

# INSTRUCTOR DEVELOPMENT COURSE



# Trainee Guide

S-062-008TG



**TRAINEE GUIDE**  
**FOR**  
**INSTRUCTOR DEVELOPMENT COURSE (IDC)**  
**S-062-0008**

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LIST OF EFFECTIVE ELEMENTS

Element No.	Change in Effect	Element No.	Change in Effect
Title Page	Original	Information Sheet 3-1-1	Original
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SECURITY AWARENESS NOTICE

This course does not contain any classified material.

### SAFETY/HAZARD AWARENESS NOTICE

The safety of personnel, prevention of damage to equipment and the successful completion of training requirements are NAVSCIATTS priorities. Due to the diverse nature of the curriculum taught at NAVSCIATTS, from supply and intelligence, to engineering, to dynamic high-risk training courses distinct policies and operating procedures have been established to enable all personnel to fully understand their duties regarding the safe conduct of training. This notice promulgates safety precautions to the staff and trainees of all NAVSCIATTS training courses in accordance with responsibilities assigned by the Chief of Naval Education and Training.

To provide an aggressive and demanding training program that prepares the student to meet the challenges of their daily work assignments, the training provided may be inherently dangerous in nature. Additionally, other relatively benign training evolutions may become dangerous under certain circumstances (e.g. wildlife, foul weather, nighttime training, ect.). All personnel must be alert to the inherent dangers for any potentially hazardous conditions peculiar to the training conducted. At a minimum, you are responsible for knowing, understanding, and observing all safety precautions applicable to the training being conducted. In addition, you are responsible for observing the following general safety precautions:

1. Each individual shall report for work rested and emotionally prepared for the tasks at hand.
2. You shall use normal prudence in all your functions, commensurate with the work at hand.
3. You shall report any unsafe conditions, or any equipment or material which you consider to be unsafe, and any unusual or developing hazards.
4. You shall warn others whom you believe to be endangered by known hazards or by failure to observe safety precautions, and of any unusual or developing hazards.
5. You shall wear or use the protective clothing and/or equipment of the type required, approved, and supplied for the safe performance of your work.

### MISHAP/HAZARD REPORTING

All personnel must have a comprehensive knowledge of emergency procedures which prescribe various courses of action to be followed in the event of equipment failure or human error as stated in the Pre-Mishap Plan. Strict adherence to approved, verified operating, emergency, and maintenance procedures IS MANDATORY.

1. Safe training is the number one goal. Each year at training commands lives are lost, and thousands of man-hours and millions of dollars are wasted as the result of accidents. Most accidents could have been prevented. They are the result of actions performed incorrectly, either knowingly or unknowingly, by people who fail to exercise sufficient foresight, lack the requisite training, knowledge, or motivation, or who fail to recognize and report hazards.
2. A mishap is any unplanned or unexpected event causing personnel injury, occupational illness, death, material loss or damage or an explosion whether damage occurs or not.
3. A hazardous condition is a situation which, if allowed to go unchecked or uncorrected, has the potential to cause a mishap.
4. A near miss is when a mishap is avoided merely by chance.
5. It is the responsibility of all Department of Defense personnel to report all mishaps and near misses. If a mishap, hazardous condition, or near miss occurs let your instructor know immediately.
6. Instructors will correct hazardous conditions, if able, immediately. If unable to correct the hazard condition on their own, the instructor will submit a work request and submit a report of unsafe/unhealthy working conditions to the command training safety officer via their division/departmental training safety officer. Reports can be hand written on the appropriate form. Injuries will be reported on the appropriate form. In the event of a near miss the pertinent information will be submitted to the command training safety officer via their divisional/departmental training safety officer and include lessons learned.

### TRAINING TIME OUT (TTO)

Any trainee having apprehension concerning personal safety or the safety of another, should signal for a "Training Time Out" to clarify the situation or procedure and receive additional instruction as appropriate. "Training Time Out" signals, other than verbal, such as forming a "T" using both hands, can be used.

1. Students will be briefed on TTO policy and procedures prior to each high or moderate-risk evolution or laboratory. For multi-day or all-day evolutions, TTO shall be debriefed prior to the start of training following major breaks, such as mealtimes. Evolution-specific TTO procedures should be added where needed. These procedures should be standardized to conform with established fleet distress indicators where appropriate (e.g., standard small arms range procedures, diving distress signals, etc.). Emphasis shall be placed on specific verbal and nonverbal signals to be used by students and instructors.

SAFETY/HAZARD AWARENESS NOTICE – Continued

TRAINING TIME OUT (TTO) (continued)

2. A TTO may be called in any training situation where a student or instructor expresses concern for personal safety or requests clarification of procedures or requirements. TTO is also an appropriate means for a student to obtain relief if he or she is experiencing pain, heat stress, or other serious physical discomfort.
3. Instructors are responsible for maintaining situational awareness and shall remain alert to signs of student panic, fear, extreme exhaustion, or lack of confidence that may impair safe completion of the training exercise. Instructors shall cease training immediately when they consider such action appropriate.
4. Following a TTO, the situation shall be examined and additional explanation and instruction shall be provided as needed to allow safe resumption of training. Once the lead instructor on scene is fully apprised of the problem, he/she shall direct all training to cease or training with unaffected students to continue, based on the situation.
5. If a student refuses to participate in training after being instructed or after an unsafe condition has been corrected, or uses TTO excessively to disrupt training, that student shall be removed from training and referred for further counseling or administrative processing.

DROP ON REQUEST (DOR)

Trainees may voluntarily request termination of training. Any time the trainee makes a statement such as “I QUIT”, or “DOR” (Drop on Request), he or she shall be immediately removed from the training environment and referred to the training officer for administrative action. The trainee must then make a written statement clearly indicating the reason the student desires to be removed from the course.

1. Policy: Ensure all students are briefed on DOR policy and procedures. For voluntary high/moderate-risk courses, the following briefing shall be given prior to commencing the course (i.e., course indoctrination, welcome aboard brief, etc.) and should not be repeated unless there is a long break in the course (e.g., Christmas holidays).
  - a. In all cases where a student states a desire to DOR from voluntary training based on concern for personal well-being, appropriate action shall be initiated. This includes removal from training, referral of the student to medical, counseling, or other remedial action as appropriate. A review of the training environment, including training techniques will also be conducted. The scope and depth of these actions shall be determined by the nature of the complaint and the risk incurred in the training. A written summary of actions taken shall be made a permanent entry to the student's service record. In no case shall a student be coerced or threatened to induce him or her to return to training following a DOR.
2. Procedures: After removal from voluntary training, the student shall submit a written request detailing the reasons for DOR; Special Request/Authorization Form (NAVPERS 1336/3 (Rev. 9-75)) may be used. The request should clearly indicate that the student wants to DOR (e.g.: *I, (name), desire to be removed from training in \_\_\_\_\_course for the following reason(s):\_\_\_\_\_*). The request shall be submitted directly to the training or division officer and shall become a part of the student's training record. If a student was being processed for an Academic Review Board (ARB) action prior to the DOR, the ARB shall take precedence. In any case, the student shall be removed from training.
  - a. Training or Division Officer's Interview. The loss of an able student from training or the continuation in training of a student who is unlikely to complete the program represents a waste of valuable resources, assets, time, and effort. Often, students who DOR do not give the real or complete reasons for their requests. The interviewer, using no overt or implied coercion or threats, shall make a reasonable effort to determine:
    - (1) The real motivation for the request.
    - (2) If the decision to DOR is the result of some training factor which may lead other students to DOR. If so, can training be changed to alleviate his factor without adversely affecting program objectives?
    - (3) If the student desires to reenter the program.
    - (4) If student retention is warranted, are there actions (counseling, change of instructor, or special assistance) which might cause the student not to DOR? Are such actions justified in view of the impact upon the overall training program and upon other students?
  - b. The interview need only be detailed enough to satisfy the CO, OIC, or DOT that the student understands the gravity of DOR, and that the reasons for the DOR are known or that further questioning is unlikely to reveal additional information.
  - c. No one in the DOR chain shall refuse to forward a request or to remove the student from training, nor shall anyone delay a request in an effort to arrive at the cause of the DOR, or threaten/coerce a student to reconsider.

## HOW TO USE YOUR TRAINEE GUIDE

This publication has been prepared for your use while under instruction. It is arranged in accordance with the topics taught, and is in sequence with those topics. By using the table of contents you should be able to locate the lesson topics easily. By following the enclosed course schedule, you should be able to follow the course of instruction in a logical manner. Under each topic there may be the following instruction sheets:

- **OUTLINE SHEETS:** Provide a listing of major teaching points. The outline is consistent with the outline of the discussion points contained in the lesson plan.
- **INFORMATION SHEETS:** Amplify supplemental information from the reference materials for the course, from technical manuals, or from instruction books. You may be tested on this material during the course.
- **PROBLEM SHEETS:** Normally used for paperwork troubleshooting when the equipment is not available and may also be used for drill-and-practice problems related to the topic.
- **JOB SHEETS:** Provide step-by-step instructions for developing your skills in performing assigned tasks and maintaining the equipment when and where the work is assigned, in the laboratory or practical areas.
- **ASSIGNMENT SHEETS:** To assist you in being prepared for the lesson topics and laboratory/practical exercises BEFORE they are presented by the instructor or occur in the course.
- **DIAGRAM SHEETS:** These are used as necessary to simplify the instruction. They are to aid you in understanding the systems, equipment, or topics presented.

All of the instruction sheets are identified by their unit and lesson topic number. They are listed in the order of their use. Each lesson topic will contain at least one Enabling Objective.

The Learning Objectives listed in this Guide specify the knowledge and/or skills that you will learn during the course, and reflect the performance expected of you on the job. The Enabling Objectives specify the knowledge and/or skills you will learn in a specific lesson topic. You should thoroughly understand the Enabling Objectives for a lesson topic and what these objectives mean to you before you start each lesson topic. Each learning objective contains behavior(s), conditions, and standards, which are defined as follows:

- The behavior is a description of the performance and/or knowledge that you will learn in that lesson topic;
- The conditions under which you will be able to perform or use the knowledge;
- The standard(s) to which you will be able to perform or use the knowledge.

The objectives provide a means by which you can check your progress during training. The objectives also enable you to evaluate your training when you have finished, so you can ensure that you have satisfied the goals of the course. Your instructor will explain the objectives to you at the start of the course. Feel free to ask for additional information during training if you feel that you are not learning as you should.

Classroom and laboratory sessions will be conducted by one or more instructors. You will be responsible for completing the material in this guide, some of it before class time. Prior to starting to use this guide, read through the front matter and become familiar with the organization of the material, then follow directions below for each lesson topic:

- READ the Enabling Objectives for the lesson topic and familiarize yourself with what will be expected of you
- STUDY each reading assignment
- WRITE any written assignment.
- EXAMINATIONS and QUIZZES

Exams and quizzes will be administered as required by the Course Master Schedule. A quiz is an informal test used to check for understanding, and may be given by your instructor at any time; they do not count toward your final grade. Only the material covered in the lesson topics will be tested. All written tests items will be in the form of multiple choice, completion, or true/false questions and performance tests will be used to evaluate the practical skills learned during the course as appropriate. Success on exams is dependent upon an understanding of the objectives, involvement in class activities, and good study habits.

## TERMINAL OBJECTIVES

- 1.0 **DESCRIBE** course administration procedures in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 2.0 **DESCRIBE** group-paced instruction in accordance with the Navy Instructor Manual, NAVEDTRA 134; Management of Organizational Behavior, Utilizing Human Resources (6th ed.), Hersey, Paul, and Instructional Technique (1981), Davies, Ivor K.
- 3.0 **DESCRIBE** student motivation in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 4.0 **DESCRIBE** the principles of learning in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 5.0 **DESCRIBE** effective communications in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 6.0 **DESCRIBE** the instructional methods in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.0 **DEVELOP** learning objectives in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 8.0 **PERFORM** test development in accordance with the Task Based Curriculum Development Manual, Vol. 1, NAVEDTRA 130; Navy School Management Manual, NAVEDTRA 135; and Navy Instructor Manual, NAVEDTRA 134.
- 9.0 **PERFORM** effective communication and motivation in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 10.0 **DESCRIBE** lesson plans in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 11.0 **DESCRIBE** Instructional Media Material (IMM) techniques in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 12.0 **DEMONSTRATE** the use of the Visual Aid Panel/Chalkboard in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 13.0 **EXPLAIN** instructor evaluations in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 14.0 **PERFORM** the lesson method of instruction using Instructional Media Material (IMM) in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 15.0 **DESCRIBE** the demonstration method of instruction in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 16.0 **PERFORM** the demonstration method of instruction in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 17.0 **DESCRIBE** performance testing in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 18.0 **DESCRIBE** individual student performance evaluation in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 19.0 **DESCRIBE** counseling techniques in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 20.0 **APPLICATION** of Group Paced Instructional Methodology in accordance with the Navy Instructor Manual, NAVEDTRA 134.

COURSE MASTER SCHEDULE

S-062-0008

Topic No.	Type	Period	Topic Title	Period Length	Ratio	BottleNeck Ratio
<b>WEEK 1</b>						
<b>Day 1</b>						
	PA	1	Physical Training	90		
	Class	2	Academic Review	30	25:1	
	Class	3	Course / Instructor Introduction	50	25:1	
	Lab	4	Administrative Procedures	50	25:1	
	Lab	5	3 Min. Presentation	50	8:1	
2.1	Lab	6	Group-Paced Instruction	50	25:1	
2.1	Lab	7	Group-Paced Instruction	50	25:1	
2.2	Lab	8	Student Motivation	50	25:1	
<b>Day 2</b>						
	PA	9	Physical Training	90		
	Class	10	Academic Review	30	25:1	
2.3	Class	11	Principles of Learning	50	25:1	
2.3	Class	12	Principles of Learning	50	25:1	
2.4	Class	13	Effective Communications	50	25:1	
2.5	Class	14	Instructional Methods	50	25:1	
2.6	Class	15	Learning Objectives	50	25:1	
2.6	Lab	16	7 Min. Presentation	30	8:1	
<b>Day 3</b>						
	PA	17	Physical Training	90		
	Class	18	Academic Review	30	25:1	
2.6	Lab	19	7 Min. Presentation	50	8:1	
2.6	Lab	20	7 Min. Presentation	50	8:1	
2.7	Class	21	Test Development	50	25:1	
2.7	Class	22	Test Development	50	25:1	
2.8	Class	23	Communication and Motivation PE Preparation	50	25:1	
3.1	Class	24	Elements of the Lesson Plan	50	25:1	
<b>Day 4</b>						
	PA	25	Physical Training	90		
	Class	26	Academic Review	30	25:1	
3.2	Class	27	Instructional Media Material (IMM) Techniques	50	25:1	
3.2	Class	28	instructional Media Material (IMM) Techniques	50	25:1	
3.3	Lab	29	Visual Aid Panel (VAP)/Chalkboard Presentation	50	25:1	
3.3	Lab	30	Visual Aid Panel (VAP)/Chalkboard Presentation	50	25:1	
3.3	Lab	31	Visual Aid Panel (VAP)/Chalkboard Presentation	50	25:1	
3.3	Lab	32	Visual Aid Panel (VAP)/Chalkboard Presentation	50	25:1	
<b>Day 5</b>						
	PA	33	Physical Training	90		
	Class	34	Academic Review	30	25:1	
3.4	Class	35	Instructor Evaluations	50	5:1	
3.4	Class	36	Instructor Evaluations	50	5:1	
3.5	Lab	37	Lesson Method of Instruction Performance Exercise	50	8:1	
3.5	Lab	38	Lesson Method of Instruction Performance Exercise	50	8:1	
3.5	Lab	39	Lesson Method of Instruction Performance Exercise	50	8:1	
3.5	Lab	40	Lesson Method of Instruction Performance Exercise	50	8:1	

COURSE MASTER SCHEDULE

Topic No.	Type	Period	Topic Title	Period Length	Ratio	BottleNeck Ratio
<b>WEEK 2</b>						
<b>Day 1</b>						
	PA	41	Physical Training	90		
	Class	42	Academic Review	30	25:1	
3.5	Lab	43	Lesson Method of Instruction Performance Exercise	50	8:1	
3.5	Lab	44	Lesson Method of Instruction Performance Exercise	50	8:1	
3.5	Lab	45	Lesson Method of Instruction Performance Exercise	50	8:1	
3.5	Lab	46	Lesson Method of Instruction Performance Exercise	50	8:1	
3.6	Class	47	Demonstration Method of Instruction	50	25:1	
3.6	Class	48	Demonstration Method of Instruction	50	25:1	
<b>Day 2</b>						
	PA	49	Physical Training	90		
	Class	50	Academic Review	30	25:1	
3.7	Lab	51	Performance of the Demonstration Method of Instruction	50	8:1	
3.7	Lab	52	Performance of the Demonstration Method of Instruction	50	8:1	
3.7	Lab	53	Performance of the Demonstration Method of Instruction	50	8:1	
3.7	Lab	54	Performance of the Demonstration Method of Instruction	50	8:1	
3.7	Lab	55	Performance of the Demonstration Method of Instruction	50	8:1	
3.7	Lab	56	Performance of the Demonstration Method of Instruction	30	8:1	
<b>Day 3</b>						
	PA	57	Physical Training	90		
	Class	58	Academic Review	30	25:1	
4.1	Class	59	Performance Tests	50	25:1	
4.2	Class	60	Group and Individual Performance Evaluations	50	25:1	
4.2	Class	61	Group and Individual Performance Evaluations	50	25:1	
4.3	Class	62	Counseling Techniques	50	25:1	
4.3	Class	63	Counseling Techniques	50	25:1	
4.3	Class	64	Counseling Techniques	50	25:1	
<b>Day 4</b>						
	PA	65	Physical Training	90		
	Class	66	Academic Review	30	25:1	
5.1	Lab	67	Final Presentation Preparation	50	8:1	
5.1	Lab	68	Final Presentation Preparation	50	8:1	
5.1	Lab	69	Final Presentation Preparation	50	8:1	
5.1	Lab	70	Final Presentation Preparation	50	8:1	
5.1	Lab	71	Final Presentation Preparation	50	8:1	
5.1	Lab	72	Final Presentation Preparation	50	8:1	
<b>Day 5</b>						
	PA	73	Student Critiques	50	5:1	
	PA	74	Student Critiques	50	5:1	
	PA	75	Gear Turn-In	50	5:1	
	PA	76	Gear Turn-In	50	5:1	
	PA	77	Student Out Processing/Graduation	50	5:1	
	PA	78	Student Out Processing/Graduation	50	5:1	
	PA	79	Student Out Processing/Graduation	50	5:1	
	PA	80	Student Out Processing/Graduation	50	5:1	

INFORMATION SHEET 2-1-1  
GROUP-PACED INSTRUCTION

A. INTRODUCTION

This information sheet is intended to assist you in understanding group-paced instruction.

B. REFERENCES

1. Navy Instructor Manual, NAVEDTRA 134
2. Management of Organizational Behavior, Utilizing Human Resources (6th ed.), Hersey, Paul, ISBN: 0135496187

C. INFORMATION

1. Instructional Methods - An educational approach for turning knowledge into learning -- the "how to" in the delivery of training. As an instructor, you will need to understand the following methods and your responsibility in using them.
  - a. Lecture Method - When an instructor accurately presents a large amount of information, concepts, or principles in the shortest available time while the students listen and take notes.
    - 1) The instructor must:
      - a) Set clear-cut goals and objectives.
      - b) Have detailed knowledge of the subject matter.
      - c) Have realistic examples and analogies with explanations.
      - d) Keep lectures short, well organized, and to the point.
    - 2) The instructor can use visual and/or audio enhancements so that students can see and/or hear supplemental information to increase their understanding about the instructor's lecture. They reduce the amount of explanation time required for students to grasp information.
    - 3) The instructor should:
      - a) Practice using visual and/or audio enhancements in lectures.
      - b) Plan timing of their use to keep student attention, stress points, and emphasize specific information.
  - b. Lesson Method - Teaching a very structured plan.
    - 1) Requires interaction using audio/visual aids and two-way communication.
    - 2) Requires a formal lesson plan.
    - 3) Requires incorporating questions.
    - 4) Requires having a thorough knowledge of the material.
    - 5) Requires a review and summary.

- 6) Uses the three basic elements:
    - a) Introduction - Used to create an interest in your topic and why the student needs to pay attention.
    - b) Presentation - Used to teach your lesson objective.
    - c) Summary - Used to review the information taught in the presentation.
  - c. Demonstration Method - Teaches skill-type subjects.
    - 1) Demonstration Steps - Provide background knowledge the student must know in order to perform a skill properly. Use the following techniques:
      - a) Position the student and training aids properly.
      - b) Show and explain the operations.
      - c) Observe the safety precautions.
      - d) Give proper attention to terminology.
      - e) Check student comprehension.
    - 2) Repetition Steps - Provide training on complex skills. The more complex the skill, the greater the need for repetition steps. The instructor or a student can perform repetition steps using the following techniques:
      - a) Introduce the step properly.
      - b) Practice proper performance of the step to develop ease, speed, and accuracy.
      - c) Avoid any activity that might break the continuity of your performance.
      - d) Correct errors.
    - 3) Performance steps - Provide the student with the opportunity to practice under supervision until the desired skill is obtained. The student should clearly understand what, when, where, how, and why the required work should be done.
  - d. Role-play - Requires the student to assume an active role in a simulated situation followed by a group discussion.
  - e. Case Study - Focuses attention of the student on a specific case, which is either hypothetical or real, and allows the student to develop problem-solving skills from the experience.
  - f. Discussion - Provides the student with the opportunity to confer and share information about available resources, past results, and possible solutions.
2. Traits of an effective instructor
- a. Knowledge - Should qualify an instructor as a Subject Matter Expert (SME) who knows far more about the subject than will actually be taught. The instructor should convey knowledge with a strong belief in the value of the subject matter.

b. Ability

1) Leadership skills - Maintain the following capabilities:

- a) Planning and organizing,
- b) Optimizing use of resources,
- c) Exercising and delegating authority,
- d) Monitoring progress and results,
- e) Disciplining,
- f) Rewarding,
- g) Motivating and building teamwork,
- h) Developing subordinates, and
- i) Advising and counseling.

2) Instructional skills - Understand the principles, methods, and techniques of instruction and apply them effectively.

c. Personality - Defined as the pattern of collective character, behavioral, temperamental, emotional, and mental traits.

1) Gains respect of the students by displaying a professional attitude.

2) Shows sincere interest in all students as individuals.

3) Leads by example in and out of the classroom.

4) Remains people-oriented rather than materialistic.

5) Adheres to ethical rules of conduct:

- a) If you don't know the answer, admit it, but find it,
- b) Keep your remarks professional and appropriate to the classroom,
- c) Be patient,
- d) Maintain a positive rapport with the students, and
- e) Treat students with respect.

3. Instructor Responsibilities:

a. To the students - Remain aware that many outside influences can affect student performance. Offer appropriate help to resolve any adverse influences.

b. Safety - Maintain and demonstrate proper safety procedures at all times.

- c. Security:
  - 1) Account for all classified material used in training,
  - 2) Never discuss any classified material not in the approved curriculum,
  - 3) Never cover or incorporate information that has a higher classification than that of the approved curriculum, and
  - 4) Immediately report any security violations.
- d. Curriculum:
  - 1) *Surveillance* - Continuous evaluation of training or material to ensure contents meet the training requirements.
  - 2) *Interim Change* - Minor changes to correct editorial or typographical errors, as well as improve teach ability or incorporate updated safety requirements.
  - 3) *Change* - A modification that does not affect course objectives, increase course length, or require additional resources.
  - 4) *Technical Change* - Any tactical or training-unique equipment or documentation change that affects the curriculum.
  - 5) *Revision* - Required if course learning objectives are affected, course length is increased, or additional resources are required.
- e. Discourage Fraternalization - Personal relationships between higher-ranking officials and lower-ranking officials that are unduly familiar and do not respect the differences in status.
- f. Elimination of sexual harassment - Ensuring that discrimination involving unwelcome sexual advances or requests for sexual favors is prohibited.
- 4. Power - A potential for influence. A resource that enables an instructor to gain compliance or commitment from others.
  - a. Instructors who know and understand how to use power are more effective.
  - b. To successfully influence the behavior of the student, the instructor must understand the impact of power in various types of leadership styles.
- 5. There are two distinct types of power
  - a. Positional - An individual's position within an organization. This power can be delegated down from above and is inherent within instructors. The extent of this power is directly related to the instructor's authority to reward or punish the students as a result of their actions.
  - b. Personal - Derived from the student's perception of the instructor and the extent to which the instructor gains the confidence and trust of the students.

6. Power Bases - Power comes from various sources of power bases. As an instructor, you can achieve power from a variety of bases, such as the following:
  - a. Legitimate - Comes from the perception that the instructor can make decisions due to title or position. In the classroom, your title as instructor tells students that you are a legitimate authority with the power to make decisions and give directions to your students.
  - b. Coercive - Comes from the perceived ability of the instructor to provide sanctions or punishment. In the classroom, the student knows that poor performance will result in a consequence, whether it is reprimands, additional assignments, or dismissal from the class.
  - c. Reward - Comes from the perceived ability of the instructor to provide recognition, promotion, or special assignments for the student who does well. Rewards should be positive to provide motivation with fair and equal treatment for all students.
  - d. Expert - Comes from the perception that the instructor has the knowledge, education, and skills to share with the students. Students already have these perceived notions that you possess this power; therefore, you must display the proper competence and confidence so the student can recognize your expertise.
  - e. Reverence - Come from an honorable personality. Students will be easily motivated if they trust and admire you.

INFORMATION SHEET 2-2-1

MOTIVATION

A. INTRODUCTION

This information sheet is intended to help you understand motivation.

B. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

C. INFORMATION

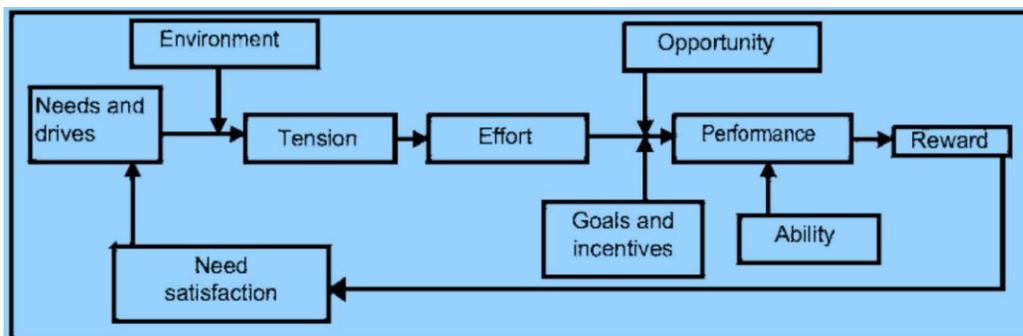
1. What is Motivation?

- a. It is a general tendency to believe that motivation is a personal trait for every individual. Some people have it and the others don't. In practice, some are labeled to be lazy because they do not display an outward sign of motivation. However, individuals differ in their basic motivational drives. It also depends upon their areas of interest.
- b. The concept of motivation is situational and its level varies between different individuals at different times. If you understand what motivates people, you have at your command the most powerful tool for dealing with them.

2. Defining Motivation

- a. The definition of motivation is a general term applied to the entire class of drives, desires, needs, wishes, and similar forces. Motivation is used to inspire people to work, individually or in groups, in order to produce the best results. It is the will to act by exerting high levels of effort towards achieving organizational goals, conditioned by smart and efficient working while retaining the ability to satisfy some individual needs.

3. Process of Motivation



- a. In the initial stage, a person starts feeling the lack of something. There is an arousal of need so urgent that the bearer has to venture in its search to satisfy it. This leads to creation of tension, which makes the person forget everything else and start work in order to satisfy the same. This tension also creates attitudes and drives regarding the type of satisfaction that is desired. Then it leads a person to venture in search of information, eventually leading to evaluation of alternatives where the best alternative is chosen. After choosing the alternative, necessary action is taken. Because of the performance of the activity, satisfaction is achieved, which then relieves him of his tensions.

4. Motivation, Satisfaction, Inspiration, and Manipulation Differences

- a. Motivation refers to the drive and efforts to satisfy a want or goal.
- b. Satisfaction refers to the contentment experienced when a want is satisfied.
- c. Inspiration is bringing about a change in the thinking pattern.
- d. Manipulation is getting things done from others in a premeditated manner.
  - 1) Manipulation or external stimulus as well as inspiration or internal stimulus act as carriers of either demotivation or motivation which in turn either results in dissatisfaction or satisfaction depending upon the existing situations.

5. Motivating

- a. Treat subordinates well - Subordinates have to be treated with diligence. A leader has to stay friendly as well as maintain a level of distance with his subordinates/students. It's a tricky ground to tread. They expect maturity, rationality, and understanding from their superiors. Simple things like calling people by their first name, chatting about their families for a while, or even a general inquiry about their well-being, bring in a feeling of belonging. Small gestures of this type help in building a cordial relationship.
- b. Think like a winner - A leader has to handle two situations, "The Winning" and "The Losing." The crux is to think like a winner even when all the odds seem against you. It is necessary to equip yourself with all the tools of a winner.
- c. Recognize the differences - Not all individuals in an organization react at the same. A treatment that motivates one may demotivate the other. Understanding the difference in temperament between the individuals is important.
- d. Set realistic goals - Set moderate goals. Setting too high a task creates a feeling of non-achievement, right from the beginning itself. The goals set should be feasible. A slightly higher target than expected provides a challenge.
- e. Prevent de-motivation - A job of a leader is to motivate people. His task requires him to punish and penalize people. This might create resentment in the minds of the subordinates. Care should be taken to ensure that punishment and penalties are used as a controlling technique and that they do not demotivate.
- f. Job-enrichment and small job changes are handy - To make jobs more effective and to break the monotonous routine, small task additions and minor changes are always welcome. Even small suggestions of a leader can seem valuable to subordinates. A few challenges in the same job can enrich it.
- g. Non-financial rewards - Monetary rewards have always had a high motivational capacity, but non-monetary rewards are equally helpful. Public recognition, a letter of appreciation, or even few words of praise can smooth the creases between the different levels of leadership.

6. Categories of Motivation

- a. Achievement Motivation - It is the drive to pursue and attain goals. An individual with achievement motivation wishes to achieve objectives and advance up the ladder of success. Here accomplishment is important for him and not for the rewards that accompany it.
- b. Affiliation Motivation - It is a drive to relate to people on a social basis. Persons with affiliation motivation perform work better when they are complimented for their favorable attitudes and cooperation.

