SAN FRANCISCO FIRE DEPARTMENT

DIVISION OF TRAINING

TRAINING BULLETIN

TRAINING BULLETIN 97-1

INSTRUCTIONAL METHODOLOGY

INSTRUCTOR TRAINING

The past few years have seen many changes in fire service training. Training is now recognized as the key to an efficient fire department, and the training officer is now one of the key persons within the department structure. Promotional opportunities are now open to training officers, and many training officers hold positions as chief officers.

Current Scope of Fire Service Training

For many years, fire service training was concerned mostly with a few basic manipulative skills and was conducted on a department-by-department basis. Now, however, comprehensive training is conducted through multi-department exercises, academies serving all department in some areas, and the fire science programs in many of our community colleges. The academies and community colleges use fire department officers as instructors. Also, many officers are teaching short courses in the fire service training curriculum. These activities demand personnel who have been trained to instruct. Much of the effort of the State Fire Training program is currently directed toward training fire service personnel in the techniques of teaching.

Benefits of an Organized Training Program

A well-organized training program increases the efficiency of the training officer and makes their task easier. It also provides benefits for the fire department, for the fire service as a whole, and for the community served by the fire department.

Benefits for the Training Officer

As improved techniques of teaching are developed, they must be made available to the training officer to develop their instructional skills. This is done through teacher training courses. This type of training will greatly help the training officer provide a better organized program for their department. Improved techniques mean greater efficiency and, therefore, less time spent on instructing. Greater efficiency in instruction means more efficient personnel, with all the accompanying benefits.

Benefits for the Fire Department

A fire department benefits from having a pool of personnel well trained in the art and techniques of teaching. The most direct benefit is better trained personnel who are more efficient in their respective operations. This efficiency has a direct bearing upon public relations; good community relations can and do play a large part in securing the equipment and apparatus necessary for fire suppression work, and they also result in better working conditions for members of the department.

Benefits for the Fire Service

The greater efficiency in fire department operations that derives from well trained personnel benefits the entire fire service. One well trained fire fighter tends to compel other fire fighters to become better trained, similarly, a well-trained department tends to compel others to follow suit. As fire departments become better trained, they become more professional in their attitude and approach to public service. Training officers who know correct teaching techniques are more uniform in their abilities. This results

in greater standardization in fire department efficiency.

Benefits for the Community

Instructors trained to teach and personnel wanting to learn are not enough; there must also be a well planned training program that brings together the learner and the instructor. An organized training program enables both learner and instructor to know where to start, their current status, and how far they must progress to meet established objectives.

A planned program greatly helps to ensure that training needs will be met, that necessary skills and knowledge will be acquired, that the more important evolutions will be learned, and that abilities and knowledge will be maintained at the proper level. The end product of learner, trained instructor, and a planned training program can only be an efficient, capable fire department. In turn, this will have a beneficial effect of the entire community, and the benefits can include both reduced fire losses and lower fire insurance rates.

Lower insurance rates: Lower fire insurance rates in a community are not brought about by the effort of a single, well trained department; they are based largely upon fire losses in the state as a whole. As fire service personnel in general become better trained and as the efficiency of the fire service increases, a direct result will be lower fire insurance rates for the state. Efficiency through training can reduce fire insurance costs over a wide area.

Reduced fire losses: If fire losses are substantially reduced, the general economy of the community is improved. More jobs are available, the tax base is more stable, and businesses tend to prosper. Furthermore, community activities can be directed towards improvement instead of rebuilding. The fire department is the one service that protects the heart of any area -- its economy and tax base.

Advantages of Vocational Education Methods

Fire service work does not differ in principle from work performed in any other trade, and the methods used to train personnel in other trades can well be applied to fire service training. The superiority of the vocational method of teaching lies in the on-the-job procedure for teaching a learner. In this approach, the learner learns by doing under the direction of a competent instructor. The learner is given the tools or equipment they are learning to use and is allowed to apply immediately what they have learned. Instruction is limited to that which is necessary to the job.

Vocational training utilizes the 4-step method of teaching preparation/motivation, presentation, application, and evaluation and is primarily directed toward teaching manipulative skills and the related technical information required to perform the skills. Vocational training is recognized as being the best way to teach skills, and it has proved its value in fire service training.

