD L. How to start an objective evaluation of your training program. Journal of the American Society of Training Directors 10:3, May-June 1956. pp. 18-22.

The purpose of the article is to suggest a specific technique for beginning an objective evaluation of a training program. The technique involves four evaluative processes designed to answer the most basic pertinent question: Have the desired facts and principles been learned by the trainee? The four processes are: (1) using a suitable paper and pencil test: (2) testing the trainee before and after the program; (3) determining the overall effectiveness of the course by comparing pretest and posttest scores for each trainee; and (4) determining which specific facts and principles were learned by analyzing the changes on each test item from pretest to posttest. An explanation of the computation of mean gain and the chi square formula are included.