- c. Competence Motivation - It is the drive to be good at something, allowing the individual to perform high quality work. Competence motivated people seek job mastery, take pride in developing and using their problem-solving skills, and strive to innovate when confronted with obstacles. They learn from their experience.
- d. Power Motivation - It is the drive to influence people and change situations. Power motivated people wish to create an impact on their organization and are willing to take calculated risks to do so.
- e. Attitude Motivation - Attitude motivation is how people think and feel. It is their self-confidence, belief in themselves, and attitude toward life. It is how they feel about the future and how they react to the past.
- f. Incentive Motivation - It is where a person or a team reaps an award performing an activity. It is, "You do this and you get that," sort of attitude. It is the types of awards and prizes that drive people to work a little harder
- g. Fear Motivation - Fear motivation and coercion are acts against the will of the person. It is instantaneous and gets the job done quickly, but is helpful only for a short run.

7. Theory and Techniques of Motivation

- a. Contributions of Robert Owen:

Though Robert Owen is considered to be paternalistic in his view, his contribution is of considerable significance in the theories of motivation. During the early years of the nineteenth century, Owens textile mill at New Lanark in Scotland was the scene of some unique way of treating people. His view was that people were similar to machines. A machine that is looked after properly, cared for and maintained well, performs efficiently, reliably, and lastingly. Similarly, people are likely to be more efficient if they are cared for. Robert Owen practiced what he preached and introduced such revolutionary concepts as employee housing and company shop. His ideas on this and other matters were considered to be too revolutionary during those times.

- b. Jeremy Bentham's "The Carrot and the Stick Approach"

Possibly the essence of the traditional view of people at work can be best appreciated by a brief look at the work of this English philosopher, whose ideas were also developed in the early years of the Industrial Revolution, around 1800. Bentham's view was that all people are self-interested and motivated by the desire to avoid pain and seek pleasure. Any worker will work only if the reward is big enough, or he may undergo punishment that is unpleasant. This view - the carrot and stick approach - was built into the philosophies of the age and is still to be found, especially in the older, more traditional sectors of industry.

The various leading theories of motivation and motivators seldom make reference to the carrot and the stick. This metaphor relates, of course, to the use of awards and penalties in order to induce desired behavior. It comes from the old story to make a donkey move; one must put a carrot in front of him or stab him with a stick from behind. Despite all the research on the theories of motivation, reward and punishment are still considered strong motivators. For centuries, however, they were too often thought of as the only forces that could motivate people.

At the same time, in all theories of motivation, the inducements of some kind of carrot are recognized. Often this is money in the form of pay, bonuses, or commissions. Even though money is not the only motivating force, it has been and will continue to remain an important one. The trouble with the money, or "carrot," approach is that too often everyone gets a carrot, regardless of performance through such practices as salary raise and promotion out of seniority, automatic merit increases, and executive bonus that is not based on individual manager performance. It is as simple as this: If a person puts a donkey in a pen full of carrots and then stands outside the pen with a carrot, would the donkey be encouraged to come out of the pen?

The stick, in the form of fear - fear of loss of job, loss of income, reduction of bonus, demotion, or some other penalty - has been and continues to be a strong motivator.

Yet, it is admittedly not the best of its kind. It often gives rise to defensive or retaliatory behavior, such as union organization, poor-quality work, and executive indifference, failure of a manager to take any risks in decision-making or even dishonesty. But fear of penalty cannot be overlooked. Whether managers are first-level supervisors or chief executives, the power of their position to give or withhold rewards or impose penalties of various kinds gives them an ability to control, to a very great extent, the economic and social well-being of their subordinates.



c. Abraham Maslow's "Need Hierarchy Theory" - One of the most widely mentioned theories of motivation is the hierarchy of needs theory put forth by psychologist Abraham Maslow. Maslow saw human needs in the form of a hierarchy, ascending from the lowest to the highest, and he concluded that when one set of needs is satisfied, these kinds of needs ceases to motivate.

1) As per his theory, needs are:

- a) Physiological Needs - These are important needs for sustaining human life. Food, water, warmth, shelter, sleep, medicine, and education are the basic physiological needs that fall in the primary list of need satisfaction. Maslow was of an opinion that until these needs were satisfied to a degree to maintain life, no other motivating factors could work.
- b) Security or Safety Needs - These are the needs to be free from the physical dangers such as the fear of losing a job, property, food, or shelter. It also includes protection against any emotional harm.
- c) Social Needs - Since people are social beings, they long for societal acceptance. People try to satisfy their needs for affection, acceptance, and friendship.
- d) Esteem Needs - According to Maslow, once people begin to satisfy their social needs, they want to be held in esteem both by themselves and by others. This kind of need produces such satisfaction as power, prestige, status, and self-confidence. It includes both internal esteem factors such as self-respect, autonomy, and achievements, and external esteem factors such as status, recognition, and attention.
- e) Need for Self-Actualization:
  - (1) Maslow regards this as the highest need in his hierarchy. It is the drive to become what one is capable of becoming. It includes growth, achieving one's potential, and self-fulfillment. It is to maximize one's potential and to accomplish something.

- (2) As each of these needs is substantially satisfied, the next need becomes dominant. From the standpoint of motivation, the theory would say that although no need is ever fully gratified, a substantially satisfied need no longer motivates. So if you want to motivate someone, you need to understand what level of the hierarchy that person is on and focus on satisfying those needs or needs above that level.
- d. "Theory X and Theory Y" of Douglas McGregor: McGregor, in his book, "The Human Side of Enterprise," states that people inside the organization can be managed in two ways. The first is basically negative, which falls under the category X and the other is basically positive, which falls under the category Y. After viewing the way in which the manager dealt with employees, McGregor concluded that a manager's view of the nature of human beings is based on a certain grouping of assumptions and that he or she tends to mold his or her behavior towards subordinates according to these assumptions.
- 1) Under the assumptions of **Theory X**:
    - a) Employees inherently do not like work and whenever possible, will attempt to avoid it.
    - b) Because employees dislike work, they have to be forced, coerced, or threatened with punishment to achieve goals.
    - c) Employees avoid responsibilities and do not work until formal directions are issued.
    - d) Most workers place a greater importance on security over all other factors and display little ambition.
  - 2) In contrast, under the assumptions of **Theory Y**:
    - a) Physical and mental effort at work is as natural as rest or play.
    - b) People do exercise self-control and self-direction if they are committed to those goals.
    - c) Average human beings are willing to take responsibility and exercise imagination, ingenuity, and creativity in solving the problems of the organization.
    - d) That the way things are organized; the average human being's brainpower is only partly used.
      - (1) On analysis of the assumptions it can be deduced that:
        - Theory X assumes that the lower-order of needs dominate individuals.
        - Theory Y assumes that the higher-order of needs dominate individuals.

An organization that is run on Theory X lines tends to be authoritarian in nature. The word "authoritarian" suggests such ideas as the "power to enforce obedience" and the "right to command."

In contrast, Theory Y organizations can be described as "participative," where the aims of the organization and of the individuals in it are integrated; individuals can achieve their own goals best by directing their efforts towards the success of the organization.

DIAGRAM SHEET 2-2-2

PROCESS OF MOTIVATION

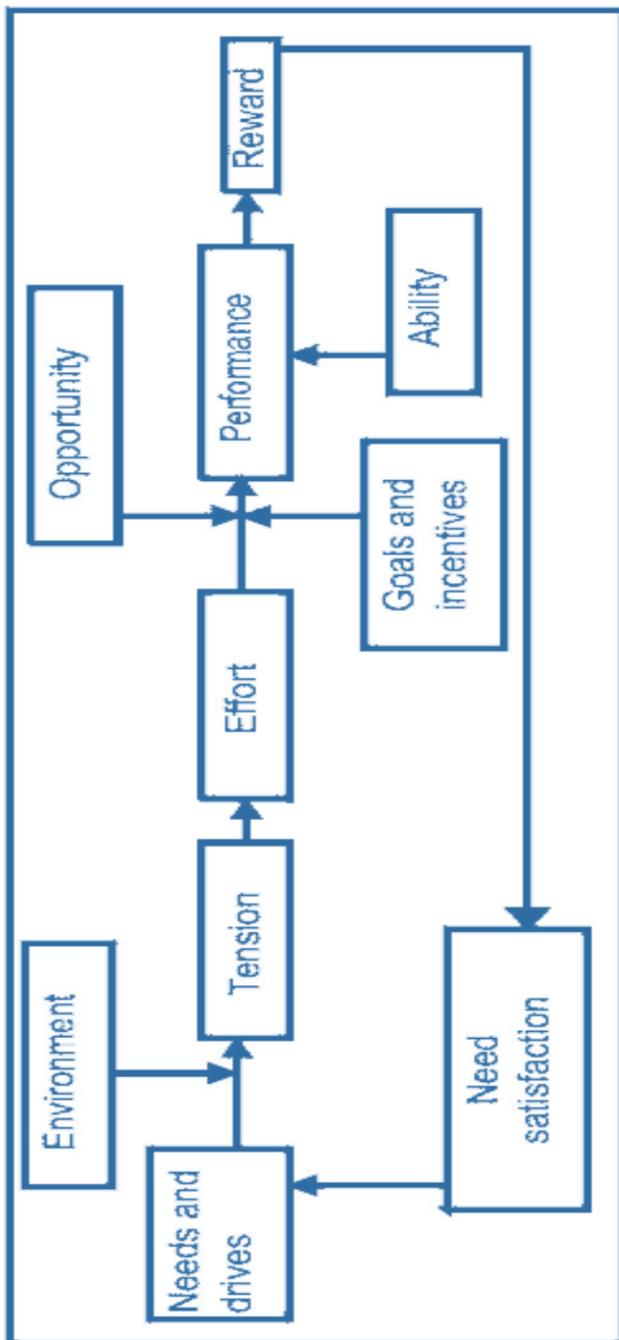
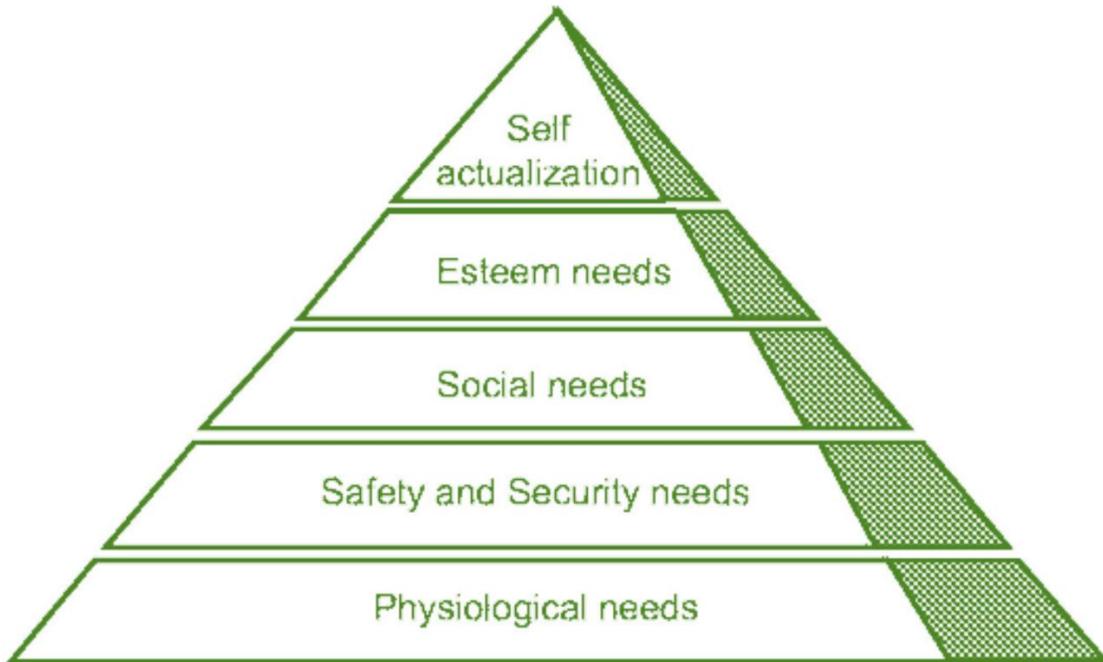


DIAGRAM SHEET 2-2-3

MOTIVATION



INFORMATION SHEET 2-3-1

PRINCIPLES OF LEARNING

A. INTRODUCTION

This information sheet is intended to help you understand the principles of learning.

B. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

C. INFORMATION

Learning is a change in behavior as a result of experience, either physical or mental. It is an interactive experience that cannot be directly observed. As an instructor you want that behavioral change to go beyond your influence in the classroom. You want your students to apply learning in their jobs.

The objective of any act of learning is that it should serve us in the future. To cause this behavior change in your students, you must understand what causes learning to occur.

1. Ways of Learning:

- a. All learning should be meaningful. To make learning as meaningful as possible, you need to understand how students learn. Of the five different ways of learning addressed here, no one particular way is necessarily better than the others. Your students will use some combination of these ways of learning in every class you teach. Your understanding of the ways people learn will assist you in helping your students learn and retain the information presented.
  - 1) Imitation - A significant part of what a person learns is through imitation. It begins in infancy and continues throughout a person's life. Learning is achieved through observing others and imitating their behaviors. Learning will take place even without direct reinforcement of the repeated behavior. Therefore, as the instructor, you must:
    - Strive to set the proper example,
    - Provide opportunity to practice the modeled behavior, and
    - Provide direct reinforcement/motivation.
  - 2) Trial and Error - Sometimes referred to as discovery learning, trial and error is learning by doing. A proper example helps to reduce the number of errors students make and this helps to develop their self-confidence. This type of training can become frustrating if repeated trials do not lead to some success. It can also be a hazardous way of learning to personnel and equipment. Remember the first time you rode a bicycle? The instructor must provide:
    - Proper supervision,
    - Reinforcement of acceptable performance, and
    - Immediate feedback on how to correct errors.

- 3) Association - A comparison of past learning to a new learning situation. It is a mental process that serves as a reference point for students. If a new problem contains elements similar to those previously mastered, learning is more easily achieved. The instructor should use comparisons, contrasts, and examples to reinforce explanations. Ensure that the associations used are those all the students can relate to.
- 4) Insight - The understanding that the whole is more than the sum of the parts. It can be the sudden perception of relationships among elements of a problem situation, referred to as the "ah-ha" as phenomenon, which results from a mental reorganization of ideas and concepts rather than from a simple trial and error. To help students gain insight, you must stimulate thinking. The instructor should encourage thought rather than rote memorization by using questions that require associations, comparisons, and contrasts.
- 5) Transfer - The process of applying past learning to new but somewhat similar situations. This process is important in technical training because the training environment can rarely duplicate the actual job environment. If possible, provide realistic exercises by using the actual equipment students will use on the job.

2. Laws of Learning

- a. Laws and principles of learning are attempts to define the fundamental conditions of the learning process. There are five universally accepted laws of learning. Each has common sense applications based on lessons people have learned over the years. Your mastery of these applications will enhance your ability to influence your students to learn and perform at a high level.
  - 1) Law of Readiness - Students learn best when they are physically, mentally, and emotionally ready to learn. Learning is an active process; students must have adequate rest, health, and physical ability. Although these areas are beyond your control, you must know how to address them in the classroom. The students must have certain basic knowledge and skills at a certain level to be mentally ready to learn at the next higher level.
    - a) As the instructor you must also be ready to teach. Always prepare the lesson plan and training materials for the topic of instruction. Make sure the classroom is set up in a comfortable arrangement. Your readiness is an important step in gaining the confidence, attention, and respect of the students.
  - 2) Law of Effect - An individual learns best those things that result in satisfying consequences. The law of effect has a direct relationship on motivation; begin your instruction by presenting the benefits of the lesson. The student wants to know "What's in it for me?" Point out the value of the training in meeting the needs of the students: self-satisfaction, self-confidence, improved skills. The instructor should begin each lesson with a statement of the objectives and establish goals. Motivate the students by providing positive reinforcement as they proceed from success to success.
  - 3) Law of Primacy - Students retain information they learn for the first time longer than they retain information they must relearn. Unlearning incorrect procedures is always more difficult than learning the correct procedures in the beginning. Make sure you teach the correct information and procedures the first time; proceed from the simple to the complex, from the known to the unknown. Clarify misunderstandings and errors before moving on.
  - 4) Law of Exercise - This law is based on the old maxim that practice makes perfect. Students learn best and retain information longer when they have meaningful practice and repetition. The key is that the practice must be meaningful. Practice leads to improvement only when it is followed by positive feedback. As the instructor you must follow up on every homework assignment, lab exercise, and any other activities assigned. If there is no feedback, the training is no longer meaningful. New skills must have supervised practice for the students to reach the desired level of expertise required by the course objectives.

- 5) Law of Intensity - A vivid experience is learned better and retained longer. Ensure your instruction is powerful enough to have a strong, positive effect on the students by getting them actively involved in the lesson. You can explain about tear gas all day, but placing the students in a controlled environment and letting them experience it has a very high impact. That is intensity.
  - a) Appeal to as many senses as possible. Use the best instructional method available, including the real thing. Use examples, analogies, and personal experiences. Make learning interactive by initiating and controlling the students' involvement in the process.

3. Factors Affecting Learning

- a. Motivation - The single most important factor in a student's educational advancement; motivation often has as much or more impact than scholastic ability. Internally or externally stimulated, motivation initiates behavior; directs it; and when derailed, can reduce or stop it. It is human nature to attempt to succeed, while vigorously trying to avoid failure; as the instructor you need to conscientiously strive to influence motivation positively.
- b. The Learning Senses - Sensory learning is the first that occurs for any human being. Each sense, either singularly or in various combinations, provides a pathway to learning.
  - 1) **Sight** - The most important sense, accounting for as much as 75% of our basic learning.
  - 2) **Hearing** - Second most important sense, accounts for about 22% of learning.
  - 3) **Touch** - While important in itself, it is a major factor when combined with other senses.
  - 4) **Taste** - Not important unless teaching something like a cooking class.
  - 5) **Smell** - A strong and primitive sense. Part of the human warning system.
  - 6) **Kinesthesia** - A sensory perception that gives people an awareness of their spatial relationship with their surroundings. A blend of all senses with psychomotor and perceptual skills. A person's ability to balance or move with coordination.

4. Common Student Characteristics:

- a. The majority of your students share certain common characteristics. Your knowledge and understanding of these characteristics can help you make more intelligent decisions about training.
  - 1) Maturity - Your students want to be treated as adults. Emphasize adult learning techniques and treat your students with respect. Demand an adult level of work from each and hold them accountable for their actions. Emphasize the law of effect.
  - 2) Desire to succeed - No one comes to class wanting to fail. Use the basic desire to succeed to its strongest advantage by helping them move from success to success. Instilling self-confidence through positive reinforcement provides further learning. Always be supportive, interested, and encouraging.
  - 3) Ability to evaluate - Most students are quick to form opinions. Students evaluate everything; especially you, the instructor. They can detect a lack of competence, enthusiasm, and sincerity. Students will always evaluate, so do not give them an opportunity for adverse evaluations.
  - 4) Fallibility - Everyone makes mistakes. Remember that so you don't lose patience when the students make mistakes. When minor failures occur, capitalize on them by turning them into positive learning experiences.

- 5) Sense of fair play - Treat all learners fairly, equally, and as adults. Favoring or picking on certain students degrades an instructor to the students. Treat all students by the same standards.
- 6) Recognition - A basic human need. This characteristic provides instructors with great opportunities to motivate students to learn. Always give recognition to students who respond to questions or contribute to class discussions. Be sure to recognize students promptly and to a degree commensurate to their effort.

b. Individual Differences

- 1) Physical Capabilities - Learn your students' physical capabilities so that you can prevent them from injuring themselves or other students.
- 2) Aptitude - Depends on the student's intelligence, inquisitiveness, ambition, reasoning ability, and other mental traits. Training is aimed at the average learner. Do not forget that there are slow learners and fast learners. Slow learners will require extra help, while the fast learners will require extra challenge.
- 3) Ability - Somewhat similar to aptitude, but deals more with skills in processing information to acquire concepts or to master physical skills.
  - a) Using the faster and more proficient students to assist the other students in the class can be a very effective aid to the instructor.
- 4) Personalities - Every class will have students with personalities ranging from introverted to extroverted. Most will range in the middle; those at the extremes will require extra understanding and attention.
  - a) Extrovert - Very sociable and outspoken. Tends to have a "take charge" nature. Learn to control the behavior without squelching the desirable trait of wanting to take an active part.
  - b) Introvert - Shy and non-aggressive. Do not confuse this with a lack of aptitude or ability. Draw these students into class activities by using whatever motivational tools you can without giving the appearance of badgering.
- 5) Background and experience - Using the student's background and experience will inject a note of realism into the training.
- 6) Attitude - Each student has a different reason for attending the class. Attitudes will affect performance since they indicate how students feel about learning at a particular time.

INFORMATION SHEET 2-3-2  
 THE FOUR LEARNING STYLES

A. INTRODUCTION

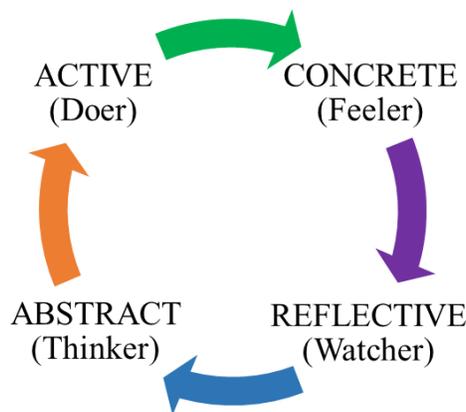
This information sheet will assist you in understanding the four learning styles.

B. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

C. INFORMATION

Learning Styles – The effective learner relies on four learning styles:



**Reflective (Watcher)**

People who primarily use the reflective learning style prefer to sit back, observe, and not get involved. They want to be on the edges, to see what a situation looks like before making a judgment. In other words, they want to watch others do something, but don't want to do it themselves. Reflective learners:

1. Rely heavily on careful observations when making judgments,
2. Are more tentative or uncertain when it comes to learning,
3. Are more reserved,
4. Like to reflect on what they have observed before drawing conclusions,
5. Prefer to be objective observers.

People high in the reflective learning approach learn best from the following activities:

1. Lectures.
2. Films and videotapes.
3. Reading, and reflecting back on what has been read.
4. Classroom discussions about observations and thoughts.



### **Abstract (Thinker)**

People who primarily use the abstract learning style prefer a theory-based, analytical approach to learning. They want to study the topic and think about it. In other words, they don't want to see how something feels; they want to read about it, study it, and analyze it. Abstract thinkers:

1. Rely heavily on logical thinking and rational evaluation,
2. Are more oriented to things and symbols than they are to people,
3. Like authority directed, impersonal learning situations that emphasize theory,
4. Are frustrated by "discovery" learning approaches such as role-plays and simulations,
5. Like systematic approaches or theories.

People high in the abstract learning approach learn best from the following activities:

1. Lectures by experts
2. Theoretical readings
3. Case studies
4. Activities that require solitary thinking
5. Conceptual models, such as the learning style grid



### **Concrete (Feeler)**

People who primarily use the concrete learning style prefer an experience-based approach to learning. They want to jump in and see how it feels. In other words, they don't want to read about something; they want to experience it. Concrete learners:

1. Rely heavily on feelings-based judgments,
2. Are receptive to new experiences and activities,
3. Tend to be people-oriented,
4. Find theoretical approaches unhelpful,
5. Prefer to treat each situation as a new case,
6. Learn best when they can get involved,
7. Would rather learn from fellow students (peers) than from the instructor (authority figure), and
8. Benefit most from feedback and discussions with other concrete learners.

People high in the concrete learning approach learn best from the following activities:

1. Simulations
2. Role-plays
3. Feedback from fellow students
4. Hands-on projects

### Active (Doer)

People who primarily use the active learning style prefer to learn by becoming involved in a subject. They take a step-by-step, active approach. In other words, they like to apply what they are learning. Active learners:

1. Rely heavily on experimentation,
2. Like to combine theory with application,
3. Tend to be practical and responsible,
4. Don't throw themselves into an experience like those with a concrete style; they like controlled, step-by-step activities,
5. Use feedback from others,
6. Use trial and error to learn from their own mistakes, and
7. Dislike passive learning activities, such as lectures.



People high in the active learning approach learn best from the following activities:

1. Small group discussions, such as those following certain class exercises
2. Structured exercises
3. Trial-and-error exercises
4. Problem solving approaches to relevant issues

The learning styles are not related to intelligence – no one learning style is better than another.

Although most people rely on one or more of these styles in their approach to learning, a key goal for an instructor is to use all of the styles; this maximizes (1) the learner's understanding of the material, (2) his capacity to apply it, and (3) his retention.

#### Retention Rates

20%:	One Style
50%:	Two Styles
70%:	Three Styles
90%:	Four Styles

#### Reasons for Forgetting

You can easily understand the problem of forgetting, since we all forget at times. However, as an instructor, you need to know how you can help decrease the forgetfulness of your students.

One of the most common causes of forgetting is disuse. People tend to forget what they don't use. What we forget with ease is factual information. That's why we write down telephone numbers. People have both long- and short-term memories. For example, short order cooks who receive verbal orders from waiters and waitresses place those orders in short-term memory and as they fill the orders, forget them. So, too, we forget the telephone numbers we just looked up a short time ago. However, factual information important to daily functioning goes into our long-term memory, so we usually retain it. Data in that category includes Social Security numbers, personal identification numbers for bankcards, frequently called telephone numbers, certain addresses, and so forth.

Since your students won't remember factual information very long, plan their learning around conceptual bases. Give students a concept and the knowledge of how to research and retrieve fact about that concept and you give them permanent learning. Concentrate on concept building by reviewing frequently, providing examples, and providing time for students to practice what they are learning.

Another cause of forgetting is interference. Interference occurs when the memory of one event hinders the recall of another. It could occur when outdated information students have learned blocks their memory of updated information. For example, former students of French who are trying to learn Spanish may keep recalling a French word while trying to remember its Spanish counterpart. The greatest help you can offer is to make sure learning is complete and conceptual. Once students have had sufficient practice to learn the information as a concept, they will retrieve the information more easily.

## PROBLEM SHEET 2-3-3

## LEARNING STYLE INVENTORY SELF-ASSESSMENT

## A. INTRODUCTION

This problem sheet will help you understand the ways of learning and your preferred learning style.

## B. PROBLEMS

1. Learn a language:
  - a. Try out phrases with a language instructor.
  - b. Read a book on the structure and vocabulary of the language.
  - c. Go to a foreign country and strike up a conversation with a native speaker.
  - d. Watch a movie in a foreign language.
2. Learn to fly-fish for trout:
  - a. Watch a sportsman show on fly-fishing or go with friends and watch them cast.
  - b. Read booklets on poles, casting, and flies used for trout.
  - c. Take a rod and try casting into a pool, then a pond, and eventually fly-fish in a stream.
  - d. Grab a rod and find a trout stream.
3. Scuba dive:
  - a. Get scuba gear and go to the nearest reef.
  - b. Try scuba gear in a pool with an instructor.
  - c. Watch a movie about Navy divers.
  - d. Go to a lecture featuring an acknowledged scuba diving expert.
4. Repair an appliance:
  - a. Follow a diagram in an owner's manual.
  - b. Take it all apart and try to fix it.
  - c. Take it apart one piece at a time, taking notes on the sequence.
  - d. Look over the shoulder of a mechanic repairing an appliance.
5. Sew a Button:
  - a. Read The Basics of Sewing.
  - b. Remember how your mother did it.
  - c. Get a needle and thread and go do it.
  - d. Take a needle and thread and practice sewing the button on old clothing.

6. Write a personnel evaluation:
  - a. Think about your own personnel evaluation.
  - b. Sit down and write a smooth draft with no coaching.
  - c. Talk with your supervisor about policies, procedures, and documentation for writing evaluations.
  - d. Write a rough draft and check with your supervisor to see if it is right.
  
7. Change oil in a car:
  - a. Buy the materials and go do it.
  - b. Watch a friend change oil.
  - c. Do it step-by-step with someone who knows how to change oil coaching you.
  - d. Review the owner's manual.
  
8. Learn how to dance:
  - a. Watch a video on how to dance.
  - b. Practice in front of a mirror.
  - c. Read Arthur Murray's Five Easy Ways to Learn How to Dance.
  - d. Go to a nightclub and ask someone to dance with you.
  
9. Build Furniture:
  - a. Make a model with scrap wood first.
  - b. Take your tools and start hammering, sawing, and drilling.
  - c. Watch a film or TV show on the basics of woodworking.
  - d. Find out about basic principles of woodworking from an experienced furniture builder.
  
10. Use a personal computer:
  - a. Take a course in computer theory.
  - b. Try the different key functions, keeping track of the results.
  - c. Turn a computer on and play with various keys.
  - d. Stand over a computer buffs shoulder and watch what is done.
  
11. Build a team with coworkers:
  - a. Hold small group meetings with your coworkers to discuss various ideas.
  - b. Think about a time when you had a good supervisor; think about what that supervisor did.
  - c. Get all your coworkers together and give a speech on teamwork.
  - d. Talk with your supervisor about team building concepts.

12. Produce a videotape:

- a. Go to the photography or audio-visual department and ask about the major principles and steps.
- b. Practice doing a tape with a photographer or audio-visual specialist available for questions.
- c. Follow a photographer or audio-visual specialist around while a videotape is being produced.
- d. Take a recording machine, camera, and tape and produce a videotape.

C. DIRECTIONS

1. 12 activities and four possible ways you could go about learning each activity are listed above. Read every response given for each activity and choose the one that best describes the way you would prefer to learn the activity.
2. Circle the alternative that you picked for each question below, then add up the number of circled items in each column. The category with the highest number of circled items indicates your preferred learning style.

Question	Alternative Selected			
1	D	B	A	C
2	A	B	C	D
3	C	D	B	A
4	D	A	C	B
5	B	A	D	C
6	A	C	D	B
7	B	D	C	A
8	A	C	B	D
9	C	D	A	B
10	D	A	B	C
11	B	D	A	C
<u>12</u>	<u>C</u>	<u>A</u>	<u>B</u>	<u>D</u>

TOTALS \_\_\_\_\_  
                                   I    II   III   IV

**I** = Reflective (Watcher); **II** = Abstract (Thinker); **III** = Active (Doer); **IV** = Concrete (Feeler)

INFORMATION SHEET 2-4-1  
EFFECTIVE COMMUNICATIONS

A. INTRODUCTION

This information sheet is intended to help you understand effective communications.

B. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

C. INFORMATION

The purpose of effective communications in a training environment is to ensure that students accurately understand the material presented by the instructor. There are two principals you need to understand that have to do with communicating effectively: (1) the identification and removal of barriers and (2) the communication process itself.