What makes a Good Instructor

The qualities that a person must have before they can become a good fire service instructor include the ability to get along with people, a willingness to do the necessary preparatory work involved in teaching, and the desire to teach. Another basic requirement is the expertise that comes only from experience in the fire service. Also, since fire service training makes great use of vocational education

methods and techniques, a good instructor must have training in these methods and techniques.

4-STEP METHOD OF INSTRUCTION

Personnel who give fire service instruction rarely think of themselves as teachers. However, anyone who has the responsibility to teach what they know to someone else is an instructor, whether they recognize it or not. Their job is to teach. Fire department officers have a considerable amount of instructional work to do; but before an officer can provide adequate instruction, they must learn a new trade --- *instruction.*

Successful teaching is based upon time-tested principles. During World War 1, Charles R. Allen developed a method of training new factory workers that involved four steps: motivation, presentation, application, and evaluation. This four-step method of instruction has been adopted by vocational teachers; and despite efforts to improve upon it, no other method has been as effective to date. It is a principle that has proved itself over more than a half century. A vocational teacher's primary concern is to turn out students who can perform on the job, and they may fail to do this if they overlook or misunderstand any of the important points or steps in the teaching-learning process.

Any problems an instructor may encounter in using the four-step method will be due not to failure of the method itself, but to the instructor's failure to use the four steps properly in various teaching situations. All of the steps are important, but for any given set of circumstances they may not have equal relative importance. For example:

Step 1 may be small,

like this .....**Preparation**

Step 2 may be larger,

like this .....**PRESENTATION**

Step 3 is the most important,

like this .....**APPLICATION**

Step 4 may not need much attention
if Step 3 was successful , it may again be small

like this ..... **Evaluation**

These four steps to successful teaching are discussed more fully in the following paragraphs.

Step 1 - Preparation (Motivation)

The first of the four steps to successful teaching is the PREPARATION step, in which the successful instructor always makes a concentrated effort to reach the mind of the learner. Learning cannot take place until the learner is motivated. The instructor must get the student's attention and give them the opportunity to focus it on the new material to be learned.

Step 1 is also used to build a teaching base. The student must **associate** every new idea or job to be

learned with something they already know.

Therefore, during this step the instructor should relate their lesson to the past experiences and knowledge of the learners.

Step 2 - Presentation

In the PRESENTATION step, instruction takes place or new ideas are presented to the learner. Oftentimes the inexperienced instructor focuses so strongly on this step that they have little time to devote to the next and most important step of allowing their students to apply or demonstrate the new knowledge they have presented to them.

Step 3 - Application

Once again, the APPLICATION step is the most important of the four steps of learning. The job of the vocational instructor is to teach people how to do a job. It is during this step, as the above heading implies, that the learner has the opportunity to apply not only what they have learned but what the instructor has taught. Particularly in vocational training, there is "little learning without some doing."

Step 4 - Evaluation

The purpose of the EVALUATION step is simply to see if the learner can do the job **unaided** or **without supervision.** During the application step, the student performed the job under supervision, but the student did not demonstrate their ability to do the job on his/her own or perhaps to apply the principles in a new situation.

HANDLING PROBLEM STUDENTS

A few hints may prove helpful in handling problem students. FIRST, get well acquainted with students in order to identify problems early. SECOND, draw upon the experience of other instructors. Ask them how they have dealt with similar problems or with the same student. THIRD, use the L-E-A-S-T method of progressive discipline.

THE L-E-A-S-T METHOD OF PROGRESSIVE CLASS DISCIPLINE

L = At the first evidence of misbehavior, **"Leave it Alone".**
The behavior may have been an isolated occurrence

E = If the behavior continues, make **"eye contact"** to convey dissatisfaction

A = If the behavior continues, an action step is indicated. This usually is a comment stressing the importance of being attentive in class or directing a question to the problem student

S = At this point the student is interrupting the class to the extent that you should stop the class and discuss the problem with the student. Taking a break is the most tactful way

T = Assuming the discussion during the stop phase was not able to solve the problem, you should terminate this individual's classroom privilege (expel the student from class) and take disciplinary action - *mpp*

Behavioral Objectives

A behavioral objective is a measurable statement of behavior required to demonstrate that learning has occurred. A behavioral objective will answer the question: "What is the student to know or be able to do as a result of learning or upon completion of the unit?"