1. The communication process consists of a message being sent and received. The message may be verbal or nonverbal. Effective communications involve a message being sent and received with the added element of feedback to ensure that the message sent was received exactly as intended.
  - a. Sending the message consists of four elements.
    - 1) Formulate the message you intend to communicate.
    - 2) Consider possible internal barriers that may affect the message. This includes your experience, the terms you use, and your feeling toward the subject or students. You must also consider external barriers.
    - 3) Encode the message - you put the message into the words you want to use.
    - 4) Clearly communicate (send) the message.
  - b. Receiving the message consists of four elements.
    - 1) The students (receivers) will first hear and/or see the message.
    - 2) The message is affected by external barriers, if any, and the students' own internal barriers.
    - 3) The students decode the message through the use of mental images.
    - 4) The students interpret the message.
  - c. Feedback is necessary to determine that the students received the message you intended. Feedback may take several forms. It provides essential information about your success in communicating the message. To get feedback, ask oral questions and encourage the students to ask questions. Non-verbal behaviors also provide clues to the students' understanding of the material. Facial expressions and body movements often indicate if students are unsure about the meaning of your message.
2. Barriers to Effective Communications
  - a. Lack of common core experience - It is unlikely to find in any group that all of the people have the same common core experience. Determine the students' experience levels before you prepare your lesson. Check for understanding as you use examples and analogies with your explanations.
  - b. Overuse of Abstractions - Abstractions are concepts, ideas, or words that are not directly related to the subject being discussed. To avoid confusion, speak in concrete terms. Be specific. Check to ensure that the students understand exactly what you intend.

- c. Fear - The fear of showing ignorance, fear of disapproval, fear of losing status, and fear of judgment are common barriers. Students may hesitate to participate in the classroom because of a lack of confidence and fear. Try to understand your students' fears. Provide a threat-free learning environment by being encouraging and nonjudgmental. DO NOT allow fellow students to make fun of, or exhibit disapproval of, a struggling student. Avoid embarrassing any student or offending human values.
  - d. Environmental factors such as noise and temperature may interfere with the communication process. These are obvious; however, more subtle factors may also affect the communication process. Wall color, uncomfortable seats, location of illustrations, and the arrangement of students in relation to the instructor may all become barriers. Constantly strive to identify and eliminate barriers. Your knowledge of the communication process and awareness of barriers will assist you in communicating effectively.
3. Effective Delivery - Delivery style has a major impact on student motivation and determines to a great extent how students will listen.
- a. Oral techniques:
    - 1) Articulation - Simply understandable speech. Enunciate; speak clearly and pronounce; accent syllables and reproduce consonant and vowel sounds in conformity with the accepted standard.
    - 2) Grammar - Concerns the correct usage of the spoken or written word. When grammar is used correctly, the message comes through clearly and quickly. But when you make errors, the one who is receiving the message has to labor to extract the precise meaning.
    - 3) Rate of speech - Speak fast enough; yet slow enough, to be understood. The normal rate of delivery is 125 to 150 words per minute.
    - 4) Inflection is a change in the normal pitch or tone of the speaker's voice. Your voice becomes more interesting and words more meaningful when you use changes in pitch.
  - b. Listening is one of most important communication skills. It is an active process of hearing and understanding that demands concentration and attention.
  - c. Eye Contact - The most powerful element of instruction. By looking directly into the eyes of each of your students you personalize the lesson being presented and stimulate the desire for them to listen more intently. Make eye contact with each student several times during an instructional period and maintain the eye contact for 3 to 5 seconds. This time interval is appropriate for personal contact without being overbearing or creating a level of discomfort for individuals. Looking directly at your students will also aid you in interpreting their nonverbal reactions to the instruction.
4. Body Movement and Gestures
- a. Body movement is an important part of successful communication. It reinforces, emphasizes, and clarifies verbally expressed ideas. Your actions while instructing must reinforce rather than contradict your words.
    - 1) The basic rule in movement is moderation. Do not remain glued to one spot, but don't keep on the move all the time.
    - 2) A gesture is a natural movement that conveys a thought or emotion or reinforces oral expression. Your arms, hands, and facial expressions are your principal tools of gesture. When a gesture is natural it is effective. If the gesture is artificial, posed, or strained, it detracts rather than reinforces. Practice gestures as a natural part of your speaking manner; they should arise spontaneously from enthusiasm and conviction.

- b. Attitude - Your speech reveals how you feel about what you say. It has an emotional impact on others. Emotion indicates how you feel about all that surrounds you. Attitude affects the words you use. The four specific indicators of a good speaking attitude are sincerity, confidence, enthusiasm, and humor.
  - 1) Sincerity is the apparent earnest desire to convince the audience of the truth and value of an idea.
  - 2) Confidence is a personal attitude or feeling of assurance; a belief in our ability to perform a task well.
  - 3) Enthusiasm is the outward manifestation of sincerity and confidence; a strong personal excitement or feeling about a cause or a subject.
  - 4) Humor - If you lack a sense of humor, you will seem unreal, inhuman, or very contrived. Humor shows that you are after all just another human being. The most effective type of humor is spontaneous humor. Humor directed at your self is very effective. Most people laugh when someone important is receptive to being the object of humor.
 

The only rule to follow in using humor is good judgment. Take care not to direct humor at a specific person. Be sure your humor is good-natured and lightly done.
  - 5) Feedback is important because it indicates how you must adjust your instruction to communicate effectively. Feedback makes the learning process an intercommunication between the students and the instructor. It is critical to the success of the instruction.

5. Oral Questions

- a. The primary purpose of oral questioning is to stimulate the students to think. It also provides you with a practical means for establishing the level of instruction. The quickest and the simplest means of determining the level of achievement of the student's previous training and experience is a series of oral questions.
- b. Oral questioning has three other important purposes: it arouses interest in the subject matter; focuses attention upon a particular area of the subject matter, and it drills students on subject matter they must recall precisely.
- c. Use questions to achieve the following benefits:
  - Discover each student's interest, abilities, and depth of knowledge.
  - Arouse student interest in the subject matter of the lesson.
  - Stimulate discussion, and keep it closely tied to the subject matter.
  - Review and summarize important points.
  - Test students' knowledge of what the lesson has covered, and check the effectiveness of the instruction.

6. Construction of an Oral Question

- a. Level of Instruction
  - 1) Use simple words, correct grammar, and complete sentences. Use words the students know and understand. As the course progresses, introduce new terms and more technical phraseology. Plan questions that require students to think before answering. Don't use questions that give away the answer or that the students can answer with a simple yes or no.

- b. Use of Interrogative
  - 1) Use the interrogatory word or phrase at the beginning of your question. For example, the question, "You can determine if the weapon is loaded by what means?" handicaps the students in at least two ways. First the students are expecting a declarative statement, not a question. Second, they cannot identify the meaning of the question until the final words are spoken. To improve this question, put the interrogatory word or phrase at the beginning. "By what means can you determine whether or not a weapon is loaded?"
- c. Clarity of Meaning
  - 1) Avoid the use of catch or trick questions. Make sure the wording of the question conveys to the students the true or intended meaning. The students must understand what you want, regardless of whether they know the correct answer. "Where are storm warnings flown aboard ship?" is a good question, but "Where are storm warnings flown?" fails to indicate what point is being tested.
  - 2) Make your questions brief, and limit them to one thought. If you include too many factors in a single question, it confuses the students. Ask well-stated, clearly understood questions in normal conversational tones.

7. Types of Oral Questions

- a. Factual question - Asks for specific information. For example, "What year was the first rifle built?" The primary purpose of factual questions is to help students memorize facts. It can also be used to arouse interest, to focus attention upon certain parts of the subject matter, and to assist in determining the level of instruction.
- b. Thought-provoking question - Begins with such interrogatory expression as "What is the advantage of...," "What is the difference between...," "Why is this method considered superior to...," "How would you solve...," and so forth. The value of this type of question is that a single question, properly used will stimulate the students to think.
- c. Interest-arousing question - May superficially sound like a factual question. "How many Navy ships were involved in collisions at sea during the past year?" Since the question calls for an exact number, students will attempt to recall the collisions about which they have read or heard. However, you are not interested in exact numbers. Your main purpose in asking the question is to focus the students' attention and get them thinking about the subject you are about to present.
- d. Multiple answers - A question that has more than one correct answer. It can be used to increase student participation or cause students to think about the other students' answers. This type of question generates a high interest level and improves listening skills.
- e. Yes/No question - This type of question has value in arousing interest, focusing attention, encouraging student participation, and serving as a lead-in to other types of questions. An excessive use of yes/no questions tends to encourage students to guess.
- f. Leading question - Suggests its own answer. For example, "The 40mm gun is larger than the 20mm gun, isn't it?" If used properly, leading questions have value in focusing attention, in arousing interest, and in emphasizing a point. If used too frequently, leading questions discourage any real thinking and becomes boring to the students.
- g. Canvassing question - Used to determine those who are familiar with a specific area of subject matter. "How many of you have been involved in an actual shipboard fire?" A show of hands provides information about student experiences that you may find useful as the lesson progresses. It is an opportunity to bring some real life examples into your lesson. Canvassing questions can also help determine the level of knowledge of the class.

8. Questioning Techniques

a. Five-Step Technique:

- 1) Step 1. Ask the question - Since the intent of questioning is to provoke thought, ask the question before calling on a person to answer. This will encourage each student to formulate and answer. If you call on the student before asking the question, the rest of the students can relax and not formulate an answer.
- 2) Step 2. Pause - Allow the student's time to think through their answers. Vary the duration of the pause depending on the difficulty of the question and the level of the students.
- 3) Step 3. Call on a student by name - That satisfies a basic student need for recognition. Consider both the difficulty of the question and the individual abilities of the students when selecting a person to respond. Consistently asking difficult questions of the slower learner will demotivate that student. Spread the questioning around without establishing a predictable pattern. This will prevent mental loafing. Achieve a balance between calling on volunteer respondents and non-volunteers. Allow only one student to answer at a time.
- 4) Step 4. Comment on the answer or acknowledge the response. Provide feedback to the responder and class on the quality of the answer. When given an incorrect answer, be critical only of the answer, not of the student. Be sure to provide positive reinforcement for correct answers.
- 5) Step 5. Emphasize or repeat the answer. Avoid the tendency to repeat each answer as that has the effect of diminishing the student's response.

- b. Non-Volunteer - Focus on the non-volunteer students; avoid eye contact with the active participants when asking a question. This will encourage the quieter students to reply. Assign a question to a student who does not have a hand raised; then provide appropriate recognition of that student's contribution. This technique will increase class involvement, attention and participation.
- c. Prompting - Sometimes you may need to prompt a student who has given a weak, incorrect, or an "I don't know" response to your question. Help the student to arrive at a correct answer by asking additional questions that contain direct hints or clues to the correct answer. Begin the sequence by referring to material the student already knows. If part of the initial response was correct, provide reinforcement by telling the student what was right. Then ask prompting questions until the student can give the entire correct response. Seek further clarification when a student gives a response that is poorly organized, lacking in detail, or incomplete. Do not provide the students with any hints, clues, or additional information.
- d. Reverse Technique - Answering a question with a question. Use this technique to get students to think, make associations, and discover the answer to their own questions.
- e. Redirect - Use a redirected question to increase class involvement and provide recognition for students answering questions. A redirected question occurs when you assign a question asked by a student to another member of the class. Never use this technique unless you know the answer and believe the student to whom you redirect the question also knows the answer.
- f. Refocusing - Use this technique when you want the student to relate a correct answer to another topic. This technique helps students to consider the implications of their response with a broader framework by noting relationships with other topics.

INFORMATION SHEET 2-5-1

INSTRUCTIONAL METHODS

A. INTRODUCTION

This information sheet is intended to help you understand the instructional methods.

B. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

C. INFORMATION

1. Methods

- a. Lecture Method - An instructional presentation of information, concepts, or principles. Its main purpose is to present a large amount of information in a short period of time.
  - 1) It is an efficient way to introduce a new topic of study or present background material necessary for future classes. Allows presentation of a subject to a large audience because there are no visuals and no interaction between the students and the instructor.
- b. Lecture with audiovisuals method - A combination of the lecture method with the use of visuals. Class size will be limited because of the need to make sure all students will be able to see the visuals.
- c. Demonstration Method - Most often used method of instruction for teaching skill type subjects. It covers all the steps required to teach the students a skill. This method always includes a demonstration step and a performance step and allows you to use other steps as needed.
- d. Role-playing Method - Requires the students to assume active roles in a simulated situation followed by a group discussion. It is particularly useful in teaching human relation skills. The simulated situation is preferable because instructors can note and correct student errors. The role-playing method is designed to impart human relation skills without the risk inherent in training by other methods.
- e. Case study Method - Focuses the attention of the students upon a specific case, which can be hypothetical or real. The case study can be presented in printed form or through role-playing, pictures, films, or oral presentations. The main objective of a case study is for students to learn from experience and develop problem-solving skills.
- f. Discussion Method - An activity in which people talk together to share information about a topic or problem. This method involves an interchange of ideas by the students while you provide guidance. Directed discussions are useful in teaching skills such as problem-solving and understanding cause-and-effect relationships.
- g. Lesson method - Interactive in nature. This method not only uses audiovisual aids, it involves the use of two-way communication. When using the lesson method, you will follow a lesson plan, incorporating questions to encourage thinking and to check for understanding.
  - 1) The lesson method involves the use of training aids to support and clarify the teaching points. You must prepare and plan the timing of the audiovisuals and training aids.

2. Elements of the Lesson Method

The lesson method of instructing is versatile and may employ many different instructional techniques. However, it involves three basic elements:

- a. Introduction - Begin by introducing yourself and telling about your background experience with the topic. Explain the objectives of the lesson and stress the importance of the students' being able to master them. Motivate your students. Help the students see how they will benefit from the training, give them reasons to pay attention and learn. Establish ground rules by providing students with an overview of what you expect of them and how you will conduct the lesson. Finally, make a smooth transition into the presentation.
- b. Presentation - The part of the lesson in which you teach the lesson objectives. The lesson plan outlines the learning objectives and provides all the technical support you need for your presentation. Begin teaching the new information at a level the students can understand, move from the known to the unknown. Teach in a logical sequence. Use examples and analogies to appeal to different learning styles and to reinforce the learning process. Involve the students throughout the presentation by asking questions, planning group exercises, and encouraging discussions and note taking. Use training aids to support your explanations and to stimulate and maintain interest. Encourage discussions. You must keep track of time; do not get bogged down in discussions that do not relate directly to the lesson objectives. Maintain control of the pace of instruction.
- c. Summary - In the review and summary, recap the information taught in the presentation. Go over the main discussion points; don't try to re-teach it. Ask questions that will help the students to mentally review what has been taught. As the students respond, reinforce important points. Clarify and correct misconceptions and errors so students don't leave the class with poor understanding. Finish the lesson with positive statements about the importance of the topic, its relationship to the job, and the responsibilities of the students.

3. Preparing the Instructional Environment:

- a. Preparation to teach - Always ensure that your instructional materials are ready, that you have prepared yourself for the lesson, that the classroom or laboratory is prepared, and that all training equipment is available and in working order.
  - ❖ Course Name
  - ❖ Topic Title
  - ❖ Instructor's Name
- b. Classroom and materials

INFORMATION SHEET 2-6-1  
LEARNING OBJECTIVE DEVELOPMENT

A. INTRODUCTION

This information sheet is designed to provide you with necessary information required to develop learning objectives. The procedural steps contained within this information sheet will be similar to the developmental steps, but will be tailored to assist you in developing learning objectives for your selected topics. Objective development in this lesson will reflect the procedures for development objectives for the Performance Exams.

B. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

C. INFORMATION

1. Learning Objectives (LOs)

- a. Purpose: Provide direction for instruction, provide guidelines for testing, and convey instructional intent to others.

2. Classification of LOs

- a. Knowledge Objectives: Require the student to demonstrate proficiency in acquired knowledge. This proficiency may be in the form of requiring an understanding of principles or concepts or requiring retention of essential facts.
- b. Skill Objectives: Can be broken down into two types of skills: (1) mental or (2) physical.
- 1) Mental skill objectives involve the application of knowledge to decision-making. The performance of the mental task requires a degree of ease, speed, and accuracy. Mental skill tasks may include performing pencil/paper exercises related to manual skills, solving mathematical or tactical decisions, interpreting data, completing forms or reports, receiving semaphore, or recognizing aircraft silhouettes. Conditions are usually required to pinpoint the area of behavior accomplishment and, where appropriate, the kinds of aids the students will be permitted to use. Statements of standards are required and should be related to time, accuracy, quantity, quality, or completeness.
- 2) Physical skill objectives involve the application of manual procedures. Nearly all physical skill objectives contain three elements. The behavior element specifies the manipulative action the student is to perform. Condition elements are level zed and are either aiding or limiting. As a rule, physical skill learning objectives include standards that can be measured by performance tests.

3. Types of LOs and Level of Usage Within a Course

- a. Course/Terminal Learning Objectives: State what the students are expected to learn by the end of the course. Course/Terminal learning objectives are stated in broad terms of tasks or jobs that the student must be capable of doing. Course/Terminal learning objectives provide the basis for a breakdown into topic/enabling objectives.
- b. Topic/Enabling Learning Objectives: Identify the objectives of a topic or lesson. A topic or lesson is the instruction that can be accomplished within a given time. Each topic/lesson has its own set of learning objectives.

4. Construction of LOs

a. Learning Objectives: Contain the three elements: behavior, condition, and standard. For example:

Behavior: Upon successful completion of this topic, the student will be able to describe the calibration procedures used on the ABC meter.

Condition: To support preventive maintenance using OP YYYY

Standard: Without error.

5. Developing LOs

a. To properly develop learning objectives, specific procedures must be followed to ensure that all the elements are in place. For purposes of developing learning objectives in the Instructor Development Course, the front end analysis work will be waived. Normally, personnel developing objectives will have Personnel Performance Profiles or Job Task Inventories provided to them to work with. In this course of instruction, you will be required to determine your own behavior(s).

b. Step 1. Writing the Behavior - Behavior Element: Identifies what the students will do to demonstrate what they have learned. This may include application of knowledge, accomplishment of a skill, or demonstration of an attitude. This portion of the objectives always specifies student performance. The significant parts of the behavior element are the: (1) performance-oriented verb, (2) subject, and (3) object.

1) Performance-oriented verb: The performance-oriented verb, called the action verb, expresses the student action that will demonstrate achievement of the objective. Use only verbs that express active, measurable performance, e.g., state, draw, describe, adjust, etc. When in doubt regarding the performance validity of a verb, verify its meaning in a dictionary. Verbs such as "understand," "know," and "realize" are vague and do not express the observable or measurable performance desired. In other words, what will the students be doing to demonstrate "understand" or that they "know"? The following list of action verbs is provided to assist you in selecting action words. It is a preliminary list of action verbs that can be used in writing learning objectives. It is by no means a complete list and some words contained in it may not be precise enough for student use.

Physical Skills			Mental Skills		Knowledge
Adjust	Demonstrate	Manipulate	Analyze	Derive	Define
Align	Enter	Measure	Calculate	Diagnose	Describe
Calibrate	Exchange	Move	Choose	Distinguish	Explain
Change	Inspect	Operate	Compare	Evaluate	Identify
Clean	Isolate	Perform	Compute	Interpret	List
Construct	Load	Plot	Condense	Monitor	Name
De-Energize	Locate	Position	Decide	Observe	State
Remove	Repair	Test	Select	Recognize	
Replace	Start	Trace	Solve		

2) Subject: The student is always the subject. Each learning objective statement is normally prefaced by the phrase: "Upon successful completion of this topic, the student will be able to..." "When several learning objectives are listed for a topic, write the introductory portion or statement once and group objectives beneath it.

3) Object: A word or phrase that denotes what is acted upon. The object should include all modifiers necessary to limit its identity within the desired scope.

c. Step 2. Writing the Condition Statement

Condition Element: That portion of the learning objective that describes the situation/environment in which the students write/express/perform the specified behavior. Conditions include any pertinent influence upon task performance, such as location of performance, environment, equipment, manuals, or supervision required. The parts of the condition element are: (1) aiding/limiting statement and/or (2) training level phrase.

- 1) Aiding/Limiting Statement: Stipulates the assistance or restrictions placed on the desired performance.

Examples of learning objectives with the aiding/limiting statement in capital letters are given below.

- a) Don an OBA IN A DARKENED ROOM.
- b) Repair a pump USING THE TECH MANUAL.

- 2) Training Level Phrase: Is provided to assist in maintaining the desired training level(s).

Examples of learning objectives with the training level phrase in [BRACKETS]:

- a) Describe the physical interface of the AN/XYZ [TO THE DETAIL REQUIRED TO SUPPORT BASIC CORRECTIVE MAINTENANCE].
- b) Describe the functional operation of the SPA-4 radar [TO THE LOGIC DIAGRAM LEVEL] using OP XXXX.

d. Step 3. Writing the Standard:

Standard Element: Specifies the criteria that the demonstration of performance must meet. Standards will normally be expressed in terms of time, accuracy, quantity, or quality.

Examples of standards are:

- 1) Must be accurate to two decimal places.
- 2) Accuracy must be within +/-0.0001.
- 3) Error of estimate must be no greater than one yard.
- 4) Power emitted must be exactly 100 watts.

Examples of quality standards are:

- 5) Soldered joint must have a resistance of not greater than 1 ohm.
- 6) Must withstand shear test of 15.6 pounds.

Whether the standard element appears in the objective depends on how critical it is to determining the student's accomplishment of the objective. If not included, the standard is assumed to be 100 percent.

ASSIGNMENT SHEET 2-6-2

CLASSIFICATION OF LEARNING OBJECTIVES

A. INTRODUCTION

This assignment sheet will aid you in identifying the classifications of learning objectives.

B. ENABLING OBJECTIVES

- 7.1 **STATE** the purposes of learning objectives in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.2 **DESCRIBE** the classification/types of learning objectives in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.4 **DETERMINE** the classification of objectives when given an example in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.5 **DISTINGUISH** the elements of learning objectives when given an example in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.3 **DESCRIBE** the construction of learning objectives in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.6 **DEVELOP** knowledge and skill learning objectives containing a behavior, condition, and standard element in accordance with the Navy Instructor Manual, NAVEDTRA 134.

C. STUDY ASSIGNMENT

Read Information Sheet – Learning Objective Development

D. STUDY QUESTIONS

- 1. What is the purpose of a knowledge objective?

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- 2. What type of skill objective requires the interpretation of data?

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- 3. List the classification of each of the objectives listed above.

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ASSIGNMENT SHEET 2-6-3  
ELEMENTS OF LEARNING OBJECTIVES

A. INTRODUCTION

This assignment sheet will aid you in determining the elements of learning objectives.

B. ENABLING OBJECTIVES

- 7.1 **STATE** the purposes of learning objectives in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.2 **DESCRIBE** the classification/types of learning objectives in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.4 **DETERMINE** the classification of objectives when given an example in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.5 **DISTINGUISH** the elements of learning objectives when given an example in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.3 **DESCRIBE** the construction of learning objectives in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 7.6 **DEVELOP** knowledge and skill learning objectives containing a behavior, condition, and standard element in accordance with the Navy Instructor Manual, NAVEDTRA 134.

C. STUDY ASSIGNMENT

Read Information Sheet – Learning Objective Development

D. STUDY QUESTIONS

- 1. What are the three elements of an objective?

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- 2. What is the condition for objective 7.5 above?

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- 3. Is there a standard in any of the above enabling objectives?

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4. What is the implied standard when it is not included in the objective?

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5. Add a standard to EO 7.6.

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JOB SHEET 2-6-4

DEVELOPMENT OF LEARNING OBJECTIVES

A. INTRODUCTION

This job sheet will aid you in the development of learning objectives. Follow the job steps in order and read all steps carefully. You will write one knowledge objective and one skill objective.

B. EQUIPMENT

None

C. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

D. SAFETY PRECAUTIONS

None

E. JOB STEPS

Step 1. Write a behavior element for a knowledge Learning Objective (LO).

\_\_\_\_\_

Step 2. Add a condition element for the knowledge LO.

\_\_\_\_\_

Step 3. Add a standard element for the knowledge LO.

\_\_\_\_\_

Instructor's Initials \_\_\_\_\_

Step 4. Write a behavior element for a skill LO.

\_\_\_\_\_

Step 5. Add a condition element for the skill LO.

\_\_\_\_\_

Step 6. Add a standard element for the skill LO.

\_\_\_\_\_

Instructor's Initials \_\_\_\_\_

F. SELF-TEST QUESTIONS

None

INFORMATION SHEET 2-7-1

TEST DEVELOPMENT

A. INTRODUCTION

This information sheet will aid you in understanding test development.

B. REFERENCES

1. Task Based Curriculum Development Manual, NAVEDTRA 130 Series
2. Navy School Management Manual, NAVEDTRA 135 Series

C. INFORMATION

1. The test program is designed to evaluate the students' ability to perform the objectives of the course.
  - a. Testing programs should achieve the following goals:
    - 1) Measurement of a student's achievement of the objectives
    - 2) Assessment of the student's ability to understand theory and concepts in support of skill performance
    - 3) Identification of students who are having trouble attaining the objectives
    - 4) Feedback to the students on individual performance
    - 5) Motivation for effective learning and reinforcement of knowledge and skills
    - 6) Feedback on instructor and curriculum effectiveness and data to improve the instructional program
2. There are two methods of testing performance and knowledge tests.
  - a. Performance tests are sample work situations in which the students demonstrate the ability to complete a task or job. Performance testing will be covered in depth in another topic.
  - b. Knowledge tests are used to measure a student's ability to recognize, recall, comprehend, apply facts, or interpret concepts.
    - 1) Knowledge tests have importance in technical training courses because they measure a student's ability to understand knowledge in support of the performance of a skill.
    - 2) Knowledge tests should be designed during the development/revision process and are used to measure the student's ability to perform the objective.
3. Types of Tests
  - a. Pretests may be used in one of the following situations:
    - 1) A knowledge pretest may be administered at the beginning of the course of instruction and again at the end of the instruction. A comparison of the results of the two tests helps determine the effectiveness of the instruction.
    - 2) Pretests may be used to determine if a student has the need for remediation prior to class convening. This type of pretesting should measure the prerequisite knowledge and skills necessary to meet entry level requirements.

- b. Progress tests may be either knowledge or performance.
  - 1) This type of test is administered at some point in the course, unit, topic, etc. and the results are used to determine how the student is progressing toward the accomplishment of the objectives.
  - 2) A progress test should not cover more than 40-50 periods of instructional materials.
- c. Comprehensive tests are given at the end of the instruction or after large blocks of material to measure mastery of the critical objectives in the course or to measure retention of previously tested material. It may be either a performance or knowledge test. There are two different types of comprehensive tests: within-course and final comprehensive tests.
  - 1) Within-course comprehensive tests are administered for longer courses when it would not be practical to administer one final test.
  - 2) Final course comprehensive tests are given at the end of the course and measure mastery of the critical objectives.
- d. Oral tests are normally given when job performance in the fleet requires verbal demonstration of a skill.
  - 1) An oral test is given by a board of examiners. The procedures and test items will be consistent for all students.
  - 2) Test items used for oral tests must be validated and approved prior to their use.
- e. A quiz is a short test used by the instructor to measure achievement of material recently taught.
  - 1) A quiz may be given as often as desired and may or may not be a formal part of the grading system.
  - 2) If used to determine a part of the student's grade, then quizzes and testing procedures must be standardized. If not, the instructor may prepare and administer the quiz within the guidelines of the course and activity.
  - 3) A quiz is not normally retested. If it is used for grading purposes, it should be considered a part of the practical work grade.

4. Test Administrators Guide

- a. This guide provides the Test Administrator with all the data necessary to conduct the test.
  - 1) Prior to the start of testing:
    - a) How to prepare the test area.
    - b) Instructions for trainees.
    - c) Time limit allowed for testing.
    - d) Instructions for the administrator at test completion
  - 2) At the completion of testing:
    - a) How to secure the test area.
    - b) How to review, evaluate, or critique the test and record the test results.
  - 3) The consequences of cheating
  - 4) How to handle the test answer sheets and test support materials

5. Test Administration

- a. The following information along with that already compiled in the Administrators Guide will further assist you in deciding how much time to devote to performance and written testing, where to locate each test within the course, and the purpose of each test (pretest, progress, final test, etc.).
  - 1) Some type of test should be administered about every 40-50 periods of instruction.
  - 2) More frequent testing is warranted if critical skills or knowledge must be assessed before new skills are taught.
  - 3) Tests are usually developed to assess mastery of a group of lesson topics, but may cover a single lesson topic, especially if the topic is a lengthy one.
  - 4) Time allowed for the administration of tests is usually limited to 10 percent of total instructional time.
  - 5) All tests should be sequenced so that the trainee has sufficient time to study the material before it is tested. As a rule, the minimum time provided should be at least one overnight period set aside for preparation.
  - 6) During the administration of the test, procedures should be taken to minimize the possibility of test compromise.

6. Test Review

- a. After the test has been given and graded, the test is reviewed. The review is necessary to correct any misconceptions or errors the students may have. The following guidelines apply:
  - 1) After the test is graded, review the test in general with the class. This is normally accomplished by reviewing the most frequently missed test items with the class as a whole.
  - 2) When only one or two students miss an item, this item may be reviewed in class or individually depending on the situation and time available.
  - 3) Since it is important that the student not make the same mistake again, all missed test items should be reviewed.

7. Knowledge Test Items

- a. True-False test item:
  - 1) A two-response multiple-choice item that is used when only one plausible alternative to an item exists.
  - 2) The true-false test item's primary drawback is its susceptibility to guessing. Trainees have a 50% chance of responding correctly even though they don't know the correct answer.
  - 3) True-false test items may be written to test recognition, comprehension, application, or evaluation.
- b. Completion test item:
  - 1) A free response test item type that requires the trainee to provide the missing information from memory, as compared to the recognition of information as per multiple-choice, true-false, and matching type test items.
  - 2) The completion test item may also require the trainee to list a series of part names, procedural steps, etc. from memory.

- 3) Another format of completion testing requires the labeling of a diagram from memory.
- 4) Advantages/Disadvantages of Completion Test Items:
  - a) Guessing is eliminated.
  - b) This type of test item is easy to construct.
  - c) Completion test items are useful in situations where trainees must write a computational equation, define terms, list part names and functions, etc.
  - d) However, they are more difficult to score and must be accompanied by grading criteria.
- c. Essay test item
  - 1) Requires the trainee to answer a question with an original, written response.
  - 2) Are useful for testing ones' ability to organize data and express thoughts clearly in writing.
  - 3) Requires a relatively subjective scoring process since many factors may affect the correctness of a response.
  - 4) Must be scored by someone knowledgeable in the subject area, unless there is only one possible response.
  - 5) Are time consuming and difficult to score.
- d. Multiple-choice test item
  - 1) The most versatile of all knowledge test item formats. It can be used to test for all levels of knowledge except recall.
  - 2) A cardinal rule in test item development is to communicate effectively. Otherwise, the trainee must guess at what the test writer is asking. Following the guidelines discussed in this section on multiple-choice test item writing will ensure effective communications between the trainee and test writer.
  - 3) The multiple-choice test item consists of:
    - a) A stem containing the problem statement;
    - b) A list of possible answers or alternatives;
    - c) As a rule there are four alternatives, or possible answers, but, depending upon the nature of the content being tested, there can be more than or fewer than four possible alternatives;
    - d) Only one alternative is the correct answer.
- e. Matching test item
  - 1) The matching test item consists of two lists containing related words, phrases, or symbols.
  - 2) The trainee is required to match elements on one list with associated elements on the other list according to specific instructions.
  - 3) The trainee pairs the elements in each list and records the answer.
  - 4) Matching test items are ideal for testing recognition, but may also be used to test comprehension and application.