Several other terms are used interchangeably with the term "behavioral objective." These include learning objective, instructional objective , learning or learner outcome, and performance objective. All terms refer to the learned behavior as a result of instruction.

A soundly constructed objective will provide a basis for designing instructional content, methods, and materials; for determining whether learning has occurred or instruction has been successful; and for organizing and **motivating** a student's own efforts toward learning. Therefore, objectives serve as a guide to learning, instruction, and evaluation. The instructor should:

- state the behavioral objective
- teach the behavioral objective
- test the behavioral objective

MEASURABLE OBJECTIVES

To be meaningful, objectives must be stated in terms of measurable performance. Further, they must be based upon the information gathered in the analysis component of the instructional design process. **Behavioral objectives must be specific, clearly stated at the beginning of each lesson and given to the students preferably in writing.** The behavioral objectives are stated in the lesson plan using the CBS form as the condition, behavior, and standard.

When students are given the desired objectives, they know exactly what is expected of them to meet minimum acceptable standards and they are motivated to meet these standards.

CONDITION - A properly prepared objective clearly states the given tools and equipment that the student is expected to use. This portion of the objective describes the important aspects of the work environment such as with what the student has to work, the tools to be used, whether notes or textbooks can be used, and physical conditions. For technical lesson plans, the conditions will be a written exam, outside assignment, or an in-class activity.

BEHAVIOR - An instructor cannot read the student's mind to verify the extent of understanding. It is only through some overt activity of the student that the extent of individual knowledge or skill can be determined. In the preparation of behavioral objectives the use of an action verb reduces ambiguity and aids the understanding of instructional intent. The behavioral objective must be specific and clear.

STANDARD - The performance standard indicates the level of performance a student must achieve to show competency or mastery of the desired behavior. The standard serves as a criterion for determining whether the student has achieved a satisfactory and safe level of performance, and

describes the minimum acceptable level of performance.

Therefore, **CONDITIONS** describe with what the behavior is to be accomplished. **BEHAVIOR** describes what the student should know or be able to do. **STANDARD** describes how well the behavior is to be accomplished.

TECHNICAL/MANIPULATIVE - Lesson plans are either Technical or Manipulative in nature. Manipulative involves a physcomotor skill. That is, a tool or equipment must have physical manipulation. Examples are: connecting hose together, carrying a ladder etc. A technical lesson plan involves a cognitive skill. That is, learning that does not involve a manipulation of a tool or piece of equipment. Examples are: identifying different parts of a ladder, strategy of making hose leads etc.

Both Technical and Manipulative skills are taught using the Four step method. Examples of both are found in the Drill Manual. Manipulative lesson plans are identified by the topic title "How To..." While Technical lesson plans are identified by the topic title "Reasons For.., Over view Of..., Parts Of...., etc."

Additional training in the Four step method of instruction is available through the instructor series of the California Stated Fire Service Training and Education System by the California State Fire Marshal (CSFM). These courses are described in the Training Catalog.

One acceptable example of implementing the Four step method of instruction follows on the next page. Additionally, an example of a manipulative and a technical lesson is included and an Instructor Evaluation form as described in CSFM's instructor series.

IMPLEMENTING THE 4 - STEP METHOD OF INSTRUCTION

I. **INTRODUCTION:**
(Written form)

A. Name and rank
B. How to contact
    1. Station Four, C - Watch, phone number
    2. Fire Prevention, phone number, etc.
C. Topic of Course (Title)
    1. "How to..."
    2. "Reasons for..."

II. **BEHAVIORAL OBJECTIVE(s):**
(Written Form)

A. The instructor shall state the Conditions
    1. Using the following equipment and tools .....
    2. Given a written multiple choice exam .....
    3. Given a manipulative test

B. The instructor shall state the Behavior
    1. Specific and clear
        a. You will be expected to identify the correct answers perform the correct steps .....
            1) To be stated in measurable terms
            2) Rephrased into own words for student understanding
            3) Orally explained

C. The instructor shall state the Standard
    1. "How well..." does the student need to perform
        a. With 75% accuracy
        b. Listing 20 of the 25 items correctly
        c. Without error
        d. According to lesson plan, manual etc.