INFORMATION SHEET 2-7-2  
KNOWLEDGE TEST ITEM CONSTRUCTION

A. INTRODUCTION

This information sheet is designed to provide you with the construction rules for knowledge type test items.

B. REFERENCES

1. Task Based Curriculum Development Manual, NAVEDTRA 130 Series
2. Navy School Management Manual, NAVEDTRA 135 Series
3. Navy Instructor Manual, NAVEDTRA 134
4. Personal Performance Profile Based Curriculum Development Manual, NAVEDTRA 131

C. INFORMATION

1. Construction rules for the five types of knowledge test items are outlined below.
  - a. True-False Test Item
    - 1) Format:
      - a) The stem is a direct statement.
      - b) The two alternatives are labeled a. True and b. False, or a. Yes and b. No, depending on whichever is most appropriate.
      - c) Example: (TRUE/FALSE) When placing the CA in stowage, CA temperature must be normal prior to securing heater power.
        - (1) True
        - (2) False
    - 2) The descriptive statement must include all relevant information and conditions required to correctly answer the question.
    - 3) The statement must be concise and clear. The proposition that is to be judged as true or false must be evident.
    - 4) The statement must be clearly true or false.
    - 5) The "TRUE/FALSE" identification must precede the item.
    - 6) A false statement must be consistent with a typical misconception.
    - 7) The use of specific determiners (e.g., always, never, none, all, may, sometimes) must not be used.
  - b. Completion Test Item:
    - 1) The wording of the test item must be clear and comprehensive enough to allow an examinee that is knowledgeable in the subject area to answer correctly.
    - 2) The missing segment of the incomplete statement item must be important, such as a key element of an equipment, etc.

- 3) In incomplete statement items, do not omit too many words or the statement will become unclear and the examinees must guess.
  - 4) In computational problems, specify the degree of accuracy (e.g., the number of decimal points) of the answer.
  - 5) In incomplete statements, the completion position must appear at the end of the stem.
  - 6) A direct question must be used to test for comprehension of technical terms or knowledge of definitions.
  - 7) Sufficient space must be provided for examinees to write their response.
- c. Essay Test Item
- 1) Format:
    - a) An essay test item is especially useful for assessing learning of a comparatively large body of information as well as individual elements within that body.
    - b) The test item must state clearly and precisely the type of response that is required.
    - c) Limits for the response must be identified by specifying the points to be addressed. Limits include length of response and time allowed to respond.
    - d) Example:
      - (1) Compare and contrast gas turbine and 1200 PSI propulsion plants. Your discussion should include descriptions of the major components of each system. Partial credit will be given.
  - 2) Comparison or contrast of items and procedures.
  - 3) A decision for or against system or equipment operation.
  - 4) Application of previously learned background knowledge or principles to new situations
  - 5) Classification of tasks.
  - 6) Relationships such as causes and effects.
  - 7) Illustration (sketch) of principles learned.
  - 8) Statement of purpose in the selection of method or technique.
  - 9) Criticism of the adequacy or correctness of a diagram or procedure.
  - 10) Inference from data or illustrations presented.
  - 11) Discussion of primary, alternate, and/or emergency procedures.
  - 12) Outline or a listing of steps and methods.
  - 13) Explanation or definition of tasks.
  - 14) Observation from illustration or operation.
  - 15) Analysis of a situation or problem.
  - 16) Evaluation of the appropriateness of a procedure, technique, etc.

d. Multiple-choice test items

- 1) Stem construction. A cardinal rule in test item development is to communicate effectively. Stem construction is to be accomplished in accordance with the requirements that follow. Moreover, familiarity with the requirements and employing them as a checklist are effective means of ensuring that multiple-choice test items are properly written.
  - a) The stem must include all information, conditions, assumptions, and details required to correctly answer the question without requiring the examinee to reference the alternatives.
  - b) The item stem should be phrased positively instead of negatively.
  - c) The stem must reference the equipment, subsystem, or system to which a test item relates.
  - d) What circuit in the AN/ABC-3Q activates the AXO circuit?
  - e) Words, phrases, etc. that pertain to all alternatives must be included in the stem. Units of measurement for numerical alternatives may be included in parentheses after the stem (e.g., "ohms").
  - f) Information not essential to the interpretation of the test item must be omitted.
  - g) If the test uses an illustration on a separate illustration page, that illustration must be referenced in the stem by figure number.
  - h) Question type test items must be complete sentences, punctuated with a question mark at the end of the sentence.
  - i) A series of seven periods must indicate the response or completion position (regardless of the number of words in the response) with the stem of an incomplete statement type of test item.
  - j) The response or completion position of an incomplete statement test item must be near or at the end of the stem.
  - k) Punctuation must precede or follow the completion position in the incomplete statement test item stem, such that all alternatives are grammatically correct if placed in that position of the stem.
  - l) When the completion position is not at the end of the stem, and punctuation is required after this position, it must appear in the stem after the seven periods.
  - m) Punctuation required before the completion position must be placed in the stem prior to the seven periods.
  - n) For standard format items, every effort must be made to prepare stems in question form rather than incomplete statement form. An exception is those cases where the question form would make the test item grammatically clumsy or difficult to understand.
- 2) Alternative construction. Each multiple-choice test item must have four alternatives; one correct answer and three distracters. The test item writer must exercise special care in designing the distracters for test items. Distracters must be plausible, but clearly incorrect and should fit well with the stem.
  - a) The item must have only one correct answer.
  - b) All alternatives must be closely related. The three distracters must be meaningful and not subject to automatic elimination by the examinees because they are irrelevant or unrelated to the question.

- c) The use of interrelated answers (e.g., "c" is true if "a" and "b" are false) must not be used.
- d) Vocabulary must be used that is familiar to the examinees or that can be explained within the limits of the test item.
- e) All alternatives must be approximately the same length and complexity.
- f) The words "always," "never," "simple," etc. should be avoided.
- g) Alternatives of "all of the above" and "none of the above" should be avoided.
- h) All alternatives must be expressed in similar form.
- i) Negative wording is confusing and should be avoided. However, negative quantities such as minus voltages or mathematical expressions are acceptable.
- j) The punctuation of alternatives must conform grammatically with the structure of the item stem.
  - (1) If the stem is a question (i.e., a closed stem) and the alternatives are complete sentences, each alternative will begin with a capital letter and end with a period. Alternatives that are incomplete statements must begin with a capital letter and end without punctuation mark.
  - (2) For the incomplete statement (open stem) test item with the completion position at the end of the stem, the alternatives must begin with lower case letters (except for proper nouns) and end with a period.
- k) Within the incomplete statement test item, the wording of the alternatives must match that of the item stem.
- l) Alternatives that delineate order or magnitude (e.g., microgram, gram, or kilogram and 2.5, 3.0, 3.5, or 4.0) must be arranged in ascending or descending order. Algebraic value will determine order; i.e., in ascending order, the most negative value must be listed first.
- m) The position of the keyed answer among the four alternatives must be determined by a random selection process to avoid any patterns that may bias the test. Exceptions to this rule are items with alternatives that delineate order or magnitude.

e. Matching Test Item

1) Format:

- a) The matching test item consists of a set of directions and two columns listed below the directions.
- b) The directions explain how to match the items in the two columns.
- c) One column lists the questions or problems to be answered.
- d) The other column lists the answers.

e) Example:

(DIRECTIONS) Using the FCDs in OP 1324, MATCH the circuit element listed in column B to the signal that it generates in column A. Write the letter representing your answer in the blank to the left of each signal in column A. You may use a letter in column B once, more than once, or not at all.

- 2) The stem (directions) must clearly specify how the examinees are to match the stimulus (question) and response (answer).
- 3) The stimulus items are always placed in the left-hand column. Responses are placed in the right-hand column.
- 4) When feasible, the response list must consist of single words, numbers, codes, symbols, short phrases, etc.
- 5) The exercise must be homogeneous. Dissimilar items are too easily matched; closely related items (e.g., items dealing with a single concept, diagram, etc.) provide a better discrimination of knowledge. To maximize discrimination, each response must be a plausible answer to every stimulus.
- 6) The stimulus list must contain between four and ten items, generally providing one or two more responses (distracters) than the number of stimuli. If the test is to be computer-scored, the exercise must not exceed the capability of the answer key.
- 7) Where possible, arrange the responses (answers) according to some systematic basis (e.g., numerical responses may be in ascending or descending order).

JOB SHEET 2-7-3

TEST ITEM CONSTRUCTION

A. INTRODUCTION

This job sheet is designed to aid you in becoming proficient in writing knowledge test items.

B. EQUIPMENT

None

C. REFERENCES

- 1. Task Based Curriculum Development Manual, NAVEDTRA 130 Series
- 2. Navy Instructor Manual, NAVEDTRA 134
- 3. Navy School Management Manual, NAVEDTRA 135 Series

D. SAFETY PRECAUTIONS

None

E. JOB STEPS

Step 1. Write a completion type test item. Adhere to the construction rules outlined in Information Sheet 2-7-2. Write the test items from the knowledge objective you wrote in Job Sheet 2-6-4.

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Step 2. Write a true-false type test item. Adhere to the construction rules outlined in Information Sheet 2-7-2. Write the test items from the knowledge objective you wrote in Job Sheet 2-6-4.

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Step 3. Write a multiple-choice type test item. Adhere to the construction rules outlined in Information Sheet 2-7-2. Write the test items from the knowledge objective you wrote in Job Sheet 2-6-4.

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Upon completion of steps 1 through 3, bring this job sheet and your completed test items to the instructor for evaluation and check off.

Instructor's Initials \_\_\_\_\_

F. SELF-TEST QUESTIONS

None

JOB SHEET 2-8-1

COMMUNICATION AND MOTIVATION PERFORMANCE EXERCISE

A. INTRODUCTION

This job sheet will aid you in preparing and presenting your four-minute presentation. The purpose of this presentation is to give you the opportunity to practice your speaking techniques and motivational skills in a classroom environment.

B. EQUIPMENT

None

C. REFERENCES

None

D. SAFETY PRECAUTIONS

None

E. JOB STEPS

Step 1. Develop a topic.

- a. Using the learning objectives developed in Job Sheet 2-6-2, write a brief outline of the things you want to say.
- b. Use a word or phrase outline (not sentences).
- c. Include the following:
  - (1) Introduction/Opening statement (attention-getter)
    - (a) Why it is of value and/or interest?
  - (2) Ideas to consider:
    - (a) How will this lesson benefit the student? (Relate this to the learning objectives.)
    - (b) Why is this lesson important to the student?

Step 2. Review your notes on speech techniques and motivation.

Step 3. Present your topic

- e. When called upon by your instructor, present your topic using the outline developed in Step 1 as your guide.
- f. Limit your presentation to four minutes.
- g. This presentation will be commented on (feedback will be provided), but not graded as a test. It is designed for you to:
  - (1) Get started speaking before the group,
  - (2) Develop an outline of thoughts, and
  - (3) Practice effective motivation and communication techniques and the principles of learning previously taught.

Step 4. Critique - The instructor will comment on your presentation using the following checklist.

SPEAKING TECHNIQUES	REMARKS
1. Used voice variance	
2. Used appropriate gestures	
3. Maintained eye contact	
4. Controlled nervousness	
5. Maintained proper attitude	

MOTIVATION TECHNIQUES	REMARKS
1. Explained objectives	
2. Established values	
3. Involved students	
4. Was realistic, practical, believable	

F. SELF-TEST QUESTIONS

None

## INFORMATION SHEET 3-1-1

## LESSON PLAN (LP)

## A. INTRODUCTION

This information sheet will assist you in becoming familiar with the elements of the Lesson Plan (LP).

## B. REFERENCES

1. Navy Instructor Manual, NAVEDTRA 134
2. Task Based Curriculum Development Manual, NAVEDTRA 130 Series
3. Personal Performance Profile Based Curriculum Development Manual, NAVEDTRA 131

## C. INFORMATION

The Lesson Plan (LP) is the *most important document available to the instructor*. It ensures that all factors of the course are considered to conduct an effective lesson. The LP guides the instructor through the lesson activities and programs the use of all other training materials. It standardizes the instruction providing specific equipment and instructional media requirements.

## 1. Elements of the LP

a. Front Matter consists of several elements that provide essential information for the course.

- 1) Title Page - Provides easy identification of the course. It contains the course title, Course Identification Number (CIN), revision and change number if required, security classification if applicable, and the date the course was prepared.
- 2) List of Effective Elements (LOEE) - Used in Personnel Performance Profile (PPP) table-based curriculum. It identifies the change status of all elements in the course.
- 3) Change Record Page - Provides space for recording information related to each change incorporated into the LP after it is approved for implementation.
- 4) Table of Contents - Provides a complete listing of the contents of all volumes of the LP.
- 5) Security Awareness Notice - Describes the procedures for handling and safeguarding classified materials used in the course.
- 6) Safety/Hazard Awareness Notice - Identifies hazards to personnel and equipment. It provides special directions to personnel concerning safety and the safety precautions for the protection of personnel and equipment. It contains policy on "Training Time Out (TTO)," "Drop On Request (DOR)," and instructions for reporting safety and hazard violations.
- 7) Course Learning Objectives (CLOs) - (PPP table-based curriculum) and Terminal Objectives (TOs) (Task-based curriculum) are learning objectives that describe the overall knowledge and/or skills that are to be accomplished by the end of the course.

b. Lesson Topics are the documents used to conduct each lesson.

- 1) Topic Page - Gives a list of the learning objectives for the topic, classroom or laboratory time, Trainee Preparation, Instructor Preparation, and the training materials required for the topic.

- 2) Learning Objectives - Enabling Objectives (EOs) (for Task-based curriculum) or Topic Learning Objectives (TLOs) (for PPP table-based curriculum) support the TOs/CLOs and describe the specific skills and knowledge to be achieved by the trainee during that topic.
  - 3) Trainee Preparation - Lists the publications and support material required for each student.
  - 4) Instructor Preparation - Lists all references cited as "Reference..." or "Refer to..." in the topic.
  - 5) Training Materials Required - Lists all support materials required for presentation of the topic, e.g., publications, wall charts, transparencies, etc., giving each category a separate heading.
- c. Discussion-Demonstration-Activities (DDA) pages provide an outline of the subject matter with adequate direction to guide the instructor through the presentation. DDA pages consist of two elements:
- 1) The Discussion Point (DP) column lists all the DPs required for correct instructional sequence. These are normally listed in the same sequence as the EOs/TLOs.
    - a) The first DP is normally introductory. If the topic includes labs involving equipment, the first DP will include a review of Training Time Out (TTO) procedures. If the course is designated a high risk, the first DP will review Drop On Request (DOR) procedures.
    - b) DPs should not exceed the fourth level subheadings.

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EXAMPLE:

- 1.
  - a.
  - (1)
  - (a)
- 

- c) Ample space should be left between DPs to allow for instructor notes and examples.
  - d) A DP labeled "Review and summary" will be a review of the major DPs taught in the topic. Condense and repeat the EOs/TLOs and the major points of the lesson topic. Check the trainee's comprehension of the topic by questioning during the review.
  - e) The final DP in all but the last topic is "Assignment."
- 2) The Related Instructor Activity (RIA) column gives specific instructions to the instructor with specific regard to his/her and the trainee's behavior.
- a) RIAs are numbered the same as the corresponding DP.
  - b) An RIA is not necessary for every DP.
  - c) "Reference..." is used to aid the instructor in locating information needed to personalize a specific DP. It is NOT intended to direct use of that reference material in the classroom.
  - d) "Refer to..." provides direction for the instructor when the reference material is to be used in the classroom.
  - e) "Demonstrate...", "Show...", "Display...", "Point to..." are phrases that may be used as appropriate to tell the instructor what action to take.

- f) The phrase "Review as required" indicates points in the topic where the amount of discussion depends on the trainees' understanding and is a judgment call on the part of the instructor.
  - g) All the instruction sheets in the Trainee Guide (TG) must be cited in RIAs of the LP.
  - h) RIAs can be used to provide any additional or amplifying information that would assist the instructor in teaching the lesson.
- d. The Lesson Introduction is one of the most crucial elements of the lesson. During the introduction you will introduce yourself and the topic, you will state the learning objectives, make motivating statements, and provide a topic overview.
- 1) Procedures
    - a) At the beginning of each topic/class, place your name and the topic title on the board.
    - b) If this is your first meeting with the class, introduce yourself. Give your background information and credentials. Explain what qualifies you to instruct this topic.
    - c) Introduce the topic and give motivating statements including why the student needs to learn the material and how they will apply it on the job. Give personal examples.
    - d) Read the learning objectives and state the depth of coverage. If safety is required by the topic, mention it at this time and explain that safety requirements will be covered in depth during the topic presentation.
    - e) Explain how the objectives will be achieved. Ask questions to ensure that the students understand the objectives and purpose of the topic.
- e. The Presentation element is the main body of the lesson. It contains the DPs and RIAs that have been designed to assist in the explanation/teaching of the learning objectives. The presentation serves to build student understanding of facts, procedures, rules, and principles.
- f. The Review and summary element provides an opportunity to summarize the topic's major points. A review is conducted to reinforce learning and to get valuable feedback on what learning has taken place. You must ask questions that require the students to think and to respond beyond the recall level of learning to get the appropriate feedback.
- g. The Assignment element is used to provide students with practice of the lesson information or to prepare them for the next lesson.
2. Lesson Plan Personalization. It provides the information you need to make the instruction uniquely yours without deviating from the approved course of instruction. It includes adding subject matter detail needed to cover the topic DPs to the required depth. It also includes notes to indicate when you want to stress a point, relate a personal experience, or use an example or analogy.
- a. Types of Personalization
    - 1) Subject Matter Detail - Used to provide technical data such as purposes, descriptions, facts, operations, and functions. Course reference material provides this information.
    - 2) Instructional Techniques - Carefully written questions well planned visual aids, Interactive Multimedia Instruction (IMI), Instructional Media Material (IMM), or additional student/instructor activities to enhance the lesson.

- 3) Personal Experience - Relate your own personal on-the-job experiences, or those that have been told to you by coworkers, to increase student interest. This has the positive effect of reinforcing the practical application of the material and serves to increase student interest and motivation.
  - 4) Examples and Analogies - When possible support main points of the LP by examples and analogies to simplify the concepts or ideas being taught.
- b. Steps of Personalization
- 1) Read the learning objectives to obtain an understanding of what the objectives are trying to achieve.
  - 2) Read through the entire LP to gain an understanding of the contents.
  - 3) Research the reference materials to obtain subject matter detail needed to support the major DPs.
  - 4) Observe a qualified instructor's presentation of the lesson and discuss it with him or her before personalizing the topic.
  - 5) Personalize the LP. By understanding the requirements of the objectives, you can put into your own words the information that will help you present the lesson.
  - 6) Update personalization as necessary. Review your LP personalization for completeness and accuracy each time you teach.

DIAGRAM SHEET 3-1-2

TITLE PAGE

LESSON PLAN

FOR

NAVY SCUBA DIVER

A-433-0023A

PREPARED FOR

DIRECTOR, LEARNING AND DEVELOPMENT (NETC N7)  
9549 BAINBRIDGE AVE  
NORFOLK, VIRGINIA 23511-2612

PREPARED BY

NAVAL DIVING AND SALVAGE TRAINING CENTER  
PANAMA CITY, FLORIDA 32407

NOVEMBER 2008



DIAGRAM SHEET 3-1-4  
CHANGE RECORD PAGE

NAVEDTRA M-130B  
SEPTEMBER 2009

**LESSON PLAN**

**A-433-0023A**

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**UNIT 1: SCUBA DIVER QUALIFICATION**

Lesson Topic 1.1 - SCUBA Diver Physical Conditioning

NOTE TO READER: Only those Lesson Topics supporting Units 2 and 3 are included to illustrate the contents of a Lesson Plan.

**UNIT 8: OPEN CIRCUIT SCUBA EQUIPMENT MAINTENANCE**

Lesson Topic 8.1 - SCUBA Charging 8-1-1

**UNIT 9: INSPECTION OF MAJOR HULL COMPONENTS**

Lesson Topic 9.1 - Underwater Hull Inspection 9-1-1

DIAGRAM SHEET 3-1-5  
SECURITY AWARENESS NOTICE

NAVEDTRA M-130B  
SEPTEMBER 2009

LESSON PLAN

A-433-0023A

SECURITY AWARENESS NOTICE

This course does not contain any classified material.

## DIAGRAM SHEET 3-1-6

## SAFETY/HAZARD AWARENESS NOTICE

## LESSON PLAN

A-433-0023A

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SAFETY/HAZARD AWARENESS NOTICE

This notice promulgates safety precautions to the staff and trainees of the Navy SCUBA Diver Course in accordance with responsibilities assigned by the Chief of Naval Education and Training.

Trainees may voluntarily request termination of training. Any time the trainee makes a statement such as "I QUIT," or "DOR," (Drop on Request), he or she shall be immediately removed from the training environment and referred to the appropriate division or training officer for administrative action. The trainee must then make a written statement, clearly indicating the desire to DOR.

Any time a trainee or instructor has apprehension concerning his or her personal safety or that of another, he or she shall signal for a "Training Time Out" to clarify the situation or procedure and receive or provide additional instruction as appropriate. "Training Time Out" signals, other than verbal, shall be appropriate to the training environment.

Instructors are responsible for maintaining situational awareness and shall remain alert to signs of trainee panic, fear, extreme fatigue or exhaustion, or lack of confidence that may impair safe completion of the training exercise, and shall immediately stop the training, identify the problem, and make a determination to continue or discontinue training. Instructors shall be constantly alert to any unusual behavior which may indicate a trainee is experiencing difficulty, and shall immediately take appropriate action to ensure the trainee's safety.

The safety precautions contained in this course are applicable to all personnel. They are basic and general in nature. Personnel who operate or maintain equipment in support of Navy SCUBA Diver Course must be thoroughly familiar with all aspects of personnel safety, and strictly adhere to every general as well as specific safety

DIAGRAM SHEET 3-1-7  
 COURSE LEARNING OBJECTIVES

NAVEDTRA M-130B  
 SEPTEMBER 2009

LESSON PLAN

A-433-0023A

TERMINAL OBJECTIVES

- 1.0 **QUALIFY** as a SCUBA diver in accordance with Navy Military Personnel Command Manual, BUPERS Manual (CTTL item #1)
- 4.0 **PLAN** OPEN CIRCUIT SCUBA DIVING OPERATIONS in accordance with U.S. Navy Diving Manual, Volume 1, NAVSEA 0994-LP-001-9010, Chapter 4. (CTTL item #17)

NOTE TO READER: Sample instruction is provided to fully support only Terminal Objectives 9.0 and 10.0. Sample instruction for Terminal Objectives 1.0 through 3.0, and Terminal Objective 5.0 through 8.0 are intentionally omitted. Terminal Objective 4.0 provides one Enabling Objective for Lesson Topic 3.1.

- 6.0 **CHARGE** open circuit SCUBA following a checklist and in accordance with the U. S, Navy Diving Manual, Volume 1. (CTTL item #61)
- 7.0 **APPLY** underwater hull search techniques to CONDUCT inspections of major hull components in accordance with the Underwater Work Technique Manual, Vol 2, while performing as a SCUBA diver. Observe applicable safety precautions. (CTTL item #65)

DIAGRAM SHEET 3-1-8

TERMINAL OBJECTIVES

LESSON PLAN

S-062-0008

TERMINAL OBJECTIVES

- 1.0 **DESCRIBE** course administration procedures in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 1)
- 2.0 **DESCRIBE** group-paced instruction in accordance with the Navy Instructor Manual, NAVEDTRA 134; Management of Organizational Behavior, Utilizing Human Resources (6th ed.), Hersey, Paul, and Instructional Technique (1981), Davies, Ivor K. (CTTL item # 6)
- 3.0 **DESCRIBE** student motivation in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 13)
- 4.0 **DESCRIBE** the principles of learning in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 16)
- 5.0 **DESCRIBE** effective communications in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 22)
- 6.0 **DESCRIBE** the instructional methods in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 29)
- 7.0 **DEVELOP** learning objectives in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 33)
- 8.0 **PERFORM** test development in accordance with the Task Based Curriculum Development Manual, Vol. 1, NAVEDTRA 130; Navy School Management Manual, NAVEDTRA 135; and Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 40)
- 9.0 **PERFORM** effective communication and motivation in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 49)
- 10.0 **DESCRIBE** lesson plans in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 52)
- 11.0 **DESCRIBE** Instructional Media Material (IMM) techniques in accordance with the Navy Instructor Manual, NAVEDTRA 134. (CTTL item # 58)

10

DIAGRAM SHEET 3-1-9

TOPIC PAGE 130 FORMAT

LESSON PLAN

**Unit 1. COURSE ADMINISTRATION AND INDOCTRINATION**

**S-062-0008**

**Topic 1.1 ADMINISTRATIVE PROCEDURES**

CLASS PERIODS: 2

LAB PERIODS: 1

PA PERIODS: 0

**Enabling Objectives:**

- 1.1 **DESCRIBE** the Chain of Command in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 1.2 **DESCRIBE** general course information in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 1.3 **DESCRIBE** safety procedures in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 1.4 **PERFORM** student self-introduction in accordance with the Navy Instructor Manual, NAVEDTRA 134.

**Instructor Preparation:**

- A. Review Assigned Trainee Material
- B. Reference Publications:
  - 1. None
- C. Training Materials Required:
  - 1. None

**Trainee Preparation Materials:**

- A. Trainee Support Materials:
  - 1. None
- B. Reference Publications:
  - 1. None

1-1-1

DIAGRAM SHEET 3-1-10  
 LESSON PLAN 130 FORMAT

LESSON PLAN

Unit 1. COURSE ADMINISTRATION AND INDOCTRINATION

S-062-0008

Topic 1.1 ADMINISTRATIVE PROCEDURES

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

1. Introduction

1. Establish contact.

Introduce yourself and the topic.

Establish readiness (e.g., check muster).

Motivating statements (real-world application). Tell the students why they need to know the lesson material and how they can use it.

Present the learning objectives.

2. Chain of Command

3. General course information

a. Daily schedule

(1) Class number

1-1-2

INFORMATION SHEET 3-2-1  
INSTRUCTIONAL MEDIA MATERIAL

A. INTRODUCTION

This information sheet is intended to help you to understand the use of Instructional Media Material (IMM).

B. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

C. INFORMATION

1. Purpose of Instructional Media Material (IMM). The most important purpose of IMM is to increase student understanding. Other important purposes are to increase student retention, interest, and motivation and to provide uniformity in training.
  - a. Increase student understanding
    - 1) It is possible and quite probable for a group of students to form entirely different ideas about the same thing as a result of a verbal description. Although you might describe in detail a piece of navigation equipment, such as a sextant, unless the students have seen one, they may develop a completely wrong idea about it. To form a more complete understanding, students need to see the sextant or a model of it to supplement your description.
    - 2) Students may have problems understanding the proper relationships of the various parts of an object from a verbal explanation only. In the case of the sextant, you would have difficulty making students understand the functions and relationships of the parts without the use of a working model, cutaway, or series of charts. IMM brings subjects into perspective, produces accurate interpretations, and aids in the understanding of relationships.
  - b. Increase student interest and motivation
    - 1) IMM is far more effective in attracting attention and creating interest than a verbal description given without the use of an aid. Use IMM that will capture your students' attention and continue to hold their attention as the lesson progresses.
    - 2) Students may not be attracted by a description of the various types of small arms, but their curiosity will be aroused immediately by the display of a rifle, pistol, shotgun, or carbine.
    - 3) Focus the attention and concentration of the entire group on the specific part you are teaching. Our minds tend to concentrate on the thing upon which our eyes are focused (sense of sight).
    - 4) The satisfaction of having done a job well is a feeling familiar to everyone. A similar reaction occurs in a training situation when a student feels the instruction is of definite value. The student achieves a sense of personal satisfaction from the learning and feels motivated to learn more. You can achieve motivation early in a course of instruction by using IMM. The continued use of IMM to make the instruction concrete and meaningful will sustain student interest and motivation.

c. Increase student retention

- 1) Most people forget what they hear in a relatively short time and have difficulty recalling the information accurately. On the other hand, things they see make a more lasting impression and help them to recall the object or process more accurately. Students can recall the mental images created by pictures and models more easily because of their increased interest at the time of reception. Students have a greater interest in the realistic and concrete than in the symbolic and abstract. The average student will easily forget your verbal explanation of how an internal combustion engine operates. However, an actual engine, a model, or a videotape shown with your explanation will make a fixed impression on students that is easier to recall.
- 2) IMM uses the multiple-sense approach to learning to increase retention. The following information supports the importance of using the sense of sight in learning:

STUDENTS WILL RETAIN:

10% OF WHAT THEY READ.

20% OF WHAT THEY HEAR.

30% OF WHAT THEY SEE.

50% OF WHAT THEY SEE AND HEAR.

d. Increase uniformity of training - In classroom situations in which the instructor uses no aids, student learning depends on the presentation method. While some instructors may express themselves fluently, others may be somewhat inarticulate although they know their subject well. The use of standardized training aids make the presentations more uniform.

2. Types of IMM - An IMM is any device or piece of equipment that is used to help the student understand and learn. More specifically, IMM is a specially prepared chart, poster, illustration, videotape, slide picture, motion picture, model, mockup, recording, or piece of equipment that will assist student understanding and expedite learning. Showing is often easier than telling. Utilizing the sense of sight in parallel with hearing creates more effective instruction and greater retention of information by the students.
3. Instructional Techniques. The instructional techniques you employ in the use of IMM can greatly add to or distract from their effectiveness. This section provides suggestions on techniques to consider when using the IMM.

a. Slides/PowerPoint presentations:

- 1) When you are going to use slides to support your lesson, first ensure that all slides are in the carousel in the proper sequence, right side up, and not backwards. Preview the entire slide run to verify correctness before going into the classroom to teach. Preview in the classroom where you will teach using the slide projector you will use during the lesson. That allows you to become familiar with the operating controls and characteristics of the slide projector and the physical setup of the classroom. For best visibility, place the projection screen in a corner of the room and angle it toward the center. Check for visibility from all areas of the classroom.
- 2) During class, display slides as called for in your lesson plan. Explain each slide as you show it. When you finish your explanation, move on to the next slide or turn the projector bulb off. Use a pointer to direct student attention to specific information on the screen. Be cautious not to block the projector image.

b. Transparencies

- 1) Although transparencies are easy to use, many instructors have problems using them effectively. However, many of the same instructional techniques used for slides also apply to transparencies. Verify correctness before going into the classroom to teach. Become familiar with the operation of the overhead projector and the physical setup of the classroom. Be sure to position the overhead projector so that everyone can see the transparencies. Measure the required height of the screen and the distance of the projector from the screen. Then put a piece of masking tape on the floor so that you can quickly put the projector in the correct position before the class begins.
- 2) During your instruction, face the class while talking, but don't stand in front of the screen. Since transparencies can be seen in a regularly lighted room, don't turn off the lights. A darkened room creates an atmosphere in which people sit back and listen passively. You can, however, dim the lights slightly if you want. Keep your transparencies in focus. Place the transparency on the glass before turning on the projector. When showing the transparency, block off unnecessary detail with a piece of paper or a card.
- 3) Be sure to move the projector when you have completed showing the transparencies. Don't leave the machine in front of the class. Unless it is in use, it becomes a distraction and a barrier between you and the learners. Don't leave a bare light projected on the screen. Don't be clicking the projector off and on excessively. Turn off the projector when finished. This ensures that the class is not left hanging or distracted by a blank screen.

c. Films/Videotapes

- 1) Motion pictures, which you can show using films or videotapes, present action and can recreate real or imagined situations. The film of the USS Franklin, which has been around since 1945, is still shown to make a vivid point about the importance of all-hands damage control training. Using motion pictures in your classroom is not the same as having your students watch a movie. You must view the entire motion picture before class to ensure you are aware of its intent and all key information contained in it. While previewing, become completely knowledgeable of all equipment controls and check for clear visibility from all seating areas.
- 2) Before you begin showing the film/tape to your class, introduce it by telling the students specifically what to look for. Develop questions for students to answer after viewing the film/tape. Placing these questions on the Visual Aids Panel (VAP) or easel further focuses student attention to the main thrust. Follow up the film/tape with a discussion of answers to the questions. Having students watch the film/tape is not enough. You must turn it into a learning experience by introducing and summarizing the film/tape for the students.

d. Newsprint

- 1) Newsprint is another widely used flexible visual aid. It is a powerful tool when used well, but boring and a waste of time when used poorly. In the classroom, you can use it effectively to record, illustrate, or highlight during a class discussion. This can increase class participation, student interest, and motivation.
- 2) If you are a slow writer or poor speller, using newsprint in a spontaneous manner may hinder your ability to instruct. If you think it will hinder you, prepare or develop newsprint in advance. That allows you to have information neatly arranged and spelled correctly before the class begins. Using newsprint also allows you to maintain your position in front of the students without having to turn pages over to reveal the new information as the lesson progresses. When prepared in advance and attached to an easel, you can turn pages over to reveal the new information as the lesson progresses. When using newsprint prepared in advance, make sure you have had ample practice before conducting the class. The following techniques will increase your effectiveness in using newsprint:

- Add tabs to help you turn pages when using the easel.
  - Pencil your notes in lightly on the newsprint before you begin the lesson.
  - Use brightly colored felt tip markers to write in the words.
  - Use dark colors for lettering.
  - Use various colors to enhance your work and distinguish between information.
  - Leave the bottom third of your sheets blank to enable the students in the back of the class to see the entire sheet.
- 3) You can refer to newsprint at a later date as a review (such as an agenda). For future reference, display your newsprint in a corner of the room or by taping it to the sidewalls. Place information you have already covered in the back of the room for students to review during their break. Don't clutter the walls with too much information. Remove all unnecessary newsprint to prevent distractions.
- e. Wall Charts:
- 1) They are relatively easy to prepare, and those made of heavy poster board material last a long time. They are versatile in the classroom and easy to display on poster board clips or the easel. By attaching magnetic strips on the back, they easily adhere to most VAPs. You can use professionally prepared charts or make them yourself.
  - 2) To make a wall chart, project an image from an opaque projector on the poster board; trace the outline and then apply colors, titles, and labels as appropriate. Make titles and labels of sufficient height for everyone in the class to see them.
- f. Models, mockups, and simulators
- 1) Models, mockups, and simulators make good sense for many training applications. They can save time and reduce hazards while providing hands-on experience. At the very least, they provide another form of learning reinforcement; at the most, they can help you illustrate and explain things that otherwise would be difficult or dangerous. The model introduces accurate and authentic realism into the learning situation. A model may be an enlargement, a reduction, or the actual size. A scale model represents an exact reproduction or the original. Some models are solid and show only the outline of the object they portray, while others are working model (mockups). Mockups are three-dimensional working models. Use them for training or testing in place of a real object that is too costly, too dangerous, or difficult to obtain.
  - 2) A simulator is any device that has the form, sound, and even the appearance of the actual equipment. Simulators allow the students to gain hands-on experience. You normally use them when they are safer, less costly, or provide better instruction than the actual equipment. Simulators provide a realistic setting and permit a high degree of transfer of learning when the students switch to the actual equipment. Some examples are damage control wet trainers, flight simulators, and submarine control simulators.

g. Chalkboard/Visual Aid Panel (VAP)

- 1) Two very important visual aids are the chalkboard and VAP. They are probably the most frequently used visual training aids. You may use them at any time during a lesson to display terms, definitions, examples, problems, drawings, or diagrams. Since most chalkboards and VAPs have a metal backing, you may easily display information on them using poster board with magnets attached. Their flexibility allows you to adapt them to almost any instructional need. Since they are available in most classrooms, labs, and shops, they are an excellent tool for recording student responses, encouraging class involvement, and note taking. You can use the chalkboard/VAP when teaching almost any knowledge subject. The chalkboard/VAP is essential when you are teaching mental skills involving computation and calculations.
- 2) When you plan to use the chalkboard or VAP, you need to take several steps before your presentation. Gather all materials required (chalk or markers, eraser, pointer, straight edges, etc.) for the chalkboard/VAP portion of the lesson and place them in classroom. Be sure to clean the chalkboard/VAP before using it. Determine what parts of the lesson are important enough to emphasize with board work and will help students meet the objectives.
- 3) Information should clearly relate to the objectives of the lesson. Also determine the amount of time the board work will take and how it will look when finished. Practice to ensure the information will fit in smoothly with the lesson. That will help you build confidence in using the board and reduce the amount of time you spend erasing and rewriting or redrawing information.
- 4) Develop chalkboard/VAP work logically. Sequence the work so the relationship of each new item to the previous is readily apparent. Develop concepts, procedures, diagrams, and other information step-by-step and in the most logical sequence. Use the chalkboard/VAP information to develop one point at a time and progress from the simple to the complex. For example, a drawing to illustrate the operation of a basic steam cycle would consist of a boiler, turbine, condenser, pumps, and necessary steam lines. Introducing the students to one component at a time and gradually leading them to the completed cycle supports the law of primacy. It also develops better understanding of the relationships of the components. Write in straight lines. Avoid the natural tendency to write in either an uphill or downhill line. Use color with restraint and only to emphasize key information.
- 5) Besides using neat and legible penmanship, make sure you use correct spelling and grammar. Incorrect spelling and poor grammar are not only detrimental to the students, but may discredit you. Check for correct spelling and grammar during practice. To ensure proper spelling and grammar, use lesson plan notes or 3x5 cards that correspond to what you plan to write on the board.
- 6) Keep all writing or drawings during the lesson brief and to the point. Prolonged writing or drawing disrupt the flow of the lesson and may cause the students to become distracted or bored. Write a comment or draw a portion of a diagram on the board. Then turn to the class to solicit input and generate discussion about the information. This technique promotes good eye contact and encourages class participation.
- 7) When preparing a chalkboard/VAP drawing, use some type of drawing aid to keep the drawing as neat as possible. You might use compasses for drawing circles and rulers or T-squares for drawing straight lines. Use a template (shape cut from poster board) that you can trace onto the chalkboard/VAP if you plan to use the drawing often.

- 8) If using a pointer to draw attention to a point or drawing, keep your arm straight while pointing. Consider the pointer as an extension of your arm. Use the hand nearest the object you point out instead of allowing your arm to cross your body. Stand to one side to prevent obstructing the students' view, and avoid talking to the chalkboard/VAP. When you talk to the board, students have difficulty understanding your words, and you lose eye contact. Pause frequently to maintain student attention. Explain what you are doing and check for student reaction. Additionally, check the drawing or writing from the students' viewpoint.
- 9) During your presentation, keep the board as clean as possible. Erase all information you are not using. A cluttered board with scattered, unrelated materials hinders your presentation and student understanding. Put the eraser back in the dust tray when you finish making your point. Do not cause a distraction by carrying it around. Also, you should avoid walking in front of displayed information whenever possible. As with other forms of IMM, erase or cover the chalkboard/VAP work as soon as you finish the presentation to prevent it from becoming a distraction.

4. Student Material - Trainee Guide

- a. Assignment Sheets - Assignment sheets are designed to direct the study or homework efforts of a student. Assignment sheets simplify the students' search for relevant data and direct their efforts to the proper source. The sheets may direct students to information contained in various manuals, reference documents, or, in some cases, other instruction sheets. Each assignment sheet is divided into four sections: introduction, learning objectives, study assignment, and study questions.
- b. Diagram Sheets - Diagram sheets provide students with illustrative material or with material to support other instruction sheets. They provide the student with a diagram, schematic, or illustration to eliminate the need for the student to copy such information during the lesson.
- c. Information Sheets - Information sheets provide information related to subject matter contained in documentation required for the course, but not readily available to students. Each information sheet contains three sections: introduction, references, and information.
- d. Job Sheets - Job sheets direct the students in the step-by-step performance of a practical task they will encounter in their job assignment. Job sheets provide a means for students to apply the knowledge they obtain during instruction through the use of technical documentation in performing the task just as they would on the job. The job sheet is made up of four sections: introduction, required equipment, references, and job steps.
- e. Problem Sheets - Problem sheets present practical problems requiring analysis and decision-making similar to those encountered on the job. The problem sheet is an effective means of emphasizing the fundamentals of logical thinking. It is also an effective way to help students learn to solve problems and to help them gain practice in applying their knowledge to practical situations. Each sheet provides a clear statement of the problem, the conditions and parameters affecting the problem, and the directions and procedures for the solution to the problem.
- f. Outline Sheets - Outline sheets provide an outline of the major discussion points of the topic. The outline sheets allow students to follow the progress of a topic.

PROBLEM SHEET 3-2-2

SAMPLE PROBLEM SHEET

A. INTRODUCTION

This sheet is intended to provide you with an example of a problem sheet.

B. PROBLEM

1. .000001 = \_\_\_\_\_
2. 120000 = \_\_\_\_\_
3. 47894655800 = \_\_\_\_\_
4. .98235643876826 = \_\_\_\_\_
5. 25657.935668 = \_\_\_\_\_
6. .000087645 = \_\_\_\_\_
7. 736 = \_\_\_\_\_
8. .0000000000067 = \_\_\_\_\_
9. 230004500 = \_\_\_\_\_
10. 945 = \_\_\_\_\_

C. DIRECTIONS

1. Convert the numbers above to scientific notation.

## OUTLINE SHEET 3-2-3

## SAMPLE OUTLINE SHEET

## A. INTRODUCTION

This sheet is intended to provide you with an example of an outline sheet.

## B. ENABLING OBJECTIVES

- 11.1 **STATE** the use of training equipment in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 11.2 **DESCRIBE** Instructional Media Material (IMM) in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 11.3 **DESCRIBE** the techniques for using Instructional Media Material (IMM) in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 11.4 **DESCRIBE** the procedures for preparing materials for instruction in accordance with the Navy Instructor Manual, NAVEDTRA 134.
- 11.5 **DESCRIBE** student materials in accordance with the Navy Instructor Manual, NAVEDTRA 134.

## C. TOPIC OUTLINE

- 1. Purpose
- 2. Types of IMM
- 3. Techniques for use
- 4. Preparing IMM for use
- 5. Student materials
- 6. Review and summary
- 7. Assignment

JOB SHEET 3-3-1

VISUAL AID PANEL (VAP)/CHALKBOARD PERFORMANCE EXERCISE

A. INTRODUCTION

This job sheet will aid you in becoming proficient in preparing and presenting material using the VAP/Chalkboard.

B. EQUIPMENT

None

C. REFERENCES

None

D. SAFETY PRECAUTIONS

None

E. JOB STEPS

Step 1. Select a topic.

Instructor's Initials \_\_\_\_\_

Step 2. Personalize your topic.

Instructor's Initials \_\_\_\_\_

Step 3. Design illustrations to support discussion points.

Instructor's Initials \_\_\_\_\_

Step 4. Practice delivery of your presentation.

Step 5. Submit a smooth copy of your lesson plan.

Instructor's Initials \_\_\_\_\_

Step 6. Deliver your presentation.

Step 7. The evaluator will critique your presentation using the checklist in Diagram Sheet 3-4-2.

F. SELF-TEST QUESTIONS

None

INFORMATION SHEET 3-4-1  
INSTRUCTOR EVALUATIONS

A. INTRODUCTION

This information sheet will aid you in understanding instructor evaluations.

B. REFERENCES

C. INFORMATION

1. **INTRODUCTION.** Evaluation of instructors and curriculum for the purpose of improving the quality of training is an ongoing process. As an instructor, you should welcome every opportunity to be evaluated by others. Through this evaluation process, you will receive feedback on your strengths as well as those areas in which you may need improvement. Basically, two types of instructor evaluations are conducted. Personnel considered to be Subject Matter Experts (SMEs) in the area of instruction conduct evaluations to ensure that the subject matter qualifications of the instructor. Trained instructor evaluators from the command conduct evaluations to ensure the instructor uses the most effective techniques to accomplish training. Evaluations may be conducted on a scheduled or unscheduled basis. Each method of evaluation has its advantages and disadvantages. A scheduled evaluation allows the instructor to prepare for the evaluation. It may also allow the instructor time to prepare a “show” that is not typical of usual performance. Remember, evaluation is for the purpose of improving the training provided. You should not change your teaching style just because you are being evaluated. An unscheduled evaluation permits the evaluator to observe the instructor in a normal mode, which can result in a more realistic appraisal of the instruction. The drawback to an unscheduled evaluation is that it may cause an inexperienced instructor to feel threatened and thus to fail to perform as well as usual. Whether the evaluation is scheduled or unscheduled, you should never switch from your usual performance for the benefit of the evaluator.
  
2. **PREPARING FOR EVALUATION.** In preparing to teach, always ensure that your instructional materials are ready, that you have prepared yourself for the lesson, that the classroom or laboratory is prepared, and that all training equipment is available and in working order. Follow these steps each time you instruct. That will prevent you from having to interrupt the lesson because you forgot to properly plan and prepare. View the evaluation process as an opportunity to gather information that will help you become more effective as an instructor. A preliminary meeting with the evaluator aids in the preparations to conduct the evaluation. Answer any questions they may have, and provide them with any materials they may need to conduct the evaluation. Always be prepared for an evaluation, because you are always being evaluated when you instruct -- by your students. You need to know how the evaluation process works and what the evaluator will look for during the evaluation. This knowledge will help you refine your instructional techniques. It will also build your confidence because you will know what is expected of you.
  
3. **EVALUATION CHECKLISTS**
  - a. Evaluators use two separate checklists in evaluating instruction. These are the Classroom Instructor Evaluation Checklist and the Laboratory Instructor Evaluation Checklist.
    - 1) The Classroom Instructor Evaluation Checklist is divided into four major categories:
      - a) INTRODUCTION
      - b) PRESENTATION
      - c) INSTRUCTOR-STUDENT INTERACTION
      - d) SUMMARY

2) The Laboratory Instructor Evaluation Checklist is divided into three major categories:

- a) INSTRUCTOR PERFORMANCE
- b) STUDENT PERFORMANCE
- c) FACILITIES

**NOTE:** Evaluators pay close attention to student safety and safe instructional practices in the laboratory.

- 4. **CLASSROOM EVALUATION FACTORS.** Familiarity with classroom evaluation factors will greatly benefit you in presenting your lessons. The following information presents those factors the evaluator will use to judge your performance and how you should conduct your instruction to meet that criteria.
- 5. **LESSON INTRODUCTION.** The introduction sets the stage for the lesson. You must present it in an interesting and motivating manner to prepare the students to learn. The following information provides the factors used in the evaluation of your introduction.
  - a. Display course name and topic title - Write this information on the board, or display it in some other manner
  - b. Introduce yourself - If you are meeting with the students for the first time, provide background information about yourself to establish credibility with the students
  - c. Present the introduction in an interesting manner - Provide personal experiences that enhance the lesson and are directly related to the topic and/or objectives. One personal experience is generally adequate for the introduction.
  - d. Explain how the material fits into the overall course - Explain the importance of the material not only to the course, but also to the students' future jobs in the fleet. This requires that you to be knowledgeable of material that has been previously covered in the course and what will be covered in future lessons.
  - e. Explain the Objectives:
    - 1) Explain to the students that the objectives are not just for the lesson, but should also be the students' objectives. Simply reading or having the students read these objectives is not adequate.
    - 2) Explain how each objective applies to what the students are about to learn and what the students must do to accomplish the objective.
    - 3) Check with the students to determine their degree of understanding of the objectives.
  - f. Show the importance of safety:
    - 1) Address safety at the beginning of each lesson, where applicable.
  - g. Explain the importance of satisfactory performance:
    - 1) Stress to the students how important it is for them to achieve the objectives. Make the explanation on a positive note rather than stressing punishment.
  - h. Motivate the students to do their best:
    - 1) Motivate the students to take pride in their work and to do their best.
    - 2) Tell the students to ask questions and to get involved.
    - 3) Make the students feel at ease about asking questions when they do not understand something.
    - 4) Inform the students how they will be able to use the information and benefit from it.

6. LESSON PRESENTATION. The presentation deals with how well you are prepared to teach and how well you deliver the material. While personal characteristics will vary between instructors, everyone can use several tools of the trade to enhance the effectiveness of the lesson. The evaluator will judge your presentation based on the following factors.
  - a. Lesson plan personalization
    - 1) Personalize every lesson. Simply highlighting the existing material is not enough.
    - 2) Make sure that you have the approval of your course supervisor or some other command-designated authority for your personalization.
  - b. Classroom and materials are ready for training - Make sure that the classroom is physically ready for the students to receive training; that is, seating arrangements are adequate; training equipment is in good working condition and available as required; materials such as transparencies, slides, and charts are accurate and in good working condition.
  - c. Information technically accurate - Ensure the technical accuracy of information you present. Only an evaluator who is a subject matter expert in the area of instruction will complete this category.
  - d. Cover major discussion points - Follow the teaching points as approved in the lesson plan. Do not omit or skip material.
  - e. Do not read from the lesson plan
    - 1) When you must read an important point, also teach it for emphasis.
    - 2) Use the lesson plan as a guide, NOT as a book to be read to the students. Excessive reading from a lesson plan may indicate a lack of preparation or confusion with the subject matter.
  - f. Transition and chain material effectively
    - 1) Use transition statements that allow you to move through the lesson smoothly. Transitions signal to the students that you are progressing to a new point.
    - 2) Chain material (that is, tie it together) in a meaningful manner. Link materials previously taught with the present material, or link the present material with what will be taught later.
  - g. Use questioning techniques effectively
    - 1) Use questions to get students involved in the lesson.
    - 2) Phrase questions clearly and concisely.
    - 3) Use several different types of questions and questioning techniques during your presentation.
    - 4) Ask questions that promote thought and discussion.
    - 5) Ask questions that are not too simple or too complex.
    - 6) Allow adequate time for students to respond, and make sure you allow them to complete their response.
    - 7) Give complete and accurate answers to questions asked by the students.
    - 8) Maintain psychological safety in the classroom. Never embarrass a student who gives an incorrect answer. That discourages further participation.

- 9) Do not answer your own questions.
  - 10) When asking questions, make sure they accomplish your purpose for asking them. Many excellent reasons exist for using questions. They involve the students in the learning process and provide feedback on student comprehension of the subject matter. They also allow you to resolve areas of confusion and determine student accomplishment of learning objectives.
  - 11) Properly used, questioning techniques are one of the most powerful tools available to you as an instructor.
- h. Use training aids effectively
    - 1) Effectively use transparencies, wall charts, movies, films, slides, and the like, to receive the full benefit from them.
    - 2) Make the training aid visible to all students.
  - i. Maintain proper eye contact
    - 1) Maintain eye contact with students to hold their attention and to gather nonverbal feedback from them.
    - 2) Avoid excessive reading from the lesson plan or talking to the board. As a general rule, you should talk only when looking at the students.
  - j. Display enthusiasm
    - 1) Show a positive and enthusiastic attitude toward the subject.
    - 2) Use enthusiasm to maintain student interest.
  - k. Use gestures effectively
    - 1) Use gestures to stress a point.
    - 2) Use gestures that are natural and appropriate to the lesson.
  - l. Maintain a positive, professional attitude
    - 1) Show a sincere concern for student comprehension. Never display cynicism, intimidate students, or use profanity or off-color remarks.
    - 2) Project professionalism by presenting a smart, concise, and meaningful presentation.
  - m. Use time effectively
    - 1) Stay on time throughout the lesson. That shows you are well prepared.
    - 2) Follow the instructional time allowed in the approved curriculum.
  - n. Avoid distracting mannerisms
    - 1) Avoid distracting behaviors, such as playing with a marker or pointer, sticking your hands in your pockets, or using gestures excessively.
  - o. Use communication skills effectively - Make sure your voice is reasonably pleasant (quality), easily understood (intelligibility), and expresses differences in meaning (variety). Quality includes not only the sound of the voice, but the feelings projected when you speak. Intelligibility refers to clear articulation, correct pronunciation, and the use of correct grammar. Variety includes the use of variation in rate, volume, force, and pitch of your speech.

- p. Maintain flexibility
    - 1) Be open to discussions that enhance the lesson but do not lose sight of the lesson.
    - 2) Offer to meet students outside the classroom to discuss their thoughts when too much time is being spent in areas not related to the lesson.
  - q. Use personal experiences and examples
    - 1) Use personal experiences that are related to the subject.
    - 2) Use examples throughout the lesson.
  - r. Explain the material clearly:
    - 1) Explain the material at a level the students can understand.
    - 2) If students appear to be confused, you should explain the material in a different manner.
7. INSTRUCTOR-STUDENT INTERACTION. This area deals with your effectiveness in keeping the students involved in the learning process. It also has to do with your ability to manage instructor-student interactions.
- a. Establish and maintain student attention.
  - b. Encourage student participation.
  - c. Check for student comprehension.
  - d. Establish and maintain proper instructor-student relationship.
  - e. Stress the importance of the individual student while remaining clearly in control of the class.
8. LESSON SUMMARY. The lesson summary is used to recap the major discussion points of the lesson and to ensure that the students understand the subject matter you have presented.
- a. Summarize the learning objectives
    - 1) Since the objectives are what the student is trying to accomplish, restate or paraphrase the objectives and discuss their relationship to the lesson material.
  - b. Summarize the lesson properly
    - 1) Summarize the material in the lesson at least once to ensure student understanding. In some cases, you may need to summarize more than once. When or how often the summary is conducted is not the issue; rather, did you summarize and was the summary effective?
    - 2) Summarize the major teaching points of the lesson.
    - 3) When summarizing at the end of a lesson, use the major teaching points and objectives as an outline for the summary.
    - 4) Use summaries to maintain continuity within a lesson or to emphasize areas of importance.
  - c. Check for student understanding
    - 1) Ask questions that help determine if the students understand the material.
    - 2) Ensure that questions require students to respond at the learning level required by the objectives.
    - 3) Ask thought-provoking questions related to the objective(s).

- d. Emphasize Safety - Stress safety in the introduction, presentation, and summary when safety is a factor in the lesson.
9. LABORATORY EVALUATION FACTORS. As with classroom evaluation factors, you must be familiar with the evaluation factors used to evaluate laboratory instruction. Some of these factors are very similar to those used in the classroom. Others are specific to laboratory instruction. Safety is frequently of greater concern in the laboratory than in the classroom. You must ensure that safety is stressed and safety procedures adhered to. The laboratory checklist is used to evaluate the instructor, the students, and the facilities.
10. INSTRUCTOR PERFORMANCE. The Laboratory Instructor Evaluation Checklist contains the following factors concerning instructor performance.
- a. Work spaces/stations ready for class
    - 1) Prior to the start of the laboratory session you should ensure that:
    - 2) Each workstation is fully equipped.
    - 3) Equipment, tools, and material are ready for use.
    - 4) Instructional materials are available and in usable condition.
    - 5) The laboratory area is clean and free of safety hazards.
  - b. Explain the objectives
    - 1) Ensure that students understand the objectives and all safety related considerations.
    - 2) Relate the objectives to the job sheet(s).
    - 3) Tell the students if the laboratory session is a test. In addition to explaining the objectives, you may want to provide partially finished or completed projects for the students to examine.
  - c. Review safety/sanitation procedures
    - 1) At the beginning of the lab you should review the following procedures as appropriate:
      - a) Training Time Out (TTO)
      - b) Personnel and equipment safety procedures
      - c) Sanitation and hazardous waste disposal
    - 2) If the laboratory extends beyond one training day, you should review the appropriate procedures at the beginning of each day.
  - d. Review instructional materials
    - 1) Ensure that the students know what instructional materials are available and how to use them.
    - 2) Thoroughly explain the job sheet(s).
  - e. Relate classroom instruction to laboratory performance
    - 1) Explain to your students how the information presented in the classroom relates to the laboratory application.
    - 2) When conducting a demonstration, make sure that all the students can see the demonstration.
    - 3) Emphasize safety at the appropriate points of the demonstration.

- f. Issue tools and materials
  - 1) If tools and/or materials must be issued, ensure that you explain the procedures for issue and turn-in.
  - 2) Keep work areas free from unnecessary clutter with tools or materials.
- g. Emphasize Safety
  - 1) Explain safety precautions and closely monitor students to ensure compliance with safety procedures.
  - 2) You must always follow safety procedures and may want to demonstrate the procedures for the students.
- h. Assist students as necessary
  - 1) Provide an environment for your students to learn by doing. Assist them as necessary, but do not do their work for them.
  - 2) Depending upon the type of training, it may be appropriate to use more capable or experienced students to assist other students. However, you must be particularly watchful to ensure that proper procedures are being followed. It would not be appropriate to have students aid other students when safety is involved.
- i. Recognize individual student differences
  - 1) Do not compare any student's performance with that of other students.
  - 2) Check for student understanding of the assignment.
  - 3) Provide assistance only as required.
  - 4) Maintain patience with students who are experiencing difficulty.
  - 5) Encourage students to do their best.
- j. Provide related instruction when needed - You should provide instruction when it is needed in order for the students to accomplish the objectives.
- k. Check student progress and understanding
  - 1) Monitor students to ensure that they are progressing through the assignment.
  - 2) Ensure that the students are using the job sheet(s) and related instructional materials correctly.
- l. Ask thought-provoking questions
  - 1) Use thought-provoking questions to cause the students to think about what they are doing and why they are doing it.
  - 2) Use questions to check for student understanding. Also, questions are effective in helping students who are experiencing difficulties.
- m. Critique/Review the laboratory session - Conduct a critique of the training session by emphasizing the objectives and how they were accomplished.
- n. Manage time effectively
  - 1) Ensure that your students are progressing through the assignment in an appropriate period of time.
  - 2) Provide assistance to students who are experiencing difficulties that may prevent them from completing the assignment.

- o. Lesson Plan personalization
  - 1) Your lesson plan personalization must be current and complete.
  - 2) Use your lesson plan to ensure that you cover all objectives and major teaching points.

11. **STUDENT PERFORMANCE.** In addition to evaluating your performance, students are observed because their performance provides important information on the quality and safety of the training. The following factors are used in this area.

- a. Appeared to understand the assignment
  - 1) Students should be able to independently start the assignment after you have provided the necessary instructions.
  - 2) Students should complete the assignment correctly.
  - 3) Students should be able to complete the assignment without frequently having to ask questions or request your assistance.
- b. Used instructional material
  - 1) You should ensure that the students are correctly using all of the instructional materials provided.
- c. Sought help when needed:
  - 1) Your students should be encouraged to request your assistance when it is required.
  - 2) Monitor your students to ensure that they are progressing through the assignment without difficulty.
- d. Observed safety/sanitary precautions:
  - 1) Students should observe all applicable precautions. Monitor the students to ensure that they follow the prescribed procedures.
- e. Participated in the critique/review:
  - 1) Encourage student participation. Ask them questions and invite them to ask questions.
  - 2) You may use the redirected questioning technique to encourage student participation.

12. **FACILITIES**

- a. The final area of the laboratory evaluation checklist is the facilities. The condition of the training facilities is vitally important to safety, quality of life, and student learning. Always check the facilities prior to use and ensure that they are ready. You should ensure that the lighting and ventilation are adequate. Equipment and tools must be properly maintained and prepared for the training session. Check to ensure that safety precautions are properly posted.
- b. Finally, ensure that all equipment safety devices are in place and in good condition. Safety is the number one concern in the training environment. Report and ensure correction of any unsafe condition prior to conducting training.

13. SUMMARY

- a. Instructor evaluation is an important aspect of the training program. Along with evaluation of curriculum and all other elements of the overall program, instructor evaluation contributes significantly to the improvement of training.
- b. You will be evaluated in the performance of your duties as an instructor. You may also be involved in the evaluation of others. In both situations, use these opportunities to learn new ways of making your instruction, and that of your peers, more efficient and effective.

DIAGRAM SHEET 3-4-2

CLASSROOM INSTRUCTOR EVALUATION CHECKLIST

CLASSROOM INSTRUCTOR EVALUATION CHECKLIST				
NAME	RATE	DATE		
COURSE	TOPIC TITLE			
CIN	<input type="checkbox"/> TECHNICAL	<input type="checkbox"/> TECHNIQUE	<input type="checkbox"/> PRACTICE TEACHING 1 2 3	
<input type="checkbox"/> CERTIFICATION	<input type="checkbox"/> MONTHLY 1 2 3	<input type="checkbox"/> QUARTERLY 1 2 3 4	<input type="checkbox"/> HIGH/MODERATE-RISK	
Evaluate each item on the checklist as YES, NI (Needs Improvement), NO, or NA (Not Applicable).				
	YES	NI	NO	NA
<b>1. INTRODUCTION</b>				
a. Displayed course and topic title.				
b. Introduced self.				
c. Explained how the material fits into the course.				
d. Explained the objectives to the students.				
e. Stressed the importance of safety.				
f. Explained the importance of satisfactory performance.				
g. Motivated students to do their best.				
<b>2. PRESENTATION</b>				
a. Lesson plan has been personalized.				
b. Classroom and materials are ready for training.				
c. Information technically accurate.				
d. Taught from the discussion points.				
e. Used the lesson plan effectively.				
f. Transitioned and chained material effectively.				
g. Used questioning techniques effectively.				
h. Used technology/training aids effectively.				
i. Maintained a positive, professional attitude.				
j. Displayed enthusiasm.				
k. Used gestures effectively.				
l. Maintained proper eye contact.				
m. Used time effectively.				
n. Avoided distracting mannerisms.				
o. Used communication skills effectively.				
p. Maintained flexibility.				
q. Used personal experiences/examples to stress material.				
r. Explained material clearly.				
<b>3. INSTRUCTOR/STUDENT INTERACTION</b>				
a. Established and maintained student attention.				
b. Encouraged student participation.				
c. Checked for student comprehension.				
d. Established/maintained proper instructor/student relationship.				
<b>4. SUMMARY</b>				
a. Related objectives to the lesson.				
b. Summarized lesson properly.				
c. Used questions to check for student understanding.				
d. Re-emphasized the importance of safety.				