III. **PREPARATION STEP:** (Step I)

A. Association of Student's Previous Learning Experiences
    1. Ask questions
        a. Obtaining feedback
        b. Associate students past experiences
    2. Cite Examples
        a. Instructor's past experiences

1) Relate personal experiences
b. Students past experiences
4. Refer to previous lessons, drill, similar tools
5. Cite benefits of learning the lesson
a. Safety
b. New equipment
c. Change of laws etc.

IV. **PRESENTATION STEP:** (Step II)

A. Presentation of new material to the student
1. Identification of parts
a. Use of visual aids
1) actual tool
2) flip chart
3) slides

B. Perform demonstration
1. Step (1) "How to..." operate tool (regular speed)
a. From beginning to completion, uninterrupted
2. Step (2) (Slowly)
a. Repeat "How to..." from beginning to end (known to unknown)
b. Emphasizing key points
c. Proceed from the simple to the complex
d. Refer to textbooks and other reference sources

V. **APPLICATION STEP:** (Step III)

A. MOST IMPORTANT STEP
1. Provide the opportunity for student to perform under supervision
2. To involve the student in the learning process
a. Student must have the opportunity to apply what has been learned
b. Did the student "say while doing"
(1) 90% Retention
3. Close supervision by instructor
a. Check safety
b. Check and correct errors
c. Emphasize key points
d. Correct bad habits
e. Require note-taking
f. Assign problem
4. Students to assist each other
a. Quick learner to assist others

VI. **EVALUATION STEP:** Step (IV)

A. To evaluate learning
    1. Student to perform task unassisted
    2. Ask prepared questions
    3. Learner demonstrates and explains job
    3. Have the learner observe and criticize other learner's performance
    4. Conduct examinations
    5. Evaluate notebooks, projects, assignments etc.
B. Feedback
    1. Explain any errors committed
C. To evaluate instruction
    1. Were the behavioral objectives met?
        a. Did the student attain the behavioral objectives as stated at the beginning of the of lesson?
        b. Did the instructor test to the behavioral objective?
            1) Standard

VII. **SUMMARIZE**

A. Wrap-up loose ends
B. Opportunity for student to ask any last questions

VIII. **ASSIGNMENTS:**

A. Outside activities
B. Homework assignments
C. Department activities
D. Describe exactly what will be required
    1. Explain where to locate information

INSTRUCTOR EVALUATION*

WATCH : COMPANY: OFFICER:	
TOPIC:	DATE:
TRAINING OFFICER	TEACHING TIME

BEHAVIORAL OBJECTIVES GIVEN: Oral or Written yes ☐ no ☐

Condition:
Behavior
Standard

PREPARATION: marginal ☐ acceptable ☐ above average ☐ superior ☐

Ask questions
Cite examples
Relate personal experiences
Review previous lessons
Conduct diagnostic quizzes
Cite benefit of learning the lesson

PRESENTATION: marginal ☐ acceptable ☐ bove average ☐ superior ☐

Give demonstration
Use visual aids
Explain procedures
Emphasize key points
Explain concepts, philosphies, principles, and implications
Proceeds from known to unknow, simple to complex
Uses textbooks and other reference sources

APPLICATION: marginal ☐ acceptable ☐ above average ☐ superior ☐

Have learner perform the job
Supervise performance closely
Check and correct errors
Develop correct habits
Check key points and safety points
Develop discussions
Conduct quizzes
Assign projects
Require note-taking
Assign problem

EVALUATION: marginal ☐ acceptable ☐ above average ☐ superior ☐

Have learner perform job unassisted
Conduct manipulative performance tests
Ask prepared questions
Have learner demonstrate and explain job
Have learner observe and criticize other learner's performance
Conduct examinations

ASSIGNMENT:	yes ☐ no ☐
GROUP EVALUATION	

* Dimension measured must be appropriate for the lesson to be presented. For example under application, "Have learner perform the job" would be appropriate for a manipulative lesson while "Develop discussions" would be more appropriate for a technical lesson.