DIAGRAM SHEET 3-4-3

LABORATORY INSTRUCTOR EVALUATION CHECKLIST

NAME	RATE	DATE				
NUMBER OF STUDENTS	INSTRUCTOR/STUDENT RATIO					
COURSE	TOPIC TITLE			CIN		
<input type="checkbox"/> TECHNICAL <input type="checkbox"/> TECHNIQUE <input type="checkbox"/> INSTRUCTOR PREPARATION 1 2 3 <input type="checkbox"/> CERTIFICATION						
<input type="checkbox"/> MONTHLY 1 2 3 <input type="checkbox"/> QUARTERLY 1 2 3 4 <input type="checkbox"/> HIGH/MODERATE-RISK						
			YES	NI	NO	NA
1. INTRODUCTION						
a. Displayed course and topic title.						
b. Introduced self.						
c. Explained the objectives to the students.						
d. Related classroom instruction to lab performance.						
e. Reviewed safety/sanitation procedures.						
f. Posted safety precautions as necessary.						
g. Explained criteria for satisfactory performance.						
h. Motivated students to do their best.						
2. PRESENTATION						
a. Lesson plan has been personalized.						
b. Work spaces/stations were ready for training.						
c. Reviewed instructional material with students.						
d. Demonstrated laboratory procedures effectively.						
e. Used communications skills effectively.						
f. Maintained a positive, professional attitude.						
g. Provided related instruction when needed.						
h. Asked thought-provoking questions.						
i. Managed time effectively.						
j. Safety devices/equipment were in good condition.						
k. Issued tools and materials expeditiously.						
l. Monitored students for safety practices.						
m. Instructors assisted students as necessary.						
3. INSTRUCTOR/STUDENT INTERACTION						
a. Students appeared to understand assignment.						
b. Students used instructional materials correctly.						
c. Students appeared to seek help when needed.						
d. Recognized individual student differences.						
e. Checked student progress and understanding.						
4. SUMMARY						
a. Related objectives to the laboratory.						
b. Students participated in review; asked questions.						
c. Asked questions to check student understanding.						
d. Reemphasized the importance of safety.						
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## INFORMATION SHEET 3-4-4

## SELF-EVALUATION CHECKLIST FOR INSTRUCTORS

## A. INTRODUCTION

This information sheet is designed to provide you with an opportunity to find out how good your teaching techniques are as an instructor.

## B. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

## C. INFORMATION

Directions:

This checklist consists of 25 questions, each of which has been given a maximum score. A question is valued according to the part it has in making a good instructor.

The checklist assumes that you know your subject matter well. No matter how skillful you may be in teaching, you cannot be a good instructor unless you learn your subject thoroughly and keep alert for all new developments in your field.

Read each question carefully. Then consider all the good practices that add up to make the maximum score. After this, estimate as well as you can how closely you are following good practices and score yourself accordingly.

Remember this is a self-evaluation. Its value for you will depend upon how honest you are with yourself. When you have finished, add up your score and compare it with this scale:

90 or above is outstanding, 80 to 89 is above average, 70 to 79 is average, and 62 to 69 is below average

If your score is below 62, you will know that there is a definite need for you to improve. You will have to change many of your teaching habits.

SELF-EVALUATION CHECKLIST FOR INSTRUCTORS

	My Score	Maximum Score
<p>1. Do I check the physical aspects of my classroom, shop, or laboratory?                      Good instructors make every effort to improve the environment. They insist on:</p> <ul style="list-style-type: none"> <li>a. Good Lighting</li> <li>b. Proper heat</li> <li>c. Good ventilation</li> <li>d. Good equipment</li> <li>e. Best possible arrangement of equipment</li> </ul>	( )	(4)
<p>2. Do I introduce myself at the first session?                      Good instructors:</p> <ul style="list-style-type: none"> <li>a. Write name on chalkboard/VAP.</li> <li>b. Pronounce their names.</li> <li>c. Tell something of their background.</li> </ul>	( )	(1)
<p>3. How well do I learn names?                      Good Instructors:</p> <ul style="list-style-type: none"> <li>a. Make out seating charts, particularly for large groups.</li> <li>b. Address questions to individuals.</li> <li>c. Use the principle of association.</li> </ul>	( )	(3)
<p>4. Do I get essential information regarding each student?                      Here are some suggestions on how to get it:</p> <ul style="list-style-type: none"> <li>a. Use Qualification cards, if available.</li> <li>b. Have students fill out a questionnaire.</li> <li>c. Interview each person.</li> <li>d. If time does not permit interviewing all students, talk to those who seem to need special attention.</li> </ul>	( )	(4)
<p>5. Am I punctual and do I expect punctuality?                      Good instructors:</p> <ul style="list-style-type: none"> <li>a. Start their classes on time.</li> <li>b. Are punctual for all appointments and expect the same from all students.</li> </ul>	( )	(2)
<p>6. Am I an example of good military bearing and neatness?                      Good instructors recognize that:</p> <ul style="list-style-type: none"> <li>a. They are leaders.</li> <li>b. Good example has value.</li> </ul>	( )	(2)
<p>7. Do I address the class effectively?                      Good instructors:</p> <ul style="list-style-type: none"> <li>a. Talk to everyone, including students in the back row.</li> <li>b. Always explain the meaning of unfamiliar or technical terminology and write the terms on the chalkboard/VAP.</li> <li>c. Recognize that abusive language or profanity engenders disrespect and will not force students to learn.</li> <li>d. Avoid sarcasm.</li> </ul>	( )	(2)

SELF-EVALUATION CHECKLIST FOR INSTRUCTORS

<p>8. Am I careful with words?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Make their points clear by using words that can be understood.</li> <li>b. Always explain the meaning of unfamiliar or technical terminology and write the terms on the chalkboard/VAP. ( ) (4)</li> <li>c. Recognize that abusive language or profanity engenders disrespect.</li> <li>d. Avoid sarcasm.</li> </ul>
<p>9. Do I personalize/prepare a satisfactory plan for each class?                  A good lesson plan has:</p> <ul style="list-style-type: none"> <li>a. A simple but complete statement of what the students are expected to learn</li> <li>b. A list of equipment and materials needed, including training aids: charts, films, recordings, filmstrips, etc. ( ) (12)</li> <li>c. An introduction for the lesson.</li> <li>d. Ways of presenting the lesson.</li> <li>e. Application and testing procedures.</li> <li>f. A summary of the lesson with provision for re-teaching facts or skills when necessary.</li> </ul>
<p>10. In the laboratory and shop, do I limit talking to a minimum so that the students can get to work?                  Good instructors recognize:</p> <ul style="list-style-type: none"> <li>a. Valuable time is lost by too much explanation. ( ) (3)</li> <li>b. Experience in teaching, a study of the students, and an intelligent use of questions help a good instructor recognize when he should stop talking.</li> </ul>
<p>11. Do I keep my classroom ship shape at all times?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Insist upon an orderly arrangement of chairs, tables, and equipment. ( ) (2)</li> <li>b. Insist that all trash be put in receptacles provided for this purpose, so that at the end of the period working areas are ready for the next class.</li> </ul>
<p>12. Do I avoid wasting time, keeping every student occupied with constructive work?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Avoid "busy work" for its own sake. ( ) (3)</li> <li>b. Avoid aimless repetition.</li> <li>c. Have a constructive assignment for every student at all times.</li> </ul>
<p>13. Do I keep my students at work until the end of the period?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Prevent "horse play." ( ) (2)</li> <li>b. Have students who complete their work ahead of schedule either help others or take another assignment.</li> </ul>
<p>14. Am I human yet dignified?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Find out what is wrong when they do not get along well with their students. ( ) (5)</li> <li>b. Do not need to remain aloof on the principle that "familiarity breeds contempt."</li> <li>c. Dispense with unnecessary formality.</li> </ul>

SELF-EVALUATION CHECKLIST FOR INSTRUCTORS

<p>15. Do I prepare teaching aids before class time?                  In order to make the best use of instruction time, good instructors:</p> <ul style="list-style-type: none"> <li>a. Draw neat chalkboard/VAP diagrams beforehand. ( ) (3)</li> <li>b. Have appropriate training aids ready for use.</li> <li>c. Have necessary bulletins, text, etc. in the classroom.</li> </ul>
<p>16. Do I get the fullest possible use out of training aids?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Know when to use training aids. ( ) (4)</li> <li>b. Improvise training aids whenever necessary.</li> <li>c. Make a careful study of a training aid before presenting it.</li> </ul>
<p>17. Do I create learning situations?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Know that a student must be trained to think about what he has learned. ( ) (5)</li> <li>b. Stimulate group discussions and employ questions freely.</li> <li>c. Organize the instruction, as much as possible, in the form of problems.</li> </ul>
<p>18. Do I stress practical applications?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Recognize that all learning must be applied. ( ) (3)</li> <li>b. Give examples of uses to which information can be put.</li> </ul>
<p>19. Do I let students "learn by doing"?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Realize that lectures and demonstrations have their place, but that students learn only after practice. ( ) (10)</li> <li>b. Limit lectures and demonstrations so as to give their students time to "learn by doing."</li> </ul>
<p>20. Does every student know what it is to be accomplished each period?                  Good instructors:</p> <ul style="list-style-type: none"> <li>a. Find that they get the best response when they acquaint their classes with the objective for each lesson in advance. ( ) (3)</li> </ul>
<p>21. Do I observe sound principles of learning?                  Good instructors recognize that:</p> <ul style="list-style-type: none"> <li>a. It is desirable to move from the simple to the more complex, from the known to the unknown. ( ) (3)</li> <li>b. They are working first with people, secondarily with subject matter.</li> <li>c. Students must be motivated.</li> <li>d. Frequent review is necessary to increase retention.</li> </ul>
<p>22. Am I making every effort to meet the needs of individuals?                  Good instructors recognize that:</p> <ul style="list-style-type: none"> <li>a. Their students differ in interests, needs, abilities, and experience. Consequently, they make every effort to adjust their instruction to the individual. ( ) (7)</li> </ul>

SELF-EVALUATION CHECKLIST FOR INSTRUCTORS

<p>23. Do I summarize at the end of each period?</p>	<p>Good instructors summarize by:</p>	( )	(4)
<p>a. Listing main points on the chalkboard/VAP.</p>			
<p>b. Questioning students orally.</p>			
<p>c. Conducting a short written objective test.</p>			
<p>24. Do I use the most effective type of examination?</p>	<p>Good instructors summarize by:</p>	( )	(4)
<p>a. Ensuring that criterion testing principles are employed.</p>			
<p>b. Ensuring that each student thoroughly understands specific instructions.</p>			
<p>c. Ensuring that testing conditions remain constant for each student.</p>			
<p>25. Do I make full use of test results?</p>	<p>Good instructors recognize that tests:</p>	( )	(5)
<p>a. Help students review and organize subject matter.</p>			
<p>b. Help determine knowledge of the subject.</p>			
<p>c. Help students determine progress and standing.</p>			
<p>d. Help instructors find weak points in their teaching.</p>			
<p>Total Score</p>		<p>( )</p>	<p>(100)</p>

JOB SHEET 3-5-1

PERFORMANCE OF THE LESSON METHOD OF INSTRUCTION

A. INTRODUCTION

This job sheet is intended to aid you in becoming proficient in presenting material for a lesson method topic.

B. EQUIPMENT

None

C. REFERENCES

None

D. SAFETY PRECAUTIONS

None

E. JOB STEPS

Step 1. Select a topic for a 15-minute knowledge lesson using a chalkboard/Visual Aid Panel (VAP) presentation. Remember that the topic must be suitable for the level of the class being taught. You cannot pretend they have experience or knowledge to bring them up to a level that you want to teach.

Instructor's Initials \_\_\_\_\_

Step 2. Personalize your lesson plan.

- a. Write in the technical data, information, and/or notes that you will use to accomplish a professional job of instruction. Clearly explain technical and unfamiliar terms. Use examples/analogies to clarify complex areas of your lesson. Each main discussion point must be personalized.
- b. Add your oral questions to your lesson as instructor personalization. This will allow you to encourage and achieve maximum class participation. Use a minimum of five questions in the presentation element of your lesson.

Step 3. For this Performance Exercise (PE), you are restricted to chalkboard/VAP drawings. Properly plan and design your drawings in a manner that allows you to build your lesson on the chalkboard/VAP as your lesson progresses. (Notes and lists on the board are NOT considered drawings.) Ensure that drawings are titled. Labels must be used during the presentation. A staff instructor will preview your drawings as part of the personalization lab signoff.

Instructor's Initials \_\_\_\_\_

Step 4. Practice your delivery.

- a. Practice with other students in small groups. This will help you to determine your strong and weak areas.
- b. Keep in mind that you are practicing to polish your delivery prior to your performance exam. You will be evaluated in the following areas:
  - (1) Introduction
  - (2) Presentation
  - (3) Personal characteristics
  - (4) Demonstration steps
  - (5) Overall use of the lesson using chalkboard strategy

Step 4. Evaluate another student during the practice step. Each student will evaluate one other student and be evaluated by another student a minimum of one time during the practice session. Follow the steps for conducting an evaluation as contained in Diagram Sheet 3-4-2.

Instructor's Initials \_\_\_\_\_

Step 5. Submit a smooth lesson plan to the instructor.

Instructor's Initials \_\_\_\_\_

Step 6. Deliver your presentation.

- a. The presentation must include the teaching of whatever knowledge is necessary for the proper understanding of the lesson, such as safety factors, background information, nomenclature, etc. The elements required for this PE associated with the demonstration strategy are:
  - (1) Introduction. The recommended time for an effective introduction is 3-5 minutes.
    - (a) You will cover all areas of the introduction: establish friendly working relations, provide lesson learning objectives, and create interest.
    - (b) You are teaching a group of mixed ratings and backgrounds. Strive for a forceful and motivating introduction.
  - (2) Presentation. The recommended time for an effective presentation is 6-8 minutes.
    - (a) You will demonstrate the ability to prepare your subject matter in a discussion point breakdown that is logical and complete.
    - (b) Each of your enabling objectives must be supported. Material not covered by objectives cannot be taught.
    - (c) You must use the chalkboard/VAP effectively to develop the lesson as it progresses.
    - (d) You must also use effective oral questions and questioning techniques to maintain good class participation. Oral questions must be asked throughout the lesson.

- (3) Review and summary. The recommended time for the review and summary is 3-4 minutes.
  - (a) Summarize the subject matter. Do not re-teach the entire lesson.
  - (b) Use the chalkboard/VAP as appropriate to summarize the lesson.
  - (c) Ask questions of the class to check for understanding of the lesson topic material.
  - (d) If students are unable to answer the questions, clarify areas of misunderstanding.
- (4) Assignment. There is no assignment required, so it is unnecessary to mention this to the students.

Step 7. The evaluator will critique your presentation using a checklist as shown in Diagram Sheet 3-4-2.

#### F. SELF-TEST QUESTIONS

None

INFORMATION SHEET 3-6-1  
INSTRUCTIONAL TECHNIQUES

A. INTRODUCTION

This information sheet will provide you with the applicable references and material required to gain an understanding of instructional techniques.

B. REFERENCES

1. Navy Instructor Manual, NAVEDTRA 134
2. Instructional Systems Development/Systems Approach to Training and Education, MIL-HDBK-29162-2 Series

C. INFORMATION

1. Preparing the Environment

- a. Various instructional methods are listed below. In choosing the instructional method(s) for teaching a particular knowledge, skill, or attitude you should consider the type of learning. Student differences and availability of time and resources should determine which alternative is most appropriate.

- 1) Lecture - A formal or semiformal oral presentation of information by a single individual; facts, concepts, problems, rules, or principles presented orally either directly (as by classroom instructor) or indirectly (as by tape recorder, film, or TV).
- 2) Demonstration - Presentation or portrayal of a sequence of events to show a procedure, technique, or operation; frequently combines an oral explanation with the operation or handling of systems, equipment, or material. May be presented directly or indirectly.
- 3) Exhibit - A visual or print display used to present information; for example, actual equipment, models, mockups, graphic materials, displays, chalkboard, or projected images.
- 4) Indirect discourse - Verbal interaction among two or more individuals that is heard by the student; may be a dramatization, such as role-playing, or a dialogue between panel members, or a teaching interview (a question and answer session between instructor and visiting expert).
- 5) Assigned reading - Printed materials such as books, periodicals, manuals, or handouts. Reading may be course- or instructor-assigned.

- b. The instructional method of prime interest in this topic is "demonstration." Various other methods exist, but are beyond the scope of this topic.

2. Demonstration - The basic and most often used method of instruction for teaching skill-type subjects is the demonstration method. It covers all of the steps students need to learn a skill in an effective learning sequence. This method always includes a demonstration step and a performance step and allows you to use other steps as needed.

3. Demonstration Guidelines and Steps

- a. Related to every skill, mental or physical, is a body of background knowledge students must know to perform the skill properly. You can best teach some kinds of background knowledge in a standard classroom with adequate provisions for comfortable seating and for the display of training aids. You must present other kinds of background knowledge by actual demonstrations conducted in laboratories. Things to consider when planning a demonstration:
  - 1) Tools, materials, and equipment
  - 2) Performance standards
  
- b. Since procedures are always performed the same way on the job, only one example of how the procedure is applied is required. A demonstration is used as a concrete example of how a procedure should be performed and includes explanations of difficult steps.
  
- c. Procedures may be performed live by the instructor, presented in audiovisual form, or appear in a workbook. Guidelines for developing adequate demonstrations are as follows.
  - 1) Begin with a description of the specific situation in which the procedure will be demonstrated. Include all necessary tools and equipment.
  - 2) Cover all steps in the order presented. Point out and explain common errors.
  - 3) Indicate all steps requiring decisions and show the response for each decision. Although most procedures involve a set of steps, all of which are performed the same way every time, some procedures may require decision steps within the procedure. Draw the student's attention to these steps. This can be done by using the "if ..., then ..." format.
  - 4) Exclude all nonessential information from the demonstration.
  
- d. To present background knowledge and develop proper attitudes, vary your use of the learning techniques discussed previously. Use the following techniques when presenting an actual demonstration.
  - 1) Position the students and training aids properly. (If you direct the students to gather around a worktable or a training aid, make sure every student has an unobstructed view.)
  - 2) Show and explain the operations.
  - 3) Perform the operations in step-by-step order.
  - 4) Whenever possible, present the telling and doing simultaneously.
  - 5) Do not hurry; you will not normally emphasize speed in performing operations or in moving from one operation to another in the demonstration step.
  - 6) Ensure that the students understand the first step before you proceed to the second, and so on.
  - 7) Repeat difficult operations.
  - 8) Pause briefly after each operation to observe student reaction and to check student comprehension.

- 9) Observe safety precautions. (Rigging a safety line, donning a safety mask, or tagging an electric cable may take a few more seconds, but you have not wasted the time. Instead, you have impressed the students with the importance of exercising extreme care in dealing with potentially dangerous equipment.)
- 10) Give proper attention to terminology.
- 11) Call each part of a training aid by its proper name each time you call attention to it. (Getting students to retain the correct nomenclature requires more than just mentioning the name.)
- 12) The following suggestions should prove helpful.
  - a) List the names of parts.
  - b) Refer students to any available chart that shows the parts and names of parts.
  - c) Conduct a terminology drill on the parts of the training aid while the aid is assembled or disassembled, as appropriate.
  - d) Check student comprehension carefully. Ask questions during the demonstration step that require the students to recall nomenclature, procedural steps, underlying principles, safety precautions, etc.
  - e) Watch the class for reactions indicating lack of attention, confusion, or doubt, but do not depend solely upon visual observations.
  - f) When teaching skills, such as donning an Oxygen Breathing Apparatus (OBA) in which a distinction between right and left is important, ask an assistant instructor or a well-coached student to help you. Ask the assistant to stand so that the class may see what he or she is doing. Then direct the assistant in performing the activity while you observe the reaction of the students.
  - g) Remember the law of primacy when performing the demonstration step. Always proceed from simple to complex in a logical sequence. Show the correct way to perform the steps the first time you demonstrate them. Along with teaching a skill, develop proper attitudes, such as the desire to perform safely, and the desire to exercise economy of time and effort.

4. Repetition Steps

- a. When using the demonstration method, you will always provide a demonstration step and a performance step. Generally, you will include one or more repetition steps between the demonstration step and the performance step.
- b. In deciding how many and what kinds of repetition steps you should include, consider several elements, the most important being the complexity of the skill. As a general rule, the more complex the skill, the greater the need for repetition steps. Also, consider the nature of the skill. For example, some skills involve visual signaling in which speed is important. Other skills may involve ease of manipulation, conservation of materials, and safety.
- c. Always consider the ability of the students to acquire the skill and the amount of time available for training. Four types of repetition steps used with good results in schools are described in the following paragraphs.

5. Instructor Repetition Step:

- a. When using this step, repeat the job without noticeable interruptions, restating the procedure and the important safety factors as you perform the steps. This step has two important purposes: to show continuity (how the procedural steps follow each other under actual operating conditions), and to set standards of ease, speed, and accuracy. Related techniques of instruction are as follows.
  - 1) Introduce the step properly. Motivate the students to pay close attention by explaining the nature of the step and by stressing the primary and secondary values.
  - 2) Perform the job with the proper degree of ease, speed, and accuracy. Streamline your oral explanations to the point that they do not hinder your performance. The proper degree of speed is the standard speed you expect the majority of students to attain by the end of the scheduled practice period. A lower standard may fail to challenge the average and fast learners; a higher standard may cause many students to feel the goal is impossible to reach.
  - 3) Avoid any activity that might break the continuity of your performance. For example, discussion or questions during this step may distract you as well as the students. However, give students an opportunity to ask questions at the conclusion of the instructor repetition step. You may need to include more than one instructor repetition step.

6. Student Repetition Step

- a. In the student repetition step, select a student to repeat the job, restating the procedure and the important safety factors as the student performs the steps. This step will motivate the students by proving that they can do the job with the instruction given. It will show you those areas of instruction you need to strengthen.
- b. One of the advantages of this step over an instructor repetition step is the great amount of student interest generated when a student, rather than the instructor, performs the job. The other students will put themselves in the selected students place and perform the job mentally. Related techniques of instruction are as follows.
  - 1) Introduce the step properly. Motivate the students to pay close attention by explaining the nature of the step and what the selected student must do. In teaching a mental skill involving computation, set up the problem as part of the introduction. Always use new values (not those used in your demonstration step) in the problem the student will solve. Call upon a student from the average learner group to perform the job.
  - 2) Give the selected student adequate directions. These directions should include where to stand, what to do, and how to hold and manipulate training aids. Direct the student in the use of any other techniques that would benefit the class.
  - 3) Correct errors, but do so in a constructive fashion. Remember that the selected student is under some degree of mental pressure. Give the student an opportunity to correct his or her own errors before calling upon other students to help. Avoid the use of mechanical guidance.
  - 4) When the student has completed the job, provide positive reinforcement and feedback.

7. Group Performance Repetition Step

- a. When using the group performance repetition step, repeat the job slowly, one step at a time, while the students observe and imitate you, one step at a time. Use this step for teaching simple and non-dangerous physical skills, such as knot tying, sending semaphore, and performing the manual of arms.

- b. To use this step, you must be able to readily see the student’s movements and they must be able to see yours. Also use it to teach mental skills, such as solving mathematical or maneuvering problems or filling in forms. The following are related techniques of instruction.
  - 1) Position the students properly. The position should provide an unobstructed line of vision both for you and for students.
  - 2) Introduce the step properly. Orally cover the general plan. Stress the need for close observation and exact imitation, the need for the students to keep in step with you and not to get ahead of you, and the need for students to hold and manipulate training aids (if any are used), so that you can easily see each student's work.
  - 3) Perform the job properly, one step at a time. For the first repetition, explain the movements or operations as you perform them. For subsequent repetitions, you may use briefer directions. Use the techniques discussed in the section on the demonstration step.
  - 4) Correct errors. Call attention to errors, demonstrate the correct movements, and then require the students to repeat the movements correctly. Remember that this is a repetition step only. It does not take the place of the performance step, during which students practice individually until they have attained the required standards of proficiency.

8. Coach-Pupil Repetition Step

- a. The coach-pupil repetition step requires you to divide students into small groups. If a group consists of two students, one (as the pupil) performs the job while the other (as the coach) checks the pupil's performance. After the pupil has acquired a certain degree of proficiency, they reverse positions. This step is particularly useful in imparting skills in which performance involves potential danger to personnel or equipment, for example, firing small arms or troubleshooting electronic equipment. Use a job sheet with this repetition step. The following are related techniques of instruction.
  - 1) Introduce the step properly. Assemble the students in one group, and give all necessary preliminary instructions. Include the location of each coach and pupil group in the training area, the time allowed each pupil to practice, and the specific duties of the coach and pupil.
  - 2) Position the small groups properly. Make a preliminary check to ensure that all groups are in their assigned positions and that the coach and pupil relationship is being observed.
  - 3) Maintain adequate supervision. Although theoretically the coaches are acting in the capacity of assistant instructors, they are still students. Maintain close supervision over all groups to ensure that the students are observing safety rules and regulations and are making good use of the available time.

9. Performance Step

- a. The performance step is the step in which the students practice under supervision until they have attained the required proficiency. During this step, the students apply what they have previously learned as a result of the preceding demonstrations. Consequently, the term *application* or *supervised application* may be used to identify the activity in which the students are engaged.
- b. The performance step involves many kinds of application. Some skills (knot tying, welding, machinery repair) result in a finished product. The application of such skills consists of students practicing a procedure until they reach the required standards of ease and precision. Normally, speed is not important. Other skills (typing, visual signaling, radio code receiving) involve speed and accuracy. The application of these skills consists of students practicing until they reach the required proficiency in speed and accuracy.

- c. Broadly speaking, the performance step involves several instructor duties. You must brief the students on the application activity, organize the students into working groups, supervise the activity, reteach as necessary, evaluate the results, and keep records. The following instructional techniques elaborate on these duties.
  - 1) Give the students a clear understanding of the work required of them. That includes definite answers to questions of what they must do and when, where, how, and why they will perform the required work.
  - 2) WHAT must be made, done, or practiced? Tell the students exactly what they must do. For complex skills, supplement oral instructions with instruction sheets, job sheets for physical skills, and problem sheets for mental skills.
  - 3) WHEN should the required work be done? Give specific periods in the class schedule, a specified time limit, or a specific date for work completion.
  - 4) WHERE the required work should be done? Tell students whether it is to be done in classroom, workshop, laboratory, or operating space.
  - 5) HOW should the required work be done? Explain the procedures to follow as well as the style of work, degree of neatness, or degree of proficiency required.
  - 6) WHY should the required work be done? Explain how the work will affect the mission of their unit or organization as well as their future career.
  - 7) Provide adequate supervision. Make sure that the students follow the correct procedural steps, observe safety precautions, observe good housekeeping rules, take advantage of available time, and develop good work habits.
  - 8) Reinstruct the students when necessary. Teach students to be self-reliant, but if a student gets stuck at some point, help the student get started on the right path. If several students appear to be having the same difficulty, call them aside and re-instruct them as a group.
  - 9) Evaluate the results. Determine whether or not the students have met the required performance criteria. Provide feedback to students regarding their performance in order to reinforce desired behaviors and correct areas that need improvement.
  - 10) Maintain required progress records. Keep a record of the day-to-day progress of students, or give performance tests at periodic intervals and record the results. Even when the curriculum does not specify graded applications, keep some progress records.
- d. Do not overlook the law of effect. Students naturally want to succeed, to know their progress, and to be recognized by those in authority over them. Encourage wholesome competition, and frequently advise the students of their progress.

JOB SHEET 3-7-1

DEMONSTRATION METHOD OF INSTRUCTION PERFORMANCE EXERCISE

A. INTRODUCTION

This job sheet is intended to aid you in becoming proficient in presenting material for a skill demonstration topic.

B. EQUIPMENT

None

C. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

D. SAFETY PRECAUTIONS

As required by the demonstration topic.

E. JOB STEPS

Step 1. Select a topic for a 25-minute demonstration lesson. Remember that the topic must be suitable for the level of the class being taught. You cannot pretend they have experience or knowledge to bring them up to a level that you want to teach.

Instructor's Initials \_\_\_\_\_

Step 2. Personalize your lesson plan.

- a. Write in the technical data, information, and/or notes that you will use to accomplish a professional job of instruction. Clearly explain technical and unfamiliar terms. Use examples/analogies to clarify complex areas of your lesson. Each main discussion point must be personalized.
- b. Add your oral questions to your lesson as instructor personalization. This will allow you to encourage and achieve maximum class participation. You will use a minimum of five questions in the presentation element of your lesson.

Instructor's Initials \_\_\_\_\_

Step 3. Practice your delivery.

- a. Practice with other students in small groups.
- b. Keep in mind that you are practicing to polish your delivery prior to your performance exam. You will be evaluated in the following areas.
  - (1) Introduction
  - (2) Presentation
  - (3) Personal characteristics

- (4) Demonstration steps
- (5) Overall use of the demonstration strategy

Instructor's Initials \_\_\_\_\_

Step 4. Evaluate another student during the practice step. Each student will evaluate one other student and be evaluated by another student a minimum of one time during the practice session. Follow the steps for conducting an evaluation as contained in Diagram Sheet 3-4-2.

Instructor's Initials \_\_\_\_\_

Step 5. Submit a smooth lesson plan to the instructor.

Instructor's Initials \_\_\_\_\_

Step 6. Deliver your presentation.

a. The presentation must include the teaching of whatever knowledge is necessary for the proper understanding of the lesson, such as safety factors, background information, nomenclature, etc. The elements required for this Performance Exercise (PE) associated with the demonstration strategy are:

- (1) Introduction. The recommended time for an effective introduction is 3-5 minutes.
  - (a) You will cover all areas of the introduction: establish friendly working relations, provide lesson learning objectives, and create interest.
  - (b) You are teaching a group of mixed ratings and backgrounds. Strive for a forceful and motivating introduction.
- (2) Presentation
  - (a) Knowledge area: 3-5 minutes
  - (b) Demonstration step: 8-13 minutes
  - (c) Student repetition step: 5-7 minutes
  - (d) You will demonstrate the ability to deliver your subject matter in a discussion point breakdown that is logical and complete.
  - (e) Each of your learning objectives must be supported.
  - (f) You may use the chalkboard/Visual Aid Panel (VAP) to aid the development of the lesson.
  - (g) You must also use effective oral questions and questioning techniques to maintain good class participation. Oral questions must be asked throughout the lesson.

- (3) Review and summary
  - (a) The recommended time for the review and summary is 3-5 minutes.
  - (b) Ask questions of the class to check for understanding of the lesson topic material.
  - (c) If the students are unable to answer the questions, clarify any areas of misunderstanding.
- (4) Assignment. There is no assignment required, so it is unnecessary to mention this to the students.

Step 7. The evaluator will critique your presentation using the checklist as shown in Diagram Sheet 3-4-2.

F. SELF-TEST QUESTIONS

None

INFORMATION SHEET 4-1-1

PERFORMANCE TESTS

A. INTRODUCTION

This information sheet is designed to provide you with an understanding of performance tests.

B. REFERENCES

1. Task Based Curriculum Development Manual, NAVEDTRA 130 Series
2. Military Standard, Military Training Programs, MIL-STD 1379D
3. Navy School Management Manual, NAVEDTRA 135 Series

C. INFORMATION

1. Types of Performance Tests. A performance test is one that the student actually performs the skill required by the Enabling Objective (EO) or Learning Objective (LO). Performance tests are used to measure knowledge of a subject as well as the ability to perform the skill. Knowledge at each of the learning levels (e.g., fact, rules, procedures, discriminations, and problem-solving) may be required in order to successfully perform the skill. Perception, gross motor, continuous movement, and readiness may all be required to achieve performance at the mechanism level. Understanding each level for both knowledge and skill type is required for precise evaluation of a performance and pin-pointing error.
  - a. Product Performance - An observable result; something you can see, hear, or touch. A solder joint is a product because it can be seen and touched. A completed form is a product because it can be seen.
    - 1) You can use product testing when the objective specifies a product. The product can be measured as to the presence or absence of certain characteristics, e.g., does it look right, have the right texture, sound the way that it should?
    - 2) Procedural steps may be performed in a different order or sequence without affecting the product.
    - 3) Use the product test type when the objective contains specific standards that the product must meet.
  - b. Process Performance - Consists of step-by-step procedures required to produce a product or complete a task.
    - 1) Process testing is appropriate when the product and the process are the same things such as teaching a lesson.
    - 2) There is a product, but safety, high cost, or other constraints prevent the product from being measured.
    - 3) It is necessary to examine each step of the process in order to diagnose the reason for performance failure.
    - 4) There may be a product, but there are critical points in the process that must be performed correctly because of the possibility of damage to personnel or equipment.
    - 5) The objective specifies a sequence of steps that can be observed.
    - 6) The process does not result in a product.
    - 7) Your interest is in the actual behavior itself.
    - 8) Use the process test type when the objective has specific standards that must be adhered to, including safety procedures, time standards, and requirements that the steps be performed in an exact order.

- c. Combination is concerned with both an observable result and the step-by-step process leading to the result.
  - 1) Combination testing is appropriate when both product and process are equally important to the final result, or it is required so as to avoid hazards to personnel or equipment.
  - 2) Safety considerations almost always dictate that the operation or maintenance of a device, i.e., the process, be done in a certain way; however, the outcome, i.e., the product, is just as important to successful job performance.
  - 3) For the combination test type, either the process or product can be measured. Select the one that is the easiest to measure using the following guidelines.
    - a) Time or number of personnel required to conduct the performance test.
    - b) Can the product be tested without examining the process?
    - c) Can errors be made early, which might be costly or dangerous?

2. Making a Performance Test

- a. When designing a performance test, you will have to decide what skills to test by selecting EOs or LOs, how to test for these skills, and when during training you should test for this knowledge.
- b. You will have to decide the criticality of each performance EO or LO so that you can choose which performance objectives to measure through testing and which should be measured by practical work.
- c. Separate the critical EOs or LOs according to how important the skill is in relation to its application to the actual performance into categories, such as:
  - 1) High - Skill is used during job performance. As a rule of thumb, those performance objectives judged to rank in the upper one-third of criticality should be tested by a Progress/Comprehensive performance test. This is formal testing.
  - 2) Moderate - Skill influences job performance. Performance objectives judged to rank in the middle-to-lower one-third of criticality should be tested by having the trainees complete job sheets in a laboratory as part of the application section of a lesson topic. This is informal testing in that the performance evaluation lacks the controls of formal testing.
  - 3) Low - Skill has little influence on job performance. Performance objectives judged to rank in the middle-to-lower one-third of criticality may also need to be tested to show the logic of the learning process. An informal quiz or assigning problem sheets for evaluation can accomplish this.
- d. Other criticality factors to consider are safety to personnel/equipment (critical tasks are those that are considered high risk or dangerous) and frequency of performance (the more often a task is performed, the more critical it becomes).
- e. Components of the performance test are job sheets, job sheet evaluation instruments, and the Performance Test Administrators Guide.

3. Job Sheets

- a. Job sheets must contain problems that are consistent with those used during the course.
- b. They may not be used to introduce unfamiliar information.
- c. Each job sheet must require the trainee to use the technical documentation just as he will upon reaching his ultimate job assignment.
- d. Amplifying information may be incorporated into the job sheet to compensate for inadequate/incomplete technical documentation.
- e. Each job sheet must be directly related to a skill EO or TO.
- f. Job sheets also provide a means for the trainee to apply knowledge obtained during instruction and may, therefore, be used in place of a knowledge test for the information.
- g. Each job sheet will support one of the following test types: product, process, or product and process combined.

4. Evaluation Instruments

- a. Evaluation instruments may include a checklist and/or a rating scale for use in evaluating the correctness of the product or performance of the process, and a grading criteria (scoring guide) to be used in determining a grade for the product or process.
- b. When making a checklist/rating scale/grading criteria, they should include, as appropriate:
  - 1) A list of steps to be evaluated (this information comes from the related job sheet).
  - 2) When impossible to evaluate each step separately, review the job sheet and, where possible, group individual steps into like areas and evaluate them as one step.
  - 3) Numbered steps or groups.
  - 4) A brief explanation of the evaluation procedures.
  - 5) Indication of the types of instruments.
  - 6) Indication of the critical steps.
  - 7) Provide space for comments or description of error(s).
  - 8) Include space for required administrative information, e.g., name, social security number, class, beginning and end time, score, etc.

5. Guidelines

- a. Construct one checklist and/or rating scale and the grading criteria for each step or group of steps.
- b. Product Performance Test:
  - 1) When a product trait is either present or absent and can be measured by checking either yes or no, a checklist may be the best to use.
  - 2) When the product quality can vary from high to low, adequate to inadequate, good to bad, or some other range, a rating scale may be best to use.

- 3) Whether a checklist or rating scale is chosen will depend upon the particular situation and the developer's discretion. Some situations may require a checklist; others may require a rating scale. Sometimes both might seem appropriate.
- c. Process Performance Test
  - 1) When a step is either done or not done and can be measured by checking yes or no, it is best to use a checklist.
  - 2) When performance of a step can vary in quality from high to low, best to worse, good to bad, or some other range, a rating scale may be the best to use.
  - 3) A rating scale may also be the best to use when a step has no more than two possible outcomes.
- 6. Grading Criteria (Scoring Guide)
  - a. This may be the most critical step in performance test development because it ensures standardized grading.
  - b. The scoring guide contains a description of how each step or group of steps is graded.
  - c. When using knowledge test items in a performance test, indicate the correct response and how many points will be deducted for an incorrect response.
  - d. When knowledge test items are included as part of a performance test, they will not constitute a major portion of the trainee's overall grade.
  - e. For process testing, describe in detail what constitutes satisfactory and unsatisfactory performance to include:
    - 1) Description of the correct procedure.
    - 2) Number of points each step or group of steps is worth.
    - 3) Number of points that will be deducted for specific errors.
    - 4) Procedural steps which, if performed improperly, cause trainee failure and test stoppage.
  - f. For product testing, describe in detail what constitutes satisfactory and unsatisfactory performance to include:
    - 1) Point value assigned to each characteristic.
    - 2) Number of points to be deducted for specific errors.
    - 3) Number of trials allowed for each product.
    - 4) Any omitted characteristic that is cause for failure.
  - g. It is important to define checklist steps and rating scale decisions as precisely as possible. The more precise you can describe the behaviors, the more effective the checklist/rating scale will be. Make the grading criteria for each checklist and rating scale as precise as possible. This helps remove instructor subjectivity from the grading process. The following items should be considered when developing checklists, rating scales, and grading criteria.
    - 1) Compliance with applicable safety precaution
    - 2) Correct operation of equipment after completely assembled

- 3) Physical testing of the finished job
- 4) Time required to completed the job
- 5) Skill in using tools and test equipment

7. Performance Test Administrators Guide

- a. Provides instructions to the administrator to include:
  - 1) A general description of the performance test.
  - 2) Safety precautions.
  - 3) The environment that the performance test will be conducted in.
  - 4) A list of the equipment required per trainee.
  - 5) Special instructions.
- b. Provides the evaluation instruments.
- c. Provides the grading criteria.
- d. Provides instructions to the trainee.

8. Administering a Performance Test

- a. Prepare the testing environment.
- b. Review the performance test Administrators Guide for any special instructions and the guidelines for instructor actions.
- c. Ensure that the required tools, equipment, and materials are available to the trainees.

9. Critique

- a. Grading criteria is specified in the Performance Test Administrators Guide.
- b. Comments will be provided to aid the trainee in improvement.

## INFORMATION SHEET 4-2-1

PROCEDURES FOR EVALUATING AND DIAGNOSING GROUP AND INDIVIDUAL STUDENT PERFORMANCE  
(PART 1)

## A. INTRODUCTION

This information sheet will aid you in evaluating and diagnosing group and individual student performance.

## B. REFERENCES

1. Instructional Technique (1981), Davies, Ivor K., ISBN: 007015502-X
2. Navy Instructor Manual, NAVEDTRA 134

## C. INFORMATION

1. Nature of Evaluation - Evaluation is concerned with people. It is concerned with the progress that people are making toward mastery. Are the learning objectives being realized? If not, why not? How can problems be rectified before they become serious? Knowledge, skill, and attitudes are involved. Evaluation is concerned with keeping people on target.
  - a. Purpose - Evaluation involves more than one goal. All are interrelated in one way or another. Evaluation helps both learners and instructor.
    - Monitor, on a continuous basis, the progress that learners are making toward mastery.
    - Identify strengths and weaknesses so that help can be given in a timely manner.
    - Identify and reward special ability and efforts beyond a mastery level.
    - Determine when mastery has been achieved.Evaluation also serves a supplementary purpose. It yields information that can be used to make predictions about the future performance of the students.
  - b. Knowledge of Results - Knowledge of results is an important principle of learning. Evaluation is the primary means by which such information can be fed back to the students.
2. Information for Evaluation - The sources of information for evaluation purposes is limited only by the imagination of the people involved. Generally speaking, useful information can be obtained from four sources.
  - a. Mastery Learning - Objectives form a basis for making an evaluation of what the students have learned. The goal, by and large, is for them to achieve at least 90 percent of the objectives. One common way of measuring learning is to use a test or examination. It can be written, oral, and knowledge- or skill-based. Sometimes, such a test is given before instruction, and again after instruction is complete. Such measures however are indirect. They may not reflect actual learning. As long as care is taken in the design of tests and examinations, valuable information can be obtained.
  - b. Job Performance - One of the most effective ways of measuring the students' performance is to look at the way they behave in a work situation. Sometimes this is done on the job site; sometimes under simulated conditions. The important thing about this type of measurement is that it is concerned with real world matters. Students who know they are being evaluated behave somewhat differently. For this reason, they may use correct safety procedures when they are watched, but ignore them at other times. Measurements of job performance therefore need to be carried out as unobtrusively as possible. Unobtrusive measurement occurs when people do not realize that their performance is being observed. Examples of unobtrusive measures are: post production, mean time to repair, availability records, waste materials, damage to equipment, etc.

- c. Organizational Effectiveness - Important information can be also be obtained by looking at learning from the perspective of the organization or institution. Training occurs because there is a problem. Errors in job performance are either being made or are likely to be made unless some action is taken. The contribution of learning to increase organizational effectiveness is an important one. If it is felt that if instruction has not made a meaningful contribution, management commitment to training and education programs will be quickly eroded. Success comes from meeting a need, and then demonstrating that it has been met.
  
- d. Learner and Supervisor Reactions - Much of the information that is collected about mastery, job performance, and increased organizational effectiveness is hard data. This means that it is concrete and objective. It is, to a large extent, trustworthy. Information, on the other hand, that is obtained from learners is somewhat untrustworthy. This is exactly the problem with any opinion poll. Unless care is taken with the collection and interpretation of the data, the information will be misleading. Nevertheless, such information has a role. If interviews and questionnaires are used, validity is obtained. Students can be asked what they learned and what they enjoyed about the instruction. Supervisors, on the other hand, can be asked whether it was worthwhile and relevant. Information can be collected about learner's reaction to:
  - Content of the instruction
  - Instructional methods employed
  - Worth of the objectives
  - Efficiency of the administration
  - Comfort of the instructional environment

Continuous evaluation, it will be remembered, is more useful than evaluation carried out only at the end of the course. For this reason, reactions should be collected at frequent intervals.

- 3. Ethical Concerns about Evaluation - Evaluation involves making decisions about people. It is essential, therefore, that any information used be the best that can be obtained. Furthermore, the information must be obtained in an ethical manner. Students must not be embarrassed or frightened. Their interests must be protected. In order to protect the rights of learners, certain steps should be taken by instructors.
  - a. Right to Privacy - Trainees have a right to keep certain information private. They should only be asked for essential information. Don't publicize the results of an evaluation. Don't use other students to assess someone. Don't ask publicly who did well and who did badly. Don't ask who got something right and who got something wrong.
  - b. Right to Confidentiality - Trainees have a right to expect that information will be kept confidential. Keep evaluation information in a secure place. Be careful about giving the information to the other people.
  - c. Right to Expect Responsible Evaluation - Trainees have a right to expect that instructors will behave in a responsible manner. Learners should not be hurt as a result of participating in an evaluation procedure. It is also essential that evaluation honestly reflect a person's mastery of the task or job. Ethical considerations dictate that evaluations be reliable and valid indicators of a learner's achievement.
    - 1) Reliability - Evaluation should be reliable. This means that the information on which the evaluation is based should be trustworthy. Data obtained from a casual conversation with a student, for instance, is unlikely to be reliable. Information gathered from a well-prepared interview, or a planned meeting with a supervisor, is likely to be more accurate.

Since it would be irresponsible to use unreliable information, instructors are obligated to take whatever steps are necessary to ensure that evaluation is reliable. It is important to remove all error. The results should be consistent and trustworthy. If an evaluation procedure is completely reliable, certain things can be expected. For instance, all students who gain mastery will pass; all students who do not gain mastery will fail. Such perfection, however, is probably unreasonable. However, matters should be so arranged that as few mistakes as possible are made.

There are, in fact, three specific things that can be done to determine whether an evaluation is reliable.

- Repeat the evaluation procedure at least twice with some of the same students.
- Design two parallel versions of the same evaluation procedure. This saves having to give the procedure twice.
- Compare the results from one half of the procedures with the results from the other half.

If the evaluation procedures are clearly written, and if there are specific instruction for their administration, reliability will be increased. There should also be a standard scoring guide to ensure that tasks are scored in the same way for all students.

If some people are assessed twice on the same task, and achieve similar scores, the procedure is probably a reliable one. Sometimes it is possible to design two versions of the same mastery test. Performance on one version can then be compared with performance on the other. If the two sets of results are similar, the procedure is reliable.

A variation of these two procedures is to compare the results from two halves of the same test. For instance, odd number tasks could form one set, and even ones the other. If students performed similarly on both halves of the evaluation procedure, then the method is trustworthy.

- 2) Validity - Validity is the heart of evaluation. Responsible procedures must be valid. It is essential that a procedure measure what it sets out to measure, and nothing else. For example, if a performance test measures someone's ability in interpersonal skills, then the test is valid. If it only measures their ability to talk about the skills, and not to practice them, the test is not valid as far as the job is concerned.

This is one of the reasons for doubting the usefulness, on a large scale, of pen and paper tests and examinations. They tend to be academic and can have little relevance to most work situations. If some kind of certification is involved, then pen and paper tests will be a valid way of gathering information.

Instructors can do their job to ensure that their evaluations are valid. All of them involve job-related information. The three steps are:

- Examine the evaluation procedure, and decide whether it looks acceptable. Remember, inspection is a valid way of making judgments.
- Ask supervisors to look at the evaluation procedure and determine whether it is a complete and accurate measure of job mastery.
- Find some people who are already doing the job successfully. See how they do on the evaluation procedure. If they fail, something is wrong.

A valid evaluation procedure should still be reviewed over the years. Jobs and methods change. If procedures are no longer useful predictors of human performance, their validity is called into doubt. For example, suppose an evaluation procedure measures a person's ability to interview prospective employees.

Any evidence that people who have successfully completed the procedure are not able to do the task to a supervisor's satisfaction calls into doubt the validity of the test. Reliability and validity are different things. A procedure can be reliable, but invalid. Similarly, it can be valid, but unreliable. Responsible evaluation mandates that it be both valid and reliable. Otherwise, it should not be used.

Some legal concerns:

Some instructors are worried by the idea of using tests in formal evaluation procedures. They feel that tests may be illegal. Testing, by and large, is not only legal; it is specifically authorized by statute.

The important thing about any testing procedure is that it must not be designed, intended, or used to discriminate. Accordingly, the following points should be kept in mind:

- The language used in an evaluation procedure should be familiar to the students taking the test. It should be cast to their level.
- Tests should be directly related to the requirements of the job or task. Job analysis and task analysis are necessary sources of information for the content of an evaluation procedure.
- Evaluations should not result in disproportionate number of one group of people being favored at the expense of another.
- Evaluation procedures should be both reliable and valid.

In other words, ethical and responsible evaluation is essential. If evaluation procedures are carefully designed and responsibly used, there is no cause for concern. Validity is essential.

4. Objectives of Evaluation - The objectives of evaluation influence the techniques that are used and the kinds of decisions that can be made. For this reason it is important to distinguish between two different schemes. These are referred to by the terms norm-referenced evaluation and criterion-referenced evaluation. For instructors, there is no more important distinction. Two quite different values are represented.
  - a. Norm-Referenced Evaluation - Most traditional pen and paper examinations are norm-referenced. When an instructor says that Smith was the best student, and Jones the worst, a norm-referenced statement is being made. One person's performance is being compared with another. In order for someone to do well, someone has to do badly.
    - 1) Norm-referenced evaluation is used when there is a need to:
      - Make predictors about a person's future performance.
      - Measure mastery against some known standard.
    - 2) In all cases, people are being compared. What one ends up with is a list of people arranged in a rank order. Someone is first, someone is second...someone is last.
  - b. Criterion- Referenced Evaluation - Criterion-referenced evaluation is not interested in making distinctions between people. Instead of comparing one person against another person, people are compared against a standard. It is nothing more than a measure of mastery learning. Criterion-referenced evaluation is used when there is a need to:
    - 1) Monitor learner performance. This would occur if evaluation was being used to:
      - Motivate and encourage learners.
      - Provide learners with feedback of the progress they are making toward mastery.

- 2) Determine whether mastery has been achieved. This would occur if evaluation was being used to make decisions about:
  - Mastery
  - Attitudes
- c. Norm- and Criterion-Referenced Distributions - Training, for the most part, is oriented toward the present. The basic question is have learners acquired mastery? For this reason, criterion-referenced evaluation is more important than a norm-referenced one. Education, on the other hand, is interested primarily in the future. It is concerned with the acquisition of skills for life rather than for an immediate job role. Thus, the basic question is are learners acquiring the skills for long-term job and personal growth? For this reason, norm-referenced rather than criterion-referenced evaluation is a matter of some importance.
5. Evaluation Procedures - When thinking of the "dos and don'ts" of evaluation, instructors need to give particular attention to the details of three procedures:
  - Standardized Performance Checklists
  - Critical Incident Method
  - Objective Style Tests

These procedures are of special importance when collecting information on mastery learning and job performance. The importance of behaving in a responsible manner has already been stressed. There are a number of things instructors must do when they are ready to start collecting information for evaluation purposes. While some of the information can be collected in an unobtrusive manner, it should not be collected in an underhanded manner. For this reason, instructors should:

- Inform learners when information is going to be collected for evaluation purposes.
  - Inform learners how evaluation will be carried out, and how information will be weighed. Some information will be worth more than other information.
  - Base all evaluation on the objectives that have been identified for the task or job.
  - Decide whether criterion-referenced or norm-referenced evaluation is appropriate.
  - Carry out evaluation in a relaxed rather than a high-pressure manner.
  - Inform learners of the results of evaluation as soon as possible after the procedure is completed. They should also be debriefed and the results explained.
- a. Standardized Performance Checklists - Checklist are used in two types of evaluations:
    - When the task to be assessed involves a sequence of operations. For example, the job involves assembling a component or completing a statistical report.
    - When the task to be assessed involves a systematic analysis of a problem situation. For example, the job involves analyzing equipment breakdowns.

In both circumstances, a checklist sets out the steps that must be followed.

In order to carry out the evaluation, the checklist is obtained by observing a trained person doing the job. It is wise to get a supervisor to make certain that the list accurately shows what should be done. Once the list has been designed, it can be used for both instructional and evaluation purposes. When the evaluation is complete, students are usually given a copy of the completed list. Feedback, under such circumstances, is immediate and to the point.

- b. **Critical Incident Method** - The critical incident method is a short form of the previous method. It involves collecting on-the-job behaviors that supervisors consider to be critical. They might be either good or bad. They are then arranged in the form of a checklist. One great advantage is that they can be used for a wide range of tasks. They do not have to be procedural in nature, nor do they have to involve problem-solving skills. The method is a simple one. It is a very rapid way of assessing learning in either a simulated or real job situation. Since only critical incidents are involved, it focuses on essentials. No attempt is made to include every step or operation.
- c. **Objective Style Tests** - Although pen and paper tests are not as relevant to training as they are to education, some thought needs to be given to them. When they are appropriate, they have advantages over essay type examinations and papers. The main advantages of objective style test and examination are:
  - They are easy and quick to grade.
  - Non-specialist can grade them.
  - They are good at assessing a learner's ability to recognize and recall information.
  - They are more reliable than essay type tests.
  - They are excellent for sampling a whole syllabus in a short amount of time.

Some examples of objective questions:

- True-false questions
- Multiple-choice questions
- Matching item questions
- Rank-order questions
- Completion questions

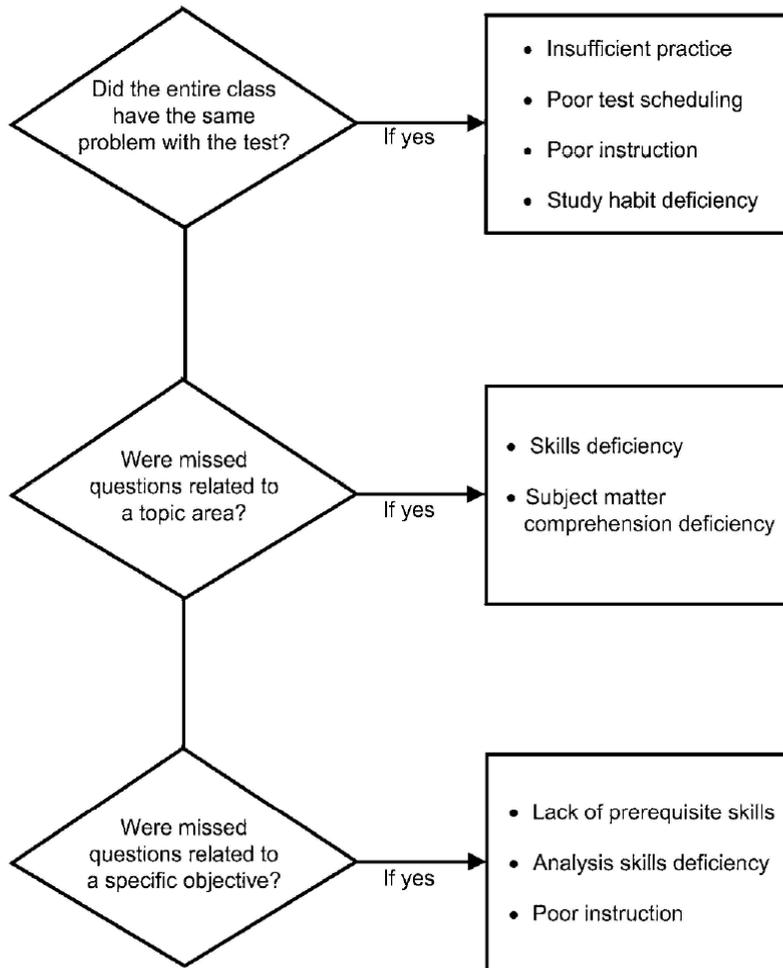
Unfortunately, with the advantages go a number of disadvantages? The most important of them is the question of validity.

- 6. **Using Technology to Aid in Diagnosing Performance:**
  - a. **Computer-Managed Instruction (CMI):**
    - 1) Helps with testing, record keeping, and scheduling.
    - 2) Allows information from tests to be placed into databases.

3) Information can be used to make improvements:

- a) To the tests
- b) To the course
- c) To instructor and student performance

7. Procedures for Diagnosing Performance:



## INFORMATION SHEET 4-2-2

PROCEDURES FOR EVALUATING AND DIAGNOSING GROUP AND INDIVIDUAL STUDENT PERFORMANCE  
(PART 2)

## A. INTRODUCTION

1. This information sheet will aid you in evaluating and diagnosing group and individual student performance.

## B. REFERENCES

1. Navy School Management Manual, NAVEDTRA 135 Series Chapter 3.0

## C. INFORMATION

1. Purposes and Procedures for Evaluating

- a. Student evaluation is a useful tool to check the students' ability to perform. It also allows you to evaluate the students' progress in relation to their potential.
- b. The most common methods of student evaluation are the administration of knowledge and performance tests.
- c. Evaluation will aid you in identifying student deficiencies. Diagnosis of such deficiencies will assist you in taking the correct course of action to assist the student.
- d. In order to diagnose deficiencies, compare the student's grades to other students in the same test area. Note the type of test (knowledge or skill) and check any entry-level scores.
  - 1) The student may have low grades in specific areas.
  - 2) The student may do well on knowledge tests, but poorly on performance tests, or the other way around.
  - 3) The student's grades may be consistently marginal.

2. Student Records

## a. Student Data Record:

- 1) Privacy act statement
- 2) Entry level scores (i.e., ASVAB)
- 3) Civilian experience or work experience related to the training
- 4) Setback history
- 5) Student remediation history
- 6) Student counseling history

## b. Student Performance Record

- 1) A record of all test scores (knowledge and skill)
- 2) A record of all retests scores. (A student can only be assigned the minimum test passing score on a retest.)
- 3) Provides a record of dates counseled

- c. Academic Review Board Record
  - 1) Identifies the student
  - 2) Identifies the course and class number
  - 3) Provides a record of the action recommended by the board
  - 4) Identifies the board members
  - 5) Contains approval/disapproval action
  
- 3. Student Non-Academic Problems
  - a. Personal Problems - Results of physical or emotional upsets. Characteristics of personal problems include:
    - 1) Pattern of request for time off
    - 2) Receiving emergency messages
    - 3) Appearing absent-minded or preoccupied
    - 4) Tired or sleepy appearance
    - 5) Expresses/Displays negative feelings toward subject matter, school, peers, or instructor.
  
  - b. Financial Problems - Caused by lack of funds or an inability to manage money. Characteristics of financial problems include:
    - 1) Past record of seeking financial advice
    - 2) Requests to borrow money
    - 3) Past referrals to disbursing
  
  - c. Substance Abuse - Use of alcohol or drugs to detriment of performance. Characteristics of substance abuse problems include:
    - 1) Unusual flare-ups or outbreaks of temper
    - 2) General changes in overall attitude or manner
    - 3) Deterioration of physical appearance and grooming
    - 4) Wearing of sunglasses at inappropriate times
    - 5) Attempts to appear inconspicuous in manner or appearance
  
- 4. Student Academic Problems
  - a. Study Habit Deficiencies - Lack of an organized/systematic approach to assimilate classroom information. Characteristics of study habit deficiencies include:
    - 1) Extra study time has little effect on performance.
    - 2) Repeated remediation pattern has little effect.
    - 3) Consistently makes incorrect responses on progress checks.

- b. Basic Skills Deficiencies (reading-math deficiencies) - Inability to read and/or perform math computations. Characteristics of basic skills deficiencies include:
    - 1) Low entry scores (i.e., ASVAB)
    - 2) Admitted with low score waiver.
    - 3) Outside reading creates consistent problems.
    - 4) Unable to read and follow directions independently.
  - c. Subject Matter Comprehension Deficiencies - Lack of comprehension of specific course material or skills. Characteristics of subject matter comprehension deficiencies include:
    - 1) Difficulty with subject vocabulary
    - 2) No previous subject area related experience
    - 3) Asks repeated questions that show poor understanding
  - d. Analysis Skills Deficiencies - Lack of understanding relationship to components and cause or effect. Characteristics of analysis skills deficiencies include:
    - 1) Tendency for student to have difficulty meeting objectives requiring organization and application
    - 2) Quite often requires extra lab time to prepare for performance situations
5. Tutoring and Correcting Academic Deficiencies
- a. Study Habits:
    - 1) Time Management - Schedule study time, eliminate distractions, and prepare to study without common work destructors.
    - 2) Systematic Study Approach - Review lesson objectives. Use memory aids.
  - b. Basic Skills (Reading-Math):
    - 1) Refer to remedial reading or math course, if available, or find a peer tutor.
  - c. Subject Matter Comprehension:
    - 1) Look for meaningful cues in context/associations in printed matter.
    - 2) Use strategy, fact, or definition cards.
  - d. Analysis Skills:
    - 1) Six-Step Method for Problem-Solving:
      - a) Symptoms recognition - Ask questions.
      - b) Symptom elaboration - Gather relevant facts.
      - c) List probable faults - Look for causes.
      - d) Localize faulty function - Test.
      - e) Localize faulty component - Isolate.
      - f) Failure analysis - Analyze problem situation.

- e. Sometimes there's an inability to take tests. These steps are suggestions that are appropriate for any student having academic problems.
  - 1) Read the test items thoroughly. Read items first without reading choices to determine exactly what's being asked. Read all choices before making your decision.
  - 2) Answer the questions you are sure that you know.
  - 3) Skip the questions that you are unsure of and continue answering known questions until you have completed the test.
  - 4) Go back and answer the skipped questions.
  - 5) Check all answers.
- 6. Remediation
  - a. Remediation is used to correct deficiencies in learning as well as to re-motivate the students by having them experience success where they have failed.
  - b. The instructor must determine the need for intervention and procedures for tutoring.
  - c. Intervention - Review student records for trends. Sustained low grades may indicate a study habit or basic skills deficiency.
  - d. Up and down performance may indicate a deficiency in specific types of subject matter or an analysis skills deficiency.
  - e. Tutoring can assist the students with all of the listed academic deficiencies.
  - f. Mandatory remediation is assigned by the Course Supervisor. This assignment should be based on the determination for intervention. It should include specific assignments and monitoring.
  - g. Voluntary remediation is based on the student's own determination that assistance is required. There is a wide range of possibilities, which is limited only by the available facilities.
    - 1) Computer-based tutorials
    - 2) Interactive courseware
    - 3) Simulators
    - 4) Lab facilities, job sheets, troubleshooting
    - 5) Reference material

DIAGRAM SHEET 4-2-3

COUNSELING AND ACADEMIC REVIEW BOARD FORMS

NAME				RATE				SSN				C/N				CDP				DOB			
YRS ED				DATE REC'D				REC'D FROM				ULTIMATE DUTY STATION											
BASIC TEST BATTERY (BTB) SCORES												BTB TOTAL				BTB SCORE WAIVER							
GCT	ARI	MECH	CLER	SHIP	ETST	SONAR	RADIO	DIAB	COMP	ACTUAL				<input type="checkbox"/> YES <input type="checkbox"/> NO									
ARMED SERVICES VOCATIONAL APTITUDE BATTERY (ASVAB) SCORES												ASVAB TOTAL				ASVAB SCORE WAIVER							
GI	NO	AO	WK	AR	SP	MK	EI	MC	GS	SI	A		COMP		ACTUAL		<input type="checkbox"/> YES <input type="checkbox"/> NO						
CM	CA	EE	CC	ART SCORE				PREREQUISITE TEST				PREREQUISITE TEST				PREREQUISITE TEST							
LOCAL ADDRESS AND TELEPHONE																							
NUMBER AND STREET										CITY					ST	Z/P	TELEPHONE						
INDICATE CHOICE FOR THIS SCHOOL										STUDENT REQUESTED ACCELERATION					ACCELERATION ACTION TAKEN								
<input type="checkbox"/> 1st <input type="checkbox"/> 2nd <input type="checkbox"/> 3rd <input type="checkbox"/> DID NOT CHOOSE										<input type="checkbox"/> YES <input type="checkbox"/> NO					<input type="checkbox"/> ACCELERATED <input type="checkbox"/> DENIED								
SUMMARY OF CIVILIAN TRAINING OR WORK EXPERIENCE RELATED TO THIS TRAINING																							

STUDENT SIGNATURE															DATE				
STUDENT SETBACK HISTORY																			
SETBACK DATE					SETBACK DATE					SETBACK DATE									
CLASS NO. FROM					CLASS NO. FROM					CLASS NO. FROM									
CLASS NO. TO					CLASS NO. TO					CLASS NO. TO									
CAUSE					CAUSE					CAUSE									
TOTAL TIME IN TRAINING					TOTAL TIME IN TRAINING					TOTAL TIME IN TRAINING									
STUDENT DROP HISTORY																			
DROP DATE					DROP CODE ASSIGNED					STUDENT RECLASSIFIED					TOTAL TIME IN TRAINING				
										<input type="checkbox"/> YES <input type="checkbox"/> NO									
COURSE COMPLETION HISTORY																			
DROP DATE					FOLLOW ON ASSIGNMENT					FOLLOW ON ADDRESS					TOTAL TIME IN TRAINING				

DIAGRAM SHEET 4-2-4

CHARACTERISTICS OF NON-ACADEMIC PROBLEMS

DATE	LESSON MATERIALS/OBJECTIVES COVERED IN REMEDIATION	REMARKS	
STUDENT COUNSELING HISTORY			
REASON COUNSELED			
RESULT OF COUNSELING			
COUNSELOR'S SIGNATURE	DATE	STUDENT'S SIGNATURE	DATE
STUDENT COMMENTS			
ACTION PLAN/FOLLOWUP			
STUDENT'S SIGNATURE	DATE	COUNSELOR'S SIGNATURE	DATE



**ACADEMIC REVIEW BOARD RECORD**

STUDENT NAME	RATE	SSN	BOARD RECOMMENDATIONS	
COURSE TITLE	CIN	CDP	CLASS NO.	DATE CONVENED

**RECORD OF BOARD ACTION**

DATE \_\_\_\_\_ ACCELERATION

The following action is recommended by this Academic Review Board.

\_\_\_\_\_ Continuation of training in present class (with) (without) remediation (CWC)

\_\_\_\_\_ Acceleration of Training (Accelerate)

\_\_\_\_\_ Extension of Training (Setback)

\_\_\_\_\_ Elimination from Training (Drop)

Student Permanent Drop Record Must be Completed if Student is Dropped.

From Class No. \_\_\_\_\_ Week No. \_\_\_\_\_

To Class No. \_\_\_\_\_ Week No. \_\_\_\_\_

Acceleration action based upon:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<u>Signature of Board Members</u>	<u>Approval/Disapproval Action</u>
_____	The above Academic Review Board action has been reviewed and approved/disapproved.
Chairperson Signature/Date	
_____	
Member Signature/Date	_____
_____	Final Approving Officer/Title/Date
Member Signature/Date	

I (do) (do not) wish to make a written statement.

\_\_\_\_\_

Student Signature/Date

## INFORMATION SHEET 4-2-6

## PURPOSE OF INDIVIDUAL STUDENT REMEDIATION

## A. INTRODUCTION

This information sheet is intended to give you a basic understanding of the purpose of individual student remediation.

## B. REFERENCES

Navy School Management Manual, NAVEDTRA 135 Series Chapter 3.0, Section 4.0, page 3-4-1

## C. INFORMATION

1. Remediation is used to aid students in achieving the objectives by providing additional instructional study time. The primary goal of remediation is to motivate and assist students in achieving the critical learning objectives. A second goal of remediation is to remove barriers to learning. Because students are different, it may be necessary to use several different methods of remediation to realize the most effective results.
  - a. The following guidelines apply to the development and implementation of a remediation program.
    - 1) Remediation shall not be used for disciplinary purposes.
    - 2) Remediation will be used to motivate and assist the student in the learning process.
    - 3) Instructors, trained and certified in the subject matter, will be made available to the students during remediation.
    - 4) Remediation may be voluntary or mandatory.

## INFORMATION SHEET 4-2-7

## PROCEDURES FOR INDIVIDUAL STUDENT REMEDIATION

## A. INTRODUCTION

This information sheet is intended to give you a basic understanding of the procedures for determining the need for student intervention and the possible methods of remediation that may help correct the student's problems.

## B. REFERENCES

Navy School Management Manual, NAVEDTRA 135 Series Appendix C, pages C - 9 through C - 12

## C. INFORMATION

1. Remediation Programs - Regardless of the effectiveness of the testing program or the review process, there are times when a student needs to be remediated on material in order to accomplish the objectives. Remediation is normally accomplished through mandatory and voluntary remediation programs.
2. Mandatory Remediation
  - a. Mandatory remediation may occur when a student:
    - 1) Is recommended by the instructor as a result of a performance counseling session. In this case, it is the course supervisor's responsibility to make the final decision as to whether mandatory remediation is assigned.
    - 2) Is recommended as a result of an Academic Review Board (ARB) action.
    - 3) Exhibits poor performance on tests, homework, or any other assignments.
    - 4) Fails to achieve the minimum passing grade on a progress or within-course comprehensive test.
    - 5) Fails a critical objective. This remediation should take place even though a student has passed the test.
  - b. Students shall be given the opportunity for remediation and retesting prior to the convening of an ARB.
  - c. While mandatory remediation may occur in any or all of the above situations, each situation may require different methods of remediation. For example, the time spent, instructor involvement, location of remediation, and structure of remediation may all vary based on the type of failure, i.e., test failure or objective failure.
  - d. When a test is failed, students may receive remediation on the entire test or the part of the test failed. Remediation should be formal and structured for a test failure.
    - 1) Formal/Structured remediation refers to written guidelines for the student on specific areas to study. Quizzes may be administered and instructors should evaluate student performance. Grades on the quizzes should be recorded in the student's record.
    - 2) A formal/structured remediation program requires direct supervision and active involvement by the remedial instructors.

- e. When the test is passed, but an objective is failed, the following points should be considered
    - 1) If the objective failed is a critical objective, remediation may need to be formal/structured.
    - 2) If the student clearly does not understand the objective, remediation may need to be formal. An indication of a lack of understanding is the number of missed items.
    - 3) If the objective is not critical or the student misses the objective by a small margin, then remediation may be accomplished one-on-one by the instructor. The student may also be allowed to complete some additional assignment individually in a non-structured environment.
  - f. Every effort should be made to conduct mandatory remediation outside the normal training day. If this is not possible, the situation should be described in the course-testing plan under remediation procedures.
3. Voluntary Remediation - A voluntary remediation program provides assistance to the students who seek additional help on their own. Students must be encouraged to ask for assistance anytime they are confused about the material. If the student volunteers for remediation, it may be necessary to separate the voluntary group from the mandatory group. Students in voluntary remediation may require a great deal of attention. This may discourage students with more severe problems from seeking instructor assistance. The important issue is to provide the assistance students need to understand the material.
4. Methods of Remediation and Enhanced Learning Options
- a. Because student and situations are unique, instructors may use one of several different methods to remediate students. The following are examples of different remediation methods that may be used after the traditional 8-hour day.
    - 1) Tutoring may be instructor-led or peer-led training.
      - a) Instructor tutoring provides a one-on-one remedial instruction for the student. Instruction may include discussion of particular points with which a student is having difficulty, demonstrations, and additional problems or examples.
      - b) Peer tutoring happens as a natural consequence of being teamed up with one or two other students to discuss questions or solve problems. A variety of tools may be used to focus these discussions including prepared question packages, which are tied to each objective or to individual discussion points. Evaluation standards/answers should be developed to ensure consistency between instructors. A single instructor could usually monitor three groups of three students each.
    - 2) Seminars can be developed from existing lesson materials. The material may be expanded in detail by increasing the number and types of examples and illustrations used. To ensure maximum student interaction, seminars should be limited to six students per session. Seminars must focus on teaching the material in a different way. Restating what was already stated in the classroom is often not effective for the at-risk student.
    - 3) Labs can be open to allow students to complete unfinished job sheets. Students experiencing difficulty in meeting performance objectives may be assigned additional job sheets or provided the opportunity to do additional troubleshooting. Safety requirements will determine the minimum number of instructors.

- 4) The Learning Resource Center (LRC), if available, may contain a variety of alternative learning options. Most products in the LRC will be developed for individual rather than group use. The LRC instructors can usually manage 10-15 students. The LRC support allows the instructor to answer student questions, assess their progress, and make recommendations/assign material, which are most appropriate for the student and the topic area.
  - a) Written self-study remediation packages may contain additional problems, readings, or assignment questions that the student answers during and after hour program.
  - b) Remedial materials should be developed for areas that have historically exhibited a high failure rate.
  - c) Videotapes may range from in-house productions to commercially develop. Tapes can be as simple as the best instructor teaching a lesson or more elaborate productions, which required the special services offered by the Media Resource Centers.
  - d) Audiotapes range from local productions to commercially developed material. Lectures may be taped for playback. Recording of sounds can be developed for recognition drill and practice.
  - e) Interactive Multimedia Instruction (IMI) may be developed for initial or remedial training. New courseware may be developed in-house, by other government agencies, or by contractors. Commands are encouraged to contact other training activities for a list of IMI available.
- 5) Quiet study as a non-structured type of remediation.
  - a) This is best suited for a student with good study habits who has little difficulty in attaining the objectives.
  - b) Normally, this student is capable of self-directed study and will need little help from the instructor.
- 6) Remediation for a student whose unit/course averages or test grades fall below a predetermined grade.
  - a) This method helps to identify students with potential problems before they experience a failure.
  - b) These students should be placed in a less structured and less formal remediation environment than those assigned mandatory remediation due to test/objective failure. Once a student shows improvement, the requirement to attend night study should be lifted.

DIAGRAM SHEET 4-2-8

POSSIBLE PROCEDURES FOR TUTORING AND CORRECTING ACADEMIC DEFICIENCIES

STUDY HABITS	BASIC SKILLS (READING – MATH)	SUBJECT MATTER COMPREHENSION	ANALYSIS SKILLS
<b>TIME MANAGEMENT</b>	<b>READING</b>	<b>PRINTED LANGUAGE</b>	<b>SIX-STEP METHOD FOR PROBLEM SOLVING</b>
Schedule study time, eliminate distractions, and prepare to study without common work “dodges”	Refer to a remedial reading, if available.	Meaningful cues in context/associations.	(Troubleshooting) Symptom recognition –
<b>SYSTEMATIC STUDY APPROACH</b>  Review Lesson Objectives.  Use memory aids.	<b>MATH</b>  Refer to a remedial math course, if available  <b>MATH AND READING</b>  Find a peer tutor.	<b>MATH/LANGUAGE</b>  Use strategy cards.  Use fact cards.  Use definition cards.	Ask questions Symptom elaboration – Gather relevant facts. List probable faults – Look for causes.
<b>Sometimes there’s an inability to take tests. These steps are suggestions that are appropriate for any student having academic problems.</b>			Localize faulty function –
<b>a. Read the test items thoroughly.</b>			Test.
<b>(1) Read the test stem first without reading the choice to determine exactly what is being asked.</b>			Localize faulty component –
<b>(2) Then read all the choices before making your decision.</b>			Isolate.
<b>b. Answer the question that you are sure you know.</b>			Failure analysis – analyze problem situation.
<b>c. Skip those questions that you are unsure of and continue answering known questions until you complete the test.</b>			
<b>d. Go back and answer the skipped questions.</b>			
<b>e. Check all your answers.</b>			

## INFORMATION SHEET 4-3-1

## COUNSELING APPROACHES

## A. INTRODUCTION

This information sheet is intended to give you a basic understanding of the two approaches to counseling.

## B. REFERENCES

Navy School Management Manual, NAVEDTRA 135 Series Chapter 3.0, Section 3.0

## C. INFORMATION

1. Directive Counseling - This is a counselor-centered approach in which the counselor imparts information to the student. It is particularly useful in addressing specific problems, including:

- a. Attitude,
- b. Sleeping in class,
- c. Tardiness,
- d. Disrupting conduct of class, and/or
- e. Failure to prepare assignments.

While using this approach, the counselor should specifically define the problem. The counselor should be specific and should not speak in generalities. The counselor should require definite action of the student.

2. Non-Directive Counseling - This is a student-centered approach used when the problem may be ill defined. The counselor essentially encourages the student to talk in an effort to discover the problem and identify a solution.

## INFORMATION SHEET 4-3-2

## GUIDELINES AND TECHNIQUES FOR EFFECTIVE COUNSELING

## A. INTRODUCTION

This information sheet is intended to give you a basic understanding of the guidelines and techniques for effective counseling.

## B. REFERENCES

Navy School Management Manual, NAVEDTRA 135 Series Chapter 3.0, Section 3.0

## C. INFORMATION

1. Guidelines

- a. Be yourself. Encourage honesty and be honest. Do not put on an act.
- b. Encourage the student to talk freely. Make certain that the student understands that they are free to express themselves. If the student appears to be avoiding the problem area, redirect to the problem area as necessary. Allow the student to finish statements without interruption. Do not rush the student. Provide the student with the opportunity for self-expression.
- c. Give the student your full attention. Avoid distractions or interruptions.
- d. Show genuine interest in the student's welfare.
- e. Avoid judging the student. Do not take sides or argue. Remain neutral. Do not ignore military or legal responsibilities.
- f. Avoid the use of sarcasm or insults.
- g. Direct negative comments at student behavior, not the student.
- h. If serious personal problems are brought to your attention during the counseling session, do not attempt to remedy the problem. Refer the student to a special counseling program, such as Chaplain, Family Services, Drug/Alcohol Counselors, or Red Cross.

2. Techniques

- a. Active Listening: The counselor displays genuine interest and shows acceptance and respect through:
  - 1) Correct posture
  - 2) Eye contact
  - 3) Facial expressions
- b. Open-Ended Questioning: The counselor asks questions that require the student to answer with more than a simple yes or no. The counselor uses indirect questions to cause the student to open up and expound on the problem area.
- c. Initiating: The counselor encourages the student to suggest and evaluate possible solutions to a problem. This technique helps the counselor and student plan a course of action.
- d. Summarizing: The counselor mentally collects and organizes thoughts, then restates key points of the session.

INFORMATION SHEET 4-3-3

STEPS OF A PROPERLY CONDUCTED COUNSELING SESSION

A. INTRODUCTION

This information sheet is intended to give you a basic understanding of the steps of a properly conducted counseling session.

B. REFERENCES

Navy School Management Manual, NAVEDTRA 135 Series Chapter 3.0, Section 3.0

C. INFORMATION

1. Preparation

- a. Consult student records.
- b. Consult with staff members.
- c. Set a session time and place.
- d. Provide a private location with adequate space.
- e. Ensure that there is adequate time for the session.



2. Opening

- a. Establish rapport with the student.
- b. Introduce yourself.
- c. Put the student at ease.
- d. Make the opening informal.
- e. Comment about the school in general.
- f. Encourage the student to talk.

3. Conducting

- a. Explain that the session is private, but not confidential.
- b. Listen attentively and unemotionally.
- c. Be understanding.
- d. Don't interrupt.
- e. Allow the student to talk freely.
- f. Keep alert and sensitive to trends.
- g. Define the problem; best stated by the student.
- h. Develop a plan of action with the student.
- i. Provide positive motivation.

4. Closing

- a. Explain the intended follow-up action.
- b. Inform the student that progress will be monitored.

5. Document the Session

- a. Record the session data.
- b. No detailed personal information obtained by the counselor will be recorded on forms.
- c. The information is privileged, but should be readily available to instructors, academic review boards, and supervisors.

## INFORMATION SHEET 4-3-4

## PURPOSE AND DUTIES OF AN ACADEMIC REVIEW BOARD

## A. INTRODUCTION

This information sheet is intended to give you a basic understanding of the purpose and duties of an Academic Review Board (ARB).

## B. REFERENCES

Navy School Management Manual, NAVEDTRA 135 Series Chapter 3.0, Section 6.0

## C. INFORMATION

1. Purpose. The ARB provides a formalized procedure for handling non-disciplinary problems related to a student's academic progress. The ARB is an integral part of the student-counseling program. It is based upon the philosophy that decisions concerning a student's drop from training are better arrived at by a group acting together as a board rather than by an individual acting alone. It also provides a formalized procedure for handling requests for acceleration of training.
2. Duties. The members of the ARB must become familiar with the requirements and procedures for conducting an ARB. The members then:
  - a. Review the student's school records prior to the ARB interview.
  - b. Conduct the review.
  - c. Recommend a course of action.
  - d. Complete the required records.

INFORMATION SHEET 4-3-5

PROCEDURES FOR CONDUCTING AN ACADEMIC REVIEW BOARD (ARB)

A. INTRODUCTION

This information sheet is intended to give you a basic understanding of how to determine if an Academic Review Board (ARB) is required and the procedures for conducting it.

B. REFERENCES

Navy School Management Manual, NAVEDTRA 135 Series Chapter 3.0, Section 6.0

C. INFORMATION

1. Policy

- a. ARB's will be established at all training activities that conduct training.
- b. ARB's make recommendations only, which can be overruled by the Command.
- c. Training activities that provide the other types of training will establish ARB's as directed by the Commanding Officer.
- d. ARB's will be convened when all other means of academic counseling, remediation, and an initial academic setback have failed to improve the students' performance. The initial academic setback may result from an academic counseling session and be directed by the course supervisor/lead instructor. Additional academic setbacks must be directed by the ARB. Examples of when an ARB may be necessary include the following.
  - 1) The student's course average falls below the minimum passing grade.
  - 2) The student is unable to achieve the objectives after counseling, remediation, retesting, and an initial academic setback.
  - 3) The students' performance is below the expected academic progress.
  - 4) The student fails to achieve the objectives after an academic setback on those same objectives.
- e. Students will continue with the class until an ARB decision has been made.
- f. All students enrolled will be academically dropped from training only as a result of an ARB recommendation.
- g. Administrative procedures that result in "automatic" drops or setback are not authorized. If an ARB is convened due to test failure, the student will be remediated and retested on the failed material prior to the convening of an ARB.
- h. Possible ARB decisions include:
  - 1) Continue With Class (CWC) - Allows a continuation of training in the present class with or without remediation.
    - a) A CWC recommendation requires that the test records and the interview show clear evidence that the student can pass the course if allowed to continue.
    - b) The ARB should decide if remediation is necessary for the student to continue and set the remediation requirement.

- c) The remediation requirement should identify specific areas of study and indicate the time that the student is to stay in the remediation program.
    - 2) Setback - Allows an extension of training with or without remediation.
      - a) When the ARB recommends a setback, the records should indicate that the student is motivated to remain in training. The test scores and interviews should indicate an ability to achieve the objectives after repeating the portion of the training that was failed. Students will be setback only over the material they have failed. Exceptions will be noted in the Testing Plan.
      - b) If remediation can be achieved in any way other than via setback, it shall be considered first.
    - 3) Drop from training - Results in a recommendation for disposition.
      - a) When the ARB recommends a drop from training, the student must demonstrate unwillingness or inability to continue the training.
      - b) Attention should be given to the student's desire and eligibility for reclassification when the ARB makes the decision to recommend drop from training.
      - c) All ARB recommendations for reclassification or attrite must be forwarded to the Commanding Officer for final approval.
  - i. All ARB recommendations for international military students will be referred to the International Military Student Manager.
2. Factors contributing to a successful ARB include
- a. Keep good documentation from the beginning of the course.
  - b. Don't shortcut the counseling process; document it.
  - c. Ensure the privacy of the student.
    - 1) From review of the records to the final recommendation.
    - 2) Conduct in a private room.
  - d. Conduct in a formalized, standardized military manner.
  - e. Explain the ARB to the student prior to the interview.
  - f. Interview the student.
  - g. Discuss and make a recommendation.
  - h. Explain the recommended actions to the student.
3. The goals of an ARB include
- a. Help students solve problems that may prevent successful completion of training.
    - 1) Determine which students are able to complete training.
    - 2) Determine which students are unable or unwilling to complete training.
    - 3) Make recommendations concerning their findings.

- b. The ARB is a group action. The following composition and structure is required.
  - 1) All ARBs will be composed of a chairman and at least two additional members. Instructors may be tasked to serve on ARBs. All persons serving on the ARB will be required to reach a consensus on the board's recommendation.
  - 2) The chairman will appoint one of the members to serve as recorder. The recorder will be responsible for completing the necessary paperwork.
  - 3) Other ARB members may be chosen from instructional personnel. This includes officer and enlisted instructional/supervisory personnel, classroom and laboratory instructors, and instructional/training specialists.
  - 4) At least one member must be a certified instructor in the area in which the student is having difficulty.
  - 5) Supervisory personnel who have command designated authority for approval/disapproval of ARB recommendations may not sit as members of the ARB.
  - 6) Membership need not be permanent, but all members must meet the following qualifications:
    - a) Understand the reporting procedures.
    - b) Understand the activity's policy for drop from training, attrition, and pipeline management.
    - c) Receive training in counseling, student tracking, and the purpose, policy, and procedures of an ARB.
- 4. Duties of an ARB include
  - a. Review information contained in the students' performance records prior to the ARB (i.e., ASVAB scores, course test records, counseling sheets, and previous training records).
  - b. Conduct an ARB interview with the student.
  - c. Make recommendations for disposition and any necessary corrective action based on group consensus.
  - d. Complete the required paperwork.
- 5. When conducting an ARB, the following procedures will be adhered to:
  - a. All procedures will be conducted with respect for the privacy of the students.
  - b. While the ARB is a serious, official board, the members shall exhibit a presence that is cordial and supportive.
  - c. All participants will be seated and the proceedings will be conducted in an open and professional manner. The board chairman will explain to the student that the board has been convened to help the student determine why the student is having difficulty. Once the cause has been identified, the board and the student, working together, will develop a plan for success.
  - d. The chairman will also inform the student that he/she has the right and duty to speak.

- e. Before a decision concerning the student can be made, the ARB should review records and interview the student to find such information as areas of difficulty, type and result of remediation applied, student attitude, and personnel problems.
- f. To avoid excessive note taking by the recorder, the student may provide written responses to typical questions asked during an ARB (e.g., Why are you having difficulty? Where are you having problems? Are there any personal problems that are preventing you from doing your job? Do you want to remain in this course?) prior to convening the board. The board may then discuss these with the student. The board, however, is not limited to just these questions.
- g. In addition to questions of a personal nature, the board should assess the students' academic performance by asking questions specifically related to the course material. Since the board is tasked with looking at academic issues, it is important to know just how much difficulty the student is having and where that difficulty is occurring. Test scores do not always indicate the student's level of expertise.
- h. The chairman will make clear to the student what the recommendation is, what consequences may result from approval of that recommendation, and what actions are expected of the student.
- i. The student will be given the opportunity to make a written statement. If the student does not wish to make a written statement, then the student will sign a statement to that effect.
- j. When an ARB is convened, all proceedings will be documented. Documentation will include an Academic Review Board Record and, if appropriate, a Student Permanent Drop Record. The Academic Review Board Record is a locally developed form that contains the following minimum information:
  - 1) Student data (name, rate, SSN)
  - 2) Course data
  - 3) Board action data (CWC with/without remediation, setback, drop from training)
  - 4) Signatures of board members
  - 5) Final action taken with signature of authority
  - 6) Title of final approving officer, including date of signature
  - 7) Student signature line

The Student Permanent Drop Record is a locally developed form used by both the course and student control to record student information and track the disposition of the student. When a student is being dropped from training, a Student Permanent Drop Record will be completed. Both the course manager and the student control officer are responsible for completing the required information on the Student Permanent Drop Record.

- k. The following information on the Student Permanent Drop Record will be completed at the course or department level.
  - 1) Student data (name, rate, SSN, type of student [USN, USMC, Foreign National, etc.]
  - 2) Course data (title, CIN, CDP, class number, date convened, date dropped [last day in class], total time in training in calendar days)

- 3) If previously set back, original class number, date convened, total number of setbacks (list academic and non-academic separately, weeks lost due to non-academic setback, class standing, and final course grade)
  - 4) Drop code
  - 5) Signature of approving authority, including date of signature. The elapsed time from the date of the ARB to the date the disenrollment is approved on the Student Drop Record should be the next working day.
1. Once a student has been dropped from training, the Student Permanent Drop Record will be forwarded to Student Control.

JOB SHEET 5-1-1

FINAL PERFORMANCE EXERCISE

A. INTRODUCTION

This Job Sheet is intended to provide you with additional information to help you successfully complete your final performance exam.

B. EQUIPMENT

None

C. REFERENCES

Navy Instructor Manual, NAVEDTRA 134

D. SAFETY PRECAUTIONS

None

E. JOB STEPS

Step 1. Select a new topic for a 30-minute lesson. Remember that the topic must be suitable for the level of the class being taught.

Instructor's Initials \_\_\_\_\_

Step 2. Personalize your Lesson Plan.

- a. Write in the technical data, information, and/or notes that you will use to accomplish a professional job of instruction. Clearly explain technical and unfamiliar terms. Use examples/analogies to clarify complex areas of your lesson. Each main discussion point must be personalized.
- b. Add your oral questions to your topic as instructor personalization. This will allow you to encourage the students and secure maximum class participation. You will use a minimum of seven questions in the presentation element of your lesson. You have the option of using student responders for no more than two of the seven questions.

Instructor's Initials \_\_\_\_\_

Step 3. Design/Obtain Instructional Media Material (IMM).

- a. Ensure that your selection of training aids meets the criteria for an effective training aid.
- b. If the actual equipment is being used, ensure that all necessary safety precautions are taken prior to practice. Obtain approval of your instruction on the use of all IMM.

Instructor's Initials \_\_\_\_\_

Step 4. Practice your delivery.

- a. Practice in small groups.
- b. Keep in mind that you are practicing to polish your delivery prior to your final Performance Evaluation (PE). You will be evaluated in the following areas:
  - (1) Introduction
  - (2) Presentation
  - (3) Review and summary
  - (4) Personal characteristics
  - (5) Overall use of the method of instruction
- c. Evaluate another student in your group during practice using the evaluation form provided. Completely document the performance including a plan for corrective action.
  - (1) After discussing the evaluation, the instructor and evaluator will report to staff instructor debrief.

Instructor's Initials \_\_\_\_\_

Step 5. Submit a smooth Lesson Plan.

- a. You will provide a properly personalized smooth copy of your lesson plan prior to your performance evaluation.

Instructor's Initials \_\_\_\_\_

Step 6. Deliver the presentation (lesson).

- a. Lesson method
  - (1) Introduction
    - (a) The recommended time for an effective introduction is 3-5 minutes. The recommended time in the introduction will not be adjusted for the use of student responders.
    - (b) Introduce yourself and your topic, provide objectives, create interest, and provide value.
    - (c) You are teaching a group of mixed ratings and backgrounds. Strive for a forceful and motivating introduction.
    - (d) You must use the training aid(s) effectively to develop the lesson as it progresses.
    - (e) You must also use effective oral questions and questioning techniques to maintain good class participation. Oral questions must be asked throughout the presentation element.

- (2) Presentation
  - (a) The recommended time for an effective presentation is 20-25 minutes.
  - (b) You will demonstrate the ability to prepare your subject matter in a discussion point breakdown that is logical and complete.
  - (c) Each of your learning objectives must be supported. Material not covered by objectives cannot be taught.
  - (d) You must use the training aid(s) effectively to develop the lesson as it progresses.
  - (e) You must use a minimum of seven effective oral questions using correct questioning techniques during the presentation element. You have the option of using student responders for no more than two of the seven questions.
- (3) Review and summary
  - (a) The recommended time for an effective review and summary is 3-6 minutes.
  - (b) Summarize the subject matter.
  - (c) Use the training aid(s) to appropriately summarize the lesson or to clarify student's questions.
  - (d) Ask questions of the class to check for understanding of the topic.
  - (e) If the students are unable to answer the questions, clarify the areas of misunderstanding.
- (4) Assignment. There is no assignment required, so it is unnecessary to mention this to the students.

Instructor's Initials \_\_\_\_\_

Step 7. The evaluator will critique your presentation using an evaluation checklist. You will be required to watch your lesson on videotape before debriefing with the instructor.

a. Failure criteria

- (1) One or more "Needs Improvements" (NIs) in "Overall Evaluation"
- (2) Unsatisfactory presentation.
- (3) Unsatisfactory personal characteristics.
- (4) Unsatisfactory time management.
- (5) Cheating.
- (6) Safety violation.
- (7) Security violation.
- (8) Quitting.

Instructor's Initials \_\_\_\_\_

F. SELF-TEST QUESTIONS